



RF & Microwave

Product
Selection
Guide

MACOMTM
Partners from RF to Light

www.macom.com

MACOM's **2020 RF & Microwave Product Selection Guide** features our catalog of 5,000+ products, which include integrated circuits (ICs), multi-chip modules (MCMs), power pallets and transistors, MMICs, diodes, amplifiers, switches and switch limiters, passive and active components and complete subsystems. Inside are detailed product specifications designed to help engineers quickly evaluate and select the right products to differentiate their designs. Our selection guide includes application diagrams and key technologies to further assist you in your selection process.

Additional product information can be found on our website at www.macom.com. Contact our worldwide sales offices, authorized representatives, and industry-leading distributors to request samples, test boards and application support. All contacts are listed on our website at: <http://www.macom.com/contact>



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Why MACOM?



Partners from RF to Light

MACOM Technology Solutions Holdings, Inc. (MACOM) supplies key enabling technologies for the Cloud Connected Apps Economy and Modern Networked Battlefield. Recognized for its broad catalog portfolio of technologies and products, MACOM provides high-performance analog RF, microwave, millimeterwave, and lightwave semiconductor products for diverse applications ranging from high speed optical, satellite communications, wired and wireless infrastructure networks, to military and civil radar systems. A pillar of the semiconductor industry, we thrive on over 70 years of solving our customers' most complex problems as their trusted partner for solutions from RF to Light.

Headquartered in Lowell, Massachusetts, MACOM is certified to the ISO9001 international quality standard and ISO14001 environmental management standard. MACOM has design centers and sales offices throughout North America, Europe, and Asia

RF to Light Capabilities

MACOM offers end-to-end customer solutions and support, from proprietary process technologies to high-quality customer service. MACOM can produce and process semiconductor materials, design and manufacture complex devices, and combine these devices into multifunction components. We offer dual-use technologies that enable us to service commercial and aerospace and defense markets. We have unique technologies and capabilities to create innovative design solutions, including:

- > Si, GaAs, AlGaAs, InGaAs, InP, GaN-on-Si, SiPh, SiGe, SAEFT™, and RF CMOS IC products
- > Unique processes: HMIC™, GMIC™, and AlGaAs
- > In-house design, fabrication, assembly, and screening capabilities
- > Foundry service
- > Build-to-print turnkey assembly capabilities
- > Multiple design and sales locations to provide global coverage
- > Wide spectrum coverage across RF, microwave, and millimeterwave frequencies
- > One of the broadest selections of standard and custom products in the industry

Commercial, Industrial and Military Products

This guide features our catalog of 5,000+ products. We work with you, engineer-to-engineer, to provide custom products to meet your unique application-specific requirements. If you cannot find a product that meets your needs in this guide, please contact us and we will work together to develop or recommend an appropriate solution. Our team of product managers and engineers is available to support all product and design needs, and offer the experience and attention to detail that ensure success.

Quality and Reliability

MACOM is committed to delivering high-quality products and services that meet our customers' and internal operations' needs in terms of delivery, reliability, performance and value. Process controls are implemented to ensure that tasks are performed properly the first time, so that products and services meet established, agreed-to requirements. It is the personal responsibility of every MACOM employee to ensure quality, customer satisfaction, continual improvement, maintenance of our quality management system and compliance with customer and regulatory requirements.

Design and Manufacturing Facilities

MACOM has multiple design centers, Si, GaAs, and InP fabrication, manufacturing, assembly and test, and operational facilities throughout North America, Europe, and Asia.

How to Purchase

Sales Representatives and Distribution Partners



Find solutions for your most complex applications today! You can purchase MACOM products online, direct through our sales offices, and through one of our many distribution and sales representative partners.

Visit our website at <http://www.macom.com/purchases> to see a list of our industry-leading distributors and to get additional information about ordering samples and product.

To see inventory availability from MACOM and our Distributors click on the Order tab on your selected product page at www.macom.com

MACOM produces custom products and modifications to standard products to meet your specific requirements. Please contact us with your specifications if you cannot find a standard product for your application. See the back cover of this catalog for contact information.

Or visit us at www.macom.com for more information.

Aluminium Gallium Arsenide (AlGaAs)

Band gap engineering has been used to produce novel semiconductor structures in the microwave industry for over two decades. These band gap principles have been applied to the development of MACOM's AlGaAs technology, resulting in a significant advancement in the RF performance of PIN diodes.

Key applications include industrial, scientific and medical, test and measurement, wireless backhaul, aerospace and defense.

Gallium Arsenide (GaAs)

For over three decades, MACOM has been the world leader in the advancement of GaAs technology, producing state-of-the-art, high performance discrete devices; control components; mixed signal processing and converters; driver amplifiers; CATV amplifiers; LNAs; and power amplifiers as single purpose and multi-function MMICs.

Key applications include industrial, scientific and medical, CATV and wired broadband, wireless backhaul, aerospace and defense, satellite communication.

Gallium Nitride (GaN)

MACOM PURE CARBIDE™

MACOM is driving the commercialization of GaN into mainstream applications. Offering the RF and microwave industry a broad portfolio of GaN products spanning a wide range of package options for pulsed and continuous wave applications, we have established ourselves as leaders across all GaN end-market applications.

Key applications include industrial, scientific and medical, Test and instrumentation, avionics, civic and military radio, and communications.

Heterolithic Microwave Integrated Circuit (HMIC™)

Developed at MACOM, this process joins two different materials—glass and silicon—into a single monolithic structure. This technology integrates the best properties of each material and therefore allows monolithic circuit solutions that reduce both size and cost. *Key applications include CATV and wired broadband, wireless backhaul, industrial, scientific and medical, test and measurement, chip and wire high frequency microwave applications.*

Indium Phosphide (InP)

MACOM has assumed a key position in the market as a premier supplier of both photonic devices such as lasers, and optoelectronics products such as high speed modulator drivers, based on InP technology. *Key applications include laser diodes for silicon photonics, data and metro markets, modulator drivers for 100G and 400G coherent networks, metro networks, and data centers.*

SAEFT™

MACOM's patented Self Aligning Etched Technology (SAEFT™) allows self-alignment of a laser either in edge-emitting or surface-emitting format to a silicon PIC, forming a Laser-PIC (L-PIC). *Key applications include base stations, FTTx/PON, wireless fronthaul/backhaul, cloud data centers, metro, and long haul.*

Silicon (Si)

Leveraging our deep understanding of silicon technology, MACOM offers a broad portfolio of product offerings ranging from PIN and varactor tuning diodes to multi-hundred watt silicon power MOSFETs. *Key applications include aerospace and defense, industrial, scientific and medical, test and measurement, CATV and wired broadband, wireless networking.*

Silicon Germanium (SiGe)

Building upon a long history in designing integrated circuits and subsystems for radar and mmW markets, MACOM leads the way in applying SiGe BiCMOS technology to both commercial and military needs. We see SiGe as a high value, differentiating technology which we will continue to leverage in MACOM's core product segments. *Key applications include high-speed optical network transceivers, base stations, wired broadband communications, high speed cross-point switches.*

Silicon Photonics (SiPh)

MACOM is focused on integrated silicon microphotronics. These technologies enable high performance optics with low power in small form factors. Silicon microphotronics in particular brings the benefits of high-density, low-cost and performance scalability, similar to silicon CMOS chip manufacturing. *Key applications include 100G/400G datacom, telecom-metro and long-haul applications, functional passive optical elements including AWGs, optical filters, couplers, and splitters.*

MACOM produces and processes semiconductor materials, and offers unique technologies and capabilities to create innovative design solutions to solve our customers' most complex challenges.

For more in-depth information, visit www.macom.com/technologies

MACOM Markets and Applications



Wireless Networking and Communication

- > Wireless Network Infrastructure
- > Wireless Backhaul
- > Wireless LAN (WiFi)
- > SatCom/VSAT
- > 5G Communications
- > Hybrid Optoelectronic Assembly and Package Capability



Optical Networking

- > FTTx/PON
- > Wireless Fronthaul
- > Cloud Data Center
- > Network Security
- > Long Haul & Metro



Industrial, Scientific and Medical

- > Industrial
- > Test and Measurement
- > Healthcare
- > RF Energy



Wired Broadband

- > DOCSIS Infrastructure/CPE



Broadcast Video

- > Cameras
- > Distribution Amplifiers
- > Format Conversion
- > Monitors
- > Routers and Switches
- > CoaXPress



Surveillance

- > Cameras
- > DVRs



Aerospace & Defense

- > Communication
- > EW
- > Radar
- > MACOM in Active
Active Antennas
- > Space & Hi-Rel
- > Free-space Optical
Communication



Enterprise Solutions

- > Backplane Connectivity
- > Packet Switchers and
Routers
- > Storage Area Networks
- > Transport Networks/OTN

Recognized for our broad portfolio of technologies and products, MACOM serves a range of diverse markets and thrives on more than 65 years of solving our customers' most complex problems. MACOM is your partner for applications from RF to Light.

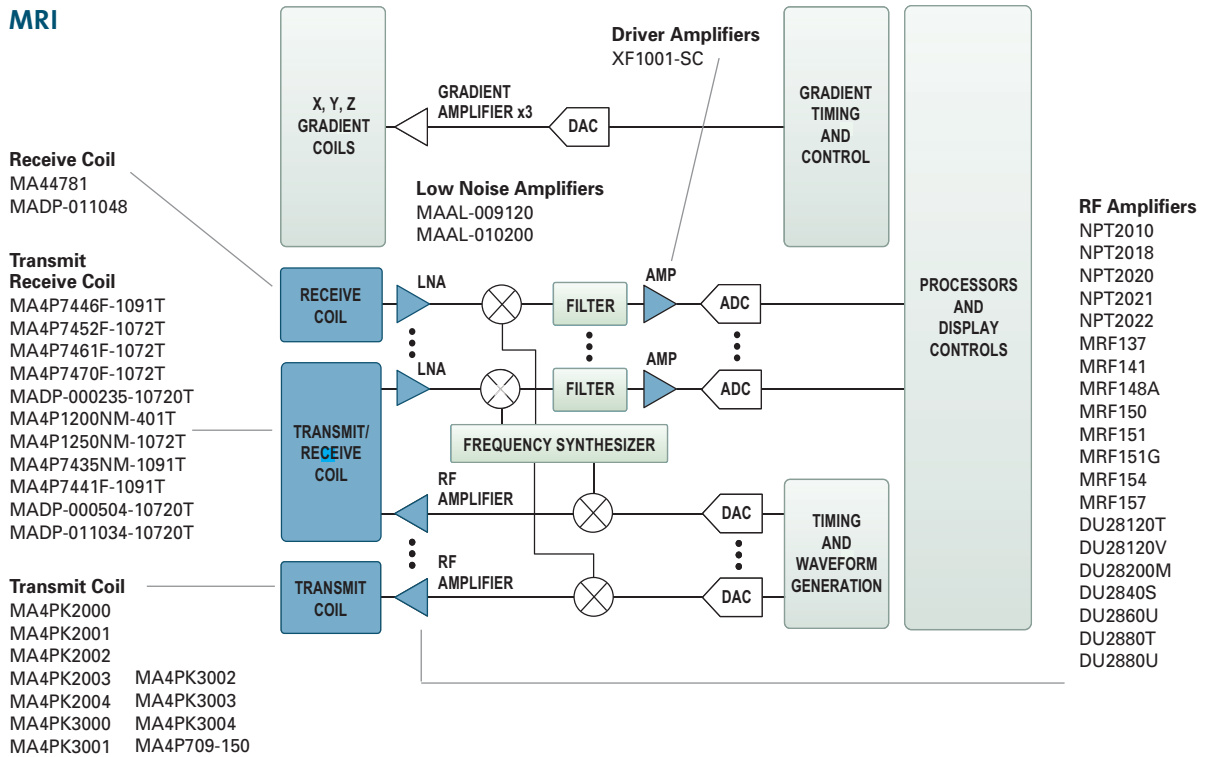
For more in-depth information, visit www.macom.com/applications

MACOM™
Partners from RF to Light

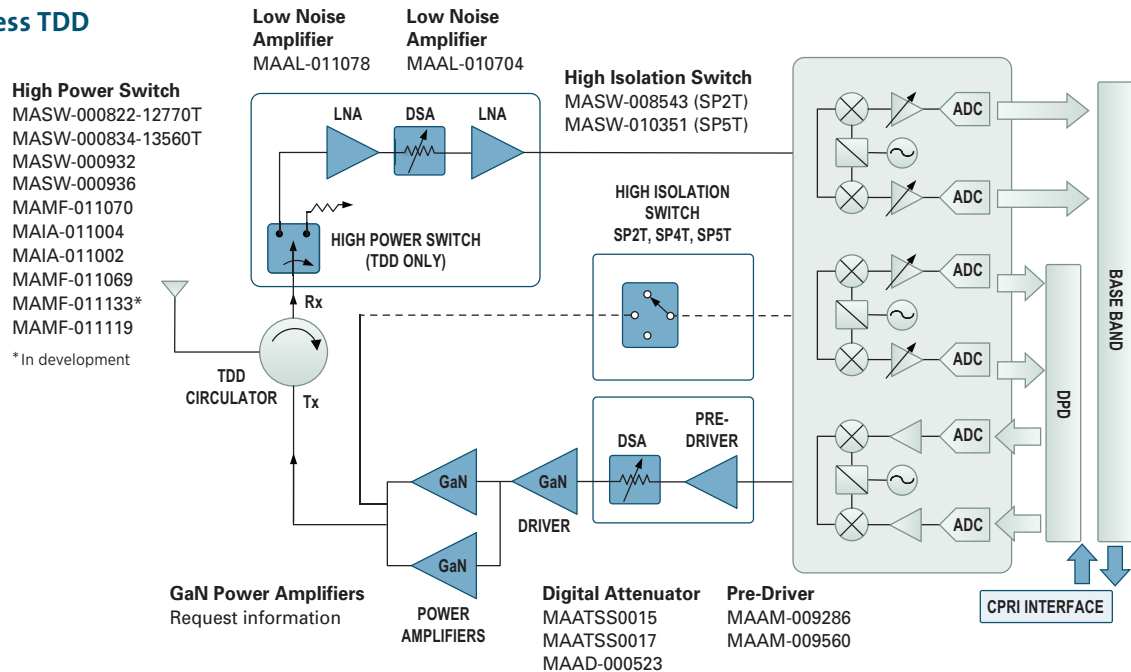
Application Block Diagrams

MACOM provides the fundamental building blocks to enable your diverse and complex applications. Our broad portfolio of products supports a wide variety of applications ranging from RF to Light. For a complete list of application block diagrams covering High-speed Networking, Aerospace and Defense, and Multi-market, please visit: www.macom.com

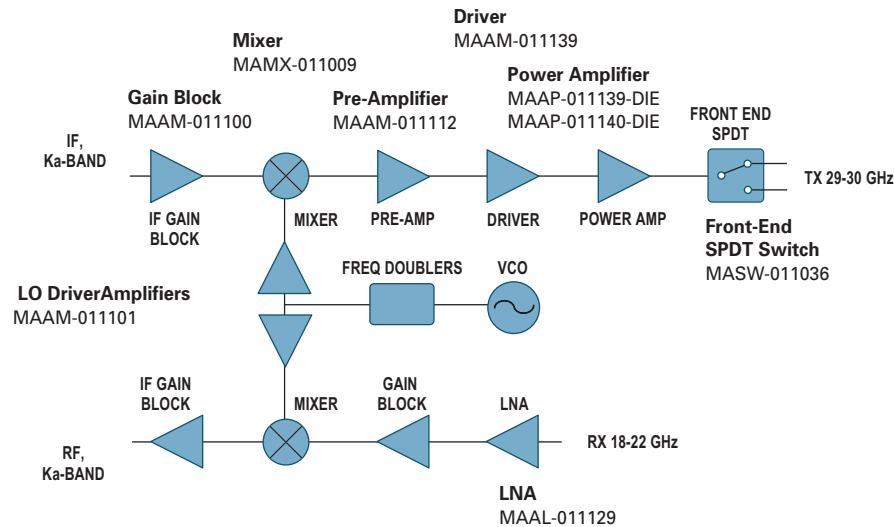
MRI



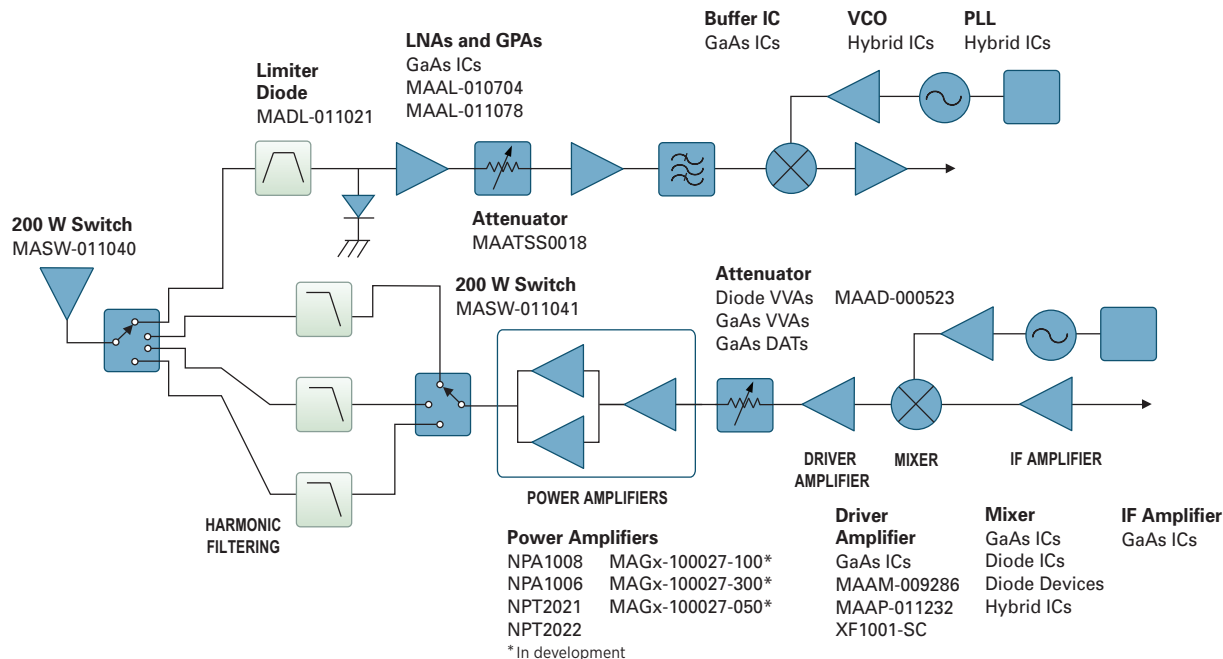
Wireless Access TDD



Ka-Band SATCOM

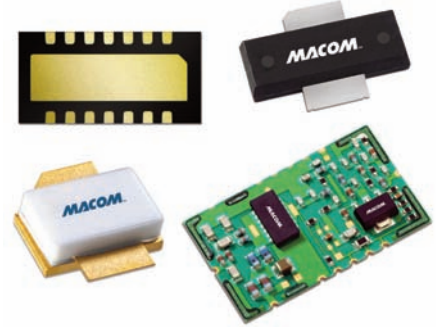


Land Mobile Radio



MACOM RF Power Products

MACOM offers a broad range of RF Power Products —bare die/discrete devices, modules, and pallets designed to operate from 1 MHz to 6 GHz. Our high-power products are ideal for industrial, scientific and medical, test and instrumentation, avionics, civic and military radio, radar and communications. MACOM's product portfolio provides both standard and custom solutions using bipolar, MOSFET, and Gallium Nitride (GaN) technologies.



GaN-on-Si

- > Discrete and integrated amplifiers
- > Includes a broad range of RF power products as discrete devices, modules, and pallets
- > Designed to operate from 1 MHz to 6 GHz
- > Excellent RF performance, power, gain, gain flatness, efficiency, and ruggedness

Hybrid Amplifiers

- > Optimized for commercial air traffic control and military radar applications
- > New surface mount technology (SMT) laminate packaged modules
- > Supports standard surface mount assembly for high-volume manufacturing
- > Improves assembly yield and lowers component count
- > Available for the S-, L-, and avionics bands

MOSFET

- > TMOS and DMOS RF Power MOSFET transistor products as discrete devices from 1 MHz to 1.0 GHz
- > All gold metallization fabrication processes ensures high performance and long-term reliability

GaN-on-SiC **MACOM PURE CARBIDE™**

- > Includes RF Power products as discrete devices, modules, and pallets
- > Designed to operate from 1 MHz to 6 GHz
- > High power solutions exceeding 2 kW

Bipolar

- > Discrete devices, modules, and pallets from 1 MHz to 3.5 GHz
- > For civil avionics, communications, networks, radar, and industrial, scientific, and medical applications
- > All gold metallization fabrication processes ensure high performance and long-term reliability

Silicon Bipolar Pallets

- > Designed for applications from 1 GHz to 3.5 GHz
- > Ideal for civil avionics, radar, industrial, scientific, and medical applications
- > Gold metallization fabrication processes ensure high performance and long-term reliability

GaN-on-SiC: **MACOM PURE CARBIDE™**

Part Number	Min Freq (GHz)	Max Freq (GHz)	Supply Voltage (V)	Output Power Psat (W)	Gain (dB)	Efficiency (%)	Test Freq (GHz)	Package
MAPC-A1000	0.3	2.7	50	25	13	51	2.7	7.0 x 6.5 mm DFN
MAPC-A1100	DC	3.5	50	65	18	71	3.5	AC-360S-2
MAPC-A1101	DC	3.5	50	85	15	70	3.5	AC-360S-2
MAPC-A1102	DC	3.5	50	150	13	65	3.5	AC-360S-2
MAPC-A1500	960 MHz	1215 MHz	65	2600	18.5	66.2	1.06	AC-1230S-4
MAPC-A1501	960 MHz	1215 MHz	65	1300	17.2	64.5	1.06	AC-780B-2

Aerospace & Defense Power Products, Pallets, and Modules GaN-on-Si

Part Number	Min Freq (MHz)	Max Freq (MHz)	Operating Voltage (V)	Output Power Psat (W)	Gain (dB)	Efficiency (%)	Test Freq (MHz)	Package
MAGX-101011-700E00	1030	1090	50	700	>17	70	1060	AC-780B-2
MAGX-101214-500L00*	1200	1400	50	500	>15.5	69	1400	AC-780B-2
MAMG-100227-010C0L	225	2600	28	10	23	45	2600	14 x 18 mm
MAGX-100027-015S0P	1	2700	50	15	16	70	2000	6 x 3 mm PDFN-14
MAGX-100027-050C0P	1	2700	50	50	17	65	2700	TO-272S-2
MAGX-100027-100C0P	1	2700	50	100	17	65	2700	TO-272S-2
MAGX-100027-300C0P	1	2700	50	300	16	63	2700	TO-272S-4

* In development

RF Energy / RF Power Products GaN-on-Si: CW

Part Number	Min Freq (MHz)	Max Freq (MHz)	Operating Voltage (V)	Output Power Psat (W)	Gain (dB)	Efficiency (%)	Test Freq (MHz)	Package
MAGE-100809-500G0P	896	928	50	500	19	75	915	AC-780S-4
MAGE-102425-300S00	2400	2500	50	300	16	70	2450	AC-780S-2
MAGX-100027-015S0P	1	2700	50	15	16	70	2000	6 x 3 mm PDFN-14
MAGX-100027-050C0P	1	2700	50	50	17	65	2700	TO-272S-2
MAGX-100027-100C0P	1	2700	50	100	17	65	2700	TO-272S-2
MAGX-100027-300C0P	1	2700	50	300	16	63	2700	TO-272S-4

RF Power Amplifier: Aerospace & Defense and Multimarket

Part Number	Min Freq (MHz)	Max Freq (MHz)	Operating Voltage (V)	Output Power Psat (W)	Gain (dB)	Efficiency (%)	Test Freq (MHz)	Package
MAGE-102425-300S00	2400	2500	—	300	16.7	—	2.45	AC-780S-2
MAGE-100809-500G00	896	928	—	500	18	—	0.93	AC-780S-4

Note: Part numbers are RoHS compliant
 Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
 All specifications are subject to change.

Multipurpose / RF Power Products GaN-on-Si: CW and Pulsed

Part Number	Min Freq (MHz)	Max Freq (MHz)	Operating Voltage (V)	Output Power Psat (W)	Gain (dB)	Efficiency (%)	Test Freq (MHz)	Package
NPA1006	20	1000	28	12.5	14	>45	900	6 x 5 mm DFN-8
NPA1003QA	20	1500	28	7	15	>40	1000	4 x 4 mm QFN-16
NPT2022	1	2000	50	50	20	>60	900	TO-272
NPT2010	1	2200	50	100	17	>65	2100	AC-360B-2
NPT2021	1	2500	50	4	17	>55	2500	TO-272
NPA1007	30	2500	28	10	10	>50	2000	6 x 5 mm DFN-8
NPA1008	20	2700	28	5	12	>45	1900	4 x 4 mm PQFN-24
NPT25100	1	2700	28	90	16	>60	3000	AC-780B-2
MAGX-100027-015SOP	1	2700	50	15	16	70	2000	6 x 3 mm PDFN-14
MAGX-100027-050COP	1	2700	50	50	17	65	2700	TO-272S-2
MAGX-100027-100COP	1	2700	50	100	17	65	2700	TO-272S-2
MAGX-100027-300COP	1	2700	50	300	16	63	2700	TO-272S-4
NPT25015	1	3000	28	23	14	>60 PEP	2500	SOIC-8NE
NPT2018	1	3500	50	12.5	17.5	>50	2500	6 x 3 mm PDFN-14
NPT2020	1	3500	50	45	14	>60	3500	AC-360B-2
NPT35015	1	3800	28	18	11	>48 PEP	3500	SOIC-8NE
NPTB00025B	1	4000	28	25	13	>50	3000	AC-360B-2
NPT1004	1	4000	28	45	14	>55 PEP	2500	SOIC-8NE
NPT1012B	1	4000	28	25	13	>50	3000	AC-360B-2
MAGX-011086	1	6000	28	4	9	>50	5800	4 x 4 mm QFN-24
NPTB00004A	1	6000	28	5	17	>50	2500	SOIC-8NE

RF Power Amplifiers: Basestation

Part Number	Min Frequency (MHz)	Max Frequency (MHz)	Operating Voltage (V)	Output Power Psat (W)	Gain (dB)	Efficiency (%)	Package
MAGB-101822-380A0P	1800	2200	50	380	15.4	57	TO-272S-4I
MAGB-202324-270A0P	2300	2400	50	270	14.5	54	TO-272S-4I
MAGB-102325-025B0P	2300	2500	50	25	20	31	5 x 7 mm QFN
MAGB-102527-270A0P	2500	2700	50	270	14.5	45	TO-272S-4I
MAGB-101836-025B0P	1800	3600	50	25	16.9	29	5 x 7 mm QFN
MAGB-103436-025B0P	3400	3600	50	25	16.6	29	5 x 7 mm QFN
MAGB-103436-280A0P	3400	3600	—	—	14.2	44.5	TO-272S-4I
MAGB-103438-020S0P	3400	3800	50	20	17	28	5 x 7 mm QFN
MAGB-103438-170S0S	3400	3800	50	170	12.5	40	AC-780S-4
MAGB-103537-100B0S	3400	3700	50	100	20	31	AC-400S-2
MAGB-103638-150B0S	3600	3800	50	150	15.5	35	AC-400S-2

Note: Part numbers are RoHS compliant
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.

RF Power Transistors: Silicon Bipolar

Part Number	Min Frequency (MHz)	Max Frequency (MHz)	Pout (W)	Gain (dB)	Efficiency (%)	Package Type
MRF421	1	30	100	10	40	Flange Ceramic
MRF428	2	30	150	13	45	Flange Ceramic
MRF429	2	60	150	13	45	Flange Ceramic
MRF422	2	30	150	10	40	Flange Ceramic
MRF426	2	30	25	22	35	Flange Ceramic
MRF454	2	30	80	12	50	Flange Ceramic
MRF455	2	30	60	13	55	Flange Ceramic
MRF448	2	30	250	12	45	Flange Ceramic
MRF141G	5	175	300	12	50	Flange Ceramic
MRF316	30	200	80	10	55	Flange Ceramic
MRF314	30	200	30	10	50	Flange Ceramic
MRF317	30	200	100	9	55	Flange Ceramic
MRF313	100	400	1	15	45	Flange Ceramic
MRF393	100	500	100	9.5	55	Flange Ceramic
MRF392	100	400	125	10	55	Flange Ceramic
MRF587	100	500	—	13	—	Flange Ceramic
MMRF321	150	400	10	12	50	Flange Ceramic
MRF323	150	400	20	10	50	Flange Ceramic
2N6439	225	400	60	7.8	55	Flange Ceramic
MRF327	225	400	80	7.3	50	Flange Ceramic
MAPR-000912-500S00	960	1215	500	9	45	Flange Ceramic
MAPRST0912-50	960	1215	50	9.1	40	Flange Ceramic
MAPRST0912-350	960	1215	350	9.4	45	Flange Ceramic
MRF1004MB	960	1215	4	10	40	Flange Ceramic
MRF10031	960	1215	30	9	40	Flange Ceramic
MRF10005	960	1215	5	8.5	45	Flange Ceramic
MRF10120	960	1215	120	8	50	Flange Ceramic
MRF1000MB	960	1215	0.7	10	—	Flange Ceramic
MRF1150MB	960	1215	150	7.8	35	Flange Ceramic
MRF1090MB	960	1215	90	8.4	35	Flange Ceramic
MAPR-001090-350S00	1025	1150	350	9	45	Flange Ceramic
MAPR-001011-850S00	1025	1150	850	7.8	42	Flange Ceramic
MRF10150	1025	1150	150	9.5	40	Flange Ceramic
MRF10350	1025	1150	350	8.5	40	Flange Ceramic
MRF10502	1025	1150	500	8.5	40	Flange Ceramic
MAPRST1030-1KS	1030	1030	1000	8	45	Flange Ceramic
PH1090-700B	1030	1090	700	7.5	50	Flange Ceramic
PH1090-15L	1030	1090	15	9	40	Flange Ceramic
PH1090-550S	1030	1090	550	7.4	55	Flange Ceramic
PH1090-175L	1030	1090	175	8.3	55	Flange Ceramic
PH1090-350L	1030	1090	350	8	55	Flange Ceramic
PH1090-75L	1030	1090	75	9	45	Flange Ceramic
PH1214-300M	1200	1400	300	8.75	50	Flange Ceramic
PH1214-55EL	1200	1400	55	6.6	50	Flange Ceramic
PH1214-12M	1200	1400	12	9	45	Flange Ceramic
PH1214-25M	1200	1400	25	9.5	50	Flange Ceramic

Note: Part numbers are RoHS compliant
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.

RF Power Transistors: Silicon Bipolar (continued)

Part Number	Min Frequency (MHz)	Max Frequency (MHz)	Pout (W)	Gain (dB)	Efficiency (%)	Package Type
PH1214-110M	1200	1400	110	7.4	50	Flange Ceramic
PH1214-80M	1200	1400	80	7.5	50	Flange Ceramic
PH1214-100EL	1200	1400	100	6	52	Flange Ceramic
PH1214-6M	1200	1400	6	7	45	Flange Ceramic
PH1214-220M	1200	1400	220	7.4	50	Flange Ceramic
PH1214-40M	1200	1400	40	8.5	50	Flange Ceramic
PH1617-2	1600	1700	2	10	35	Flange Ceramic
PH2226-50M	2200	2600	50	8	45	Flange Ceramic
PH2226-110M	2200	2600	110	8	40	Flange Ceramic
MAPR-002729-170M00	2700	2900	170	9	45	Flange Ceramic
PH2729-65M	2700	2900	65	8.5	40	Flange Ceramic
PH2729-130M	2700	2900	130	7.5	40	Flange Ceramic
PH2729-25M	2700	2900	25	9.2	45	Flange Ceramic
PH2731-5M	2700	3100	5	7	30	Flange Ceramic
PH2729-110M	2700	2900	110	6.8	35	Flange Ceramic
PH2731-20M	2700	3100	20	8.2	45	Flange Ceramic
PH2731-75L	2700	3100	75	7	40	Flange Ceramic
PH3134-55L	3100	3400	55	7.5	35	Flange Ceramic
PH3134-20L	3100	3400	20	7.5	35	Flange Ceramic
PH3135-65M	3100	3500	65	7.5	35	Flange Ceramic
PH3134-10M	3100	3400	10	8	35	Flange Ceramic
PH3135-25S	3100	3500	25	7.5	35	Flange Ceramic
PH3135-5M	3100	3500	5	8.5	30	Flange Ceramic
PH3135-90S	3100	3500	90	7.5	35	Flange Ceramic
PH3135-20M	3100	3500	20	7.5	35	Flange Ceramic

RF Power Transistors: MOSFET

Part Number	Min Freq (MHz)	Max Freq (MHz)	Pout (W)	Gain (dB)	Efficiency (%)	Package Type
MRF175LU	5	400	100	10	55	Flange Ceramic
MRF140	5	150	150	15	40	Flange Ceramic
MRF175GU	5	400	150	12	55	Flange Ceramic
MRF141	5	175	150	18	40	Flange Ceramic
MRF173CQ	5	175	80	13	60	Flange Ceramic
MRF136Y	5	400	30	14	54	Flange Ceramic
MRF148A	5	175	30	18	40	Flange Ceramic
MRF158	5	500	2	16	55	Flange Ceramic
MRF174	5	200	125	9	50	Flange Ceramic
MRF175GV	5	225	200	14	65	Flange Ceramic
MRF177	5	400	100	12	60	Flange Ceramic
MRF173	5	175	80	11	60	Flange Ceramic
MRF166C	5	500	20	13.5	50	Flange Ceramic
MRF166W	5	500	40	14	50	Flange Ceramic
MRF134	5	400	5	11	50	Flange Ceramic
MRF177	5	400	100	12	60	Flange Ceramic
MRF173	5	175	80	11	60	Flange Ceramic
MRF166C	5	500	20	13.5	50	Flange Ceramic
MRF166W	5	500	40	14	50	Flange Ceramic

RF Power Transistors: MOSFET (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Pout (W)	Gain (dB)	Efficiency (%)	Package Type
MRF134	5	400	5	11	50	Flange Ceramic
MRF151	5	175	150	13	40	Flange Ceramic
MRF137	5	400	30	13	60	Flange Ceramic
MRF150	5	150	150	17	45	Flange Ceramic
MRF275G	5	500	150	10	50	Flange Ceramic
MRF160	5	500	4	16	55	Flange Ceramic
MRF154	5	80	600	17	45	Flange Ceramic
MRF275L	5	500	100	8.8	55	Flange Ceramic
MRF151G	5	175	300	14	50	Flange Ceramic
MRF157	5	80	600	21	45	Flange Ceramic
MRF157H	5	80	600	21	45	Flange Ceramic
MRF136	5	400	15	16	60	Flange Ceramic
DU28120T	30	175	120	13	60	Flange Ceramic
DU2880U	30	175	80	13	60	Flange Ceramic
DU1215S	30	175	15	9.5	60	Flange Ceramic
DU2810S	30	175	10	13	55	Flange Ceramic
DU2880T	30	175	80	13	60	Flange Ceramic
DU28120V	30	175	120	13	60	Flange Ceramic
DU2805S	30	175	5	11	55	Flange Ceramic
DU2820S	30	175	20	13	60	Flange Ceramic
DU28200M	30	175	200	13	55	Flange Ceramic
DU2860U	30	175	60	13	60	Flange Ceramic
DU2840S	30	175	40	13	60	Flange Ceramic
MRF171A	100	200	45	17	60	Flange Ceramic
UF2815B	100	500	15	10	50	Flange Ceramic
UF2805B	100	500	5	10	50	Flange Ceramic
UF2840P	100	500	40	10	50	Flange Ceramic
UF2820P	100	500	20	10	50	Flange Ceramic
UF2810P	100	500	10	10	50	Flange Ceramic
UF28100V	100	500	100	10	50	Flange Ceramic
UF28100M	100	500	100	10	50	Flange Ceramic
UF2840G	100	500	40	10	50	Flange Ceramic
UF28150J	100	500	150	8	55	Flange Ceramic
LF2805A	500	1000	5	10	50	Flange Ceramic

RF Power: Silicon Bipolar Pallets

Part Number	Min Freq (MHz)	Max Freq (MHz)	Pout (W)	Gain (dB)	Efficiency (%)	Package Type
PHA2729-300M	2700	2900	300	7.5	36	Pallet
PHA2731-140L	2700	3100	140	7	35	Pallet
PHA3135-130M	3100	3500	130	7.4	35	Pallet

Note: Part numbers are RoHS compliant
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MACOM Amplifiers

For voice, data and point-to-point applications for A&D and commercial markets

MACOM designs, manufactures, and supports a wide variety of amplifiers for RF, microwave, and millimeter-wave applications. Our products cover frequency ranges from 40 KHz to 90 GHz. We use a variety of semiconductor processes such as GaAs MESFET for linearity, pHEMT for power and low noise, and HBT for linearity and high gain. Additionally, our 50 to 1100 MHz cable band amplifiers exhibit best-in-class composite linearity performance. MACOM amplifiers are used in a variety of commercial and aerospace and defense applications.



Active Splitters

- > Available in 2, 3, 4, 5, 6, and 8-way splits,
- > Designed for today's advanced CATV, FTTx, and direct broadcast satellite (DBS) subscriber equipment
- > Used in high definition flat screen TVs, set top boxes (STBs), embedded multi media terminal adapter (eMTAs), cable modems, and PCTV cards
- > Surface mount PDFN and PQFN plastic packages

Amplifier Gain Blocks

- > Frequencies from DC to 45 GHz
- > 50 Ω and 75 Ω applications include: networks, commercial, and aerospace and defense
- > Plastic packaging and bare die

Linear and Power Amplifiers

- > 40 KHz to 90 GHz frequencies for both linear and saturated applications including: network infrastructure, radar, test and measurement, and communication systems
- > Many of the power amplifiers include an on-chip temperature-compensated detector

Low Noise Amplifiers

- > Frequencies from 20 MHz to 86 GHz
- > For network infrastructure, radar, and communication systems
- > Available in a variety of packages

CATV Amplifiers

- > Single-ended and Push-Pull 75 Ω broadband amplifiers cover head-end, HFC infrastructure nodes, network, and drop amplifiers
- > Flat gain response, low distortion, and high linearity
- > Offered in small, plastic leaded and leadless packages

Hybrid Amplifiers

- Gain Block
- Low Noise Amplifiers
- Limiting Amplifiers
- > 10 kHz to 6 GHz
- > Unconditionally stable with excellent cascading capability
- > Designed using thin film technology
- > Hermetically sealed and screened up to space level, these amplifiers are perfect for military applications

Active Splitters

Part Number	Min Freq (MHz)	Max Freq (MHz)	Splits (#)	Gain (dB)	Noise Figure (dB)	CSO (dBc)	CTB (dBc)	Bias Current/Voltage (mA)/(V)	Package
MAAM-009450	50	1100	3	3.5	3.8	-65	-65	100 / 5	3 mm PQFN-12
MAAM-007239	50	1100	3	6	4.5	-65	-77	125 / 5	3 mm PQFN-16
MAAM-008818	50	1100	2	3.2	3.4	-60	-63	120 / 5	2 mm PDFN-8
MAAM-008819	50	1100	3	2.6	3.8	-60	-63	120 / 5	2 mm PDFN-8
MAAM-008820	50	1100	4	3	3.8	-62	-70	120 / 5	3 mm PQFN-12
MAAM-008821	50	1100	5	3.5	3.8	-60	-70	120 / 5	3 mm PQFN-12
MAAM-008822	50	1100	3	4.5	4	-60	-63	120 / 5	2 mm PDFN-8
MAAM-008970	950	2150	2	4.8	5	—	—	60 / 5	3 mm PQFN-12
MAAM-007805	50	1100	2	8.5	4	-60	-75	100 / 5	3 mm PQFN-12
MAAM-009451	50	1100	3	3	3.5	-55	-67	90 / 3	2 mm PDFN-8
MAAM-009452	50	1100	4	2.5	3.5	-56	-65	96 / 3.3	3 mm PQFN-12
MAAM-009778	50	1100	4	2.5	4.5	-60	-65	100 / 5	3 mm PQFN-12
MAAM-009779	50	1100	5	1.5	3.9	-60	-65	110 / 5	3 mm PQFN-12
MAAM-009811	50	1100	2	2.4	4.5	-55	-65	90 / 3	2 mm PDFN-8
MAAM-009879	50	1100	2	3.5	3.8	-60	-65	100 / 5	3 mm PQFN-12
MAAM-010237	50	1100	8	1.9	4.4	-50	-65	190 / 5	4 mm PQFN-24
MAAM-010263	50	1100	6	2	4.8	-55	-65	190 / 5	4 mm PQFN-24

Amplifier Gain Block

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Output PldB (dBm)	OIP3 (dBm)	Bias Current (mA)	Package
MAAM02350	Wideband Amplifier	200	3000	17	14	24	65	Die
MAAM28000	Wideband Amplifier	2000	8000	17	14	24	60	Die
MAAM-011252-DIE	Broadband Amplifier	30	8000	20	20	34	60	Die
MAAM-011305-DIE	Broadband Amplifier	30	8000	16	20	37	66	Die
XB1007-BD	Buffer Amplifier	4000	11000	23.5	20	30	130	Die
XB1008-BD	Buffer Amplifier	10000	21000	18	20	30	130	Die
XB1004-BD	Buffer Amplifier	16000	30000	21	19	29	100	Die
XB1006-BD	Buffer Amplifier	18000	38000	21	15	25	25	Die
XB1005-BD	Buffer Amplifier	35000	45000	23	16	26	50	Die
MAAM-008198-00A162	Cascadable, Hi Eff	10	1200	13	6	18	15	TO-8
MAAM02350-A2	Wideband Amplifier	200	3000	18	14	24	65	CR-3
XF1001-SC	Packaged HFET	0	6000	15.5	30	46.5	300	SOT-89
MAAM28000-A1	Wideband Amplifier	2000	8000	17	14	24	70	CR-3
MAAM28000-A1G	Wideband Amplifier	2000	8000	17	14	24	70	CR-10
XB1007-QT	Buffer Amplifier	4000	11000	23	19	31	100	3 mm PQFN-16
CMM0511-QT	Driver Amplifier	5000	14000	20	11	22	90	3 mm PQFN-16
MAAM-011206	Driver Amplifier	DC	15000	13.5	18	27.5	72	1.5 x 1.2 mm TDFN-6
MAAM-011101	Wideband Amplifier	4000	20000	16	19	30	45	1.5 x 1.2 mm TDFN-6
XB1008-QT	Buffer Amplifier	10000	21000	17	18	32	100	3 mm PQFN-16
MAAM-011132	Driver Amplifier	17700	23600	23	21	33	180	4 mm PQFN-16
MAAM-011112	Buffer Amplifier	20000	37000	24	18	30	335	3 mm PQFN-16
MAAM-011109	Wideband Amplifier	100	40000	13	18	22	170	5 mm LGA-9
XB1014-QT	Buffer Amplifier	37000	40000	21	20	30.5	63	3 mm PQFN-16
MAAM-010513	Driver Amplifier	40500	43500	23	23	32	400	5 mm LGA-12

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Power Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Output P1dB (dBm)	PSAT (dBm)	Gain (dB)	OIP3 (dBm)	Package
MAAM26100	GaAs MMIC Power Amplifier	2000	6500	28	30.5	19	39	Die
MAAM71100	Power, GaAs MMIC	7000	11000	28	31	18	38	Die
MAAP-015035-DIE	12 W Power Amplifier	8500	11500	40	41	36	—	Die
MAAP-011333-DIE	4 W Power Amplifier	13500	15000	37	—	26	—	Bare Die
MAAP-015030-DIE	13 W Power Amplifier	8500	11750	38	41	25	—	Die
XPI013-BD	Power Amplifier	17000	26000	—	—	20	—	Die
MAAP-118260-DIE	42 GHz Power Amplifier	18000	26000	28.5	31	28.5	37	Die
MAAP-011139-DIE	4 W Power Amplifier	29000	31000	35	36.5	24	42	Die
MAAP-011140-DIE	6 W Ka-band Power Amplifier	27500	30000	37	38.5	25	46	Die
MAAP-015016-DIE	4 W Ka-band Power Amplifier	32000	38000	36	37	18	—	Die
MAAP-011277-DIE	2.5 W Power Amplifier	20000	45000	23.5	—	24.5	30	Bare Die
MAAP-011218-DIE	0.5 W Power Amplifier	71000	86000	26	27	20	31	Die
MAAP-011199	Power Amplifier	80000	100000	22	24	12	—	Die
MAAP-011232	Power Amplifier	100	3000	29	30	23	40	3 mm PQFN-16
MAAP-010168	10 W Power Amplifier	500	3000	39	41	24	—	Ceramic Flanged-10
MAAP-011022	7 W Pulsed High Power Amplifier	2700	3000	37.5	38.3	23	—	6 mm PQFN-28
MAAP-011246	Power Amplifier	27500	31500	30	33	23	-20	5 mm AQFN-32
MAAP-010171	8 W Power Amplifier	2500	3500	38	39	27.3	—	5 mm PQFN-20
MAAP-011027	8 W Power Amplifier	5200	5900	—	39	20	—	5 mm PQFN-20
MAAM26100-B1	Power Amplifier	2000	6000	27	30.5	19	39	CR-2
MAAM26100-P1	Power Amplifier	2000	6000	28	30.5	20	40	CR-15
MAAP-010169	10 W Power Amplifier	2000	6000	38	41	18	—	Ceramic Flanged-10
XPI039-QJ	2.5 W Power Amplifier	5600	7100	33	34	17	48	6 mm QFN-24
MAAP-011161	4 W Power Amplifier	7100	7900	35.5	36.5	22	46.5	7 mm SMT
MAAP-011193	4 W Power Amplifier	7700	8500	35.5	36.5	20	46.5	7 mm SMT
XPI035-QH	0.5 W Power Amplifier	5900	9500	28	29	26	39	4 mm PQFN-24
MAAP-008924	1.2 W Power Amplifier	10000	13300	31	32	21	42	5 mm PQFN-20
MAAP-011313	4 W Power Amplifier	13500	15000	34.5	36	36	42	5 mm AQFN-32
MAAP-010150	10–15.35 GHz Power Amplifier	10000	15350	33	36	27	42	7 mm QFN-48
MAAP-011202	2.5 W Power Amplifier	12700	15400	33.5	34.5	30	41	5 mm QFN-24
MAAP-010517	3 W Power Amplifier	14400	15400	35	36.4	24.5	41	5 mm PQFN-24
XPI042-QT	0.5 W Power Amplifier	12000	16000	25	27	21	38	3 mm PQFN-16
XPI043-QH	1.5 W Power Amplifier	12000	16000	30	32	21.5	41	4 mm PQFN-24
MAAP-011145	2 W Power Amplifier	17650	19750	33	34.5	26	43	7 mm Cavity
MAAP-011146-STD	2 W Power Amplifier	21150	23650	33	35	24	41	7 mm Cavity Package
MAAP-118260	Power Amplifier	18000	26000	28.5	31	28.5	37	5 mm 24-lead QFN
MAAP-011250	4W, Ka Band Power Amplifier	27500	30000	34.8	36	24	41	5 mm AQFN-32
MAAP-011289	3W, Ka Band Power Amplifier	28000	30000	35	36	24	35	5 mm AQFN-32
MAAP-011298	2.3W, Ka Band Power Amplifier	27000	31000	33	33.5	25.5	39	5 mm AQFN-32
MAAP-011316	2 W Power Amplifier	27500	31000	34.5	33.5	26	38	5 mm QFN-32
MAAP-011317	4 W Power Amplifier	27500	31000	36.5	36	27.5	40	5 mm QFN-32
MAAP-011233	4W, Ka Band Power Amplifier	28500	31000	34.5	37	25	38	5 mm AQFN-32
MAAP-011139	4 W Power Amplifier	28500	31000	34.5	36	23	36	5 mm AQFN-32
MAAP-011170	Power Amplifier	37000	40000	27	28	27	38	7mm 16-lead SMD
XPI080-QU	38 GHz Power Amplifier	37000	40000	27	28.9	25	38	7 mm LGA-16
MAAP-010512	42 GHz Power Amplifier	40500	43500	27	29	22	38.4	7 mm LGA-16

Linear Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Output P1dB (dBm)	Package
MAAP-015035	12 W Power Amplifier	8500	11500	36	—	—	Die
MAAP-015024-DIE	8 W Power Amplifier	14500	17500	21	27	—	Die
XP1027-BD	Power Amplifier	27000	31000	21	43	—	Die
XP1026-BD	Power Amplifier	27000	32000	21	40	32	Die
XP1017-BD	Power Amplifier	30000	36000	16	33	24	Die
MAAP-011106	Power Amplifier	71000	86000	20	30	23	Die
MAAM-011167	Medium Power Amplifier	71000	86000	18	27	10	Die
MAAM-011117	Broadband, Low Distortion	50	2700	16	35	20	2 mm PDFN-8
XP1044-QL	Power Amplifier Module	4000	5900	18.5	47	34	7 mm SMD-28
XP1050-QJ	2.5 W Power Amplifier	7100	8500	15.5	47	47	6 mm QFN-24
MAAM-011139	Driver Amplifier	27500	33400	21	32	20	4 mm QFN-24
MAAP-010516	4 W Power Amplifier	32000	38000	18	—	34	5 mm PQFN-24

Low Noise Amplifiers

Part Number	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Noise Figure (dB)	OIP3 (dBm)	Output P1dB (dBm)	Bias Voltage (V)	Bias Current (mA)	Package
MAAM37000	3500	7000	17	1.8	24	14	4	75	Die
MAAM71200	7500	12000	16.5	2.3	22	12	4	40	Die
MAAL-011151-DIE	2000	18000	16	4.5	—	5	3	2	Die
MAAL-011141-DIE	DC	28000	17	1.8	27	16	6	75	Die
XL1002-BD	20000	36000	23	2.6	16	4	5	85	Die
XL1010-BD	20000	38000	17	3	—	—	4	45	Die
XL1000-BD	20000	40000	20	2	16	9	3	35	Die
MAAL-008091	800	1000	15	1.2	30	17	5	60	SOIC-8
MAAL-011136	45	1218	20	1.2	32	17.5	5	50	SOT-89 Plastic Pkg
MAALSS0042	1500	1600	27	1.2	13	1	5	20	SOIC-8
MAAL-010705	500	1600	19	0.5	32	19	4	60	2 mm PDFN-8
MAAL-011151	2000	18000	15	3.5	—	5	3	2	5 mm PQFN-32
MAALSS0048	1400	2000	17	1.6	13	1	3	7	SOT-26
MAAL-011141	DC	28000	17.5	2	27	16	6	75	5 mm AQFN-32
MAAL-007304	500	3000	25.5	0.7	19	7	3	12	SOT-26
MAAL-009120	70	3000	11	1.4	35	18	3	80	SOT-363
MAAL-010200	70	3000	11	1.4	36	17	3	77	SOT-89
MAAL-009053	800	3000	11	1.4	35	18	3	80	SOT-363
MAAL-010570	100	3500	16	0.75	34	18.8	5	15	SOT-363
MAAL-010704	100	3500	19.5	0.9	31.5	18	3	60	SOT-363
MAAM-011229-CQ3	50	4000	19	1.3	38	19.5	5	80	2 mm QFN-12
MAAL-010706	1400	4000	17.5	0.6	34.5	19	4	60	2 mm PDFN-8
MAAL-011078	700	6000	23	0.35	33	17.5	3	50	2 mm PDFN-8
MAAM37000-AIG	3500	7000	17	2.2	25	14	4	75	Ceramic Gull Wing-8
MAAM37000-A1	3500	7000	17	2.2	25	14	4	75	Ceramic-8
MAAM71200-H1	7500	12000	15.5	2.7	21	11	4	40	Leadless Ceramic
MAAL-010528	8000	12000	20.2	1.6	26	14	4	60	3 mm PQFN
MAAL-011130	2000	18000	19	1.4	21	16	3	80	2 mm PQFN-8
MAAL-011129	18000	31500	23	2.5	25	16	3	80	2 mm PQFN-8
MAAL-011138	25000	35000	21	1	28	—	5	80	3 mm PDFN-8
XL1010-QT	20000	38000	17	3	—	6	4	45	3 mm QFN-16
MAAL-011111	22000	38000	19	2.5	—	5	3	55	3 mm QFN-16

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Variable Gain Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Bias Current/Voltage (mA/V)	Package
MAAM-010399	Differential Variable Gain Amplifier	50	1100	28	48	900/6	5 x 7 mm PQFN-40
MAAM-011100	Ultra Small Broadband Variable Gain Amplifier	500	20000	12	25	70/+5.-5	1.5 x 1.2 mm TDFN-6
MAAM-010651	Buffer Amplifier	37000	40000	21	30.5	250/4	3 mm QFN-16

CATV Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Bias Current (mA)	Bias Voltage (V)	Noise Figure (dB)	Package
MAAM-011184	CATV Return Path Single-Ended Amplifier	5	300	21	43	95	5	2.5	MSOP 8-EP
MAAM-011185	CATV Return Path Differential Amplifier	5	300	21.2	43	290	5	3.1	3 mm PQFN-16
MAAM-011156	Amplifier, CATV Return Path Differential	5	300	19	44	210	8	7	3 mm PQFN-16
MAAM-011168	Differential CATV Variable Gain	5	300	40	44	290	8	2.6	7 mm PQFN-48
MAAM-011186	Differential CATV Variable Gain Amplifier	5	300	39	42	280	8	3	7 mm PQFN-48
MAAMSS0044	Low Noise, Low Distortion Amplifier	50	1000	12.2	42	225	5	3.3	4 mm PQFN-20
MAAM-010144	Push Pull CATV Amplifier	50	1000	20.5	43	325	8	4.2	TSSOP-16
MAAMSS0067	Low Noise, Low Distortion Amplifier	50	1000	12.2	32	190	5	3.3	4 mm PQFN-20
MAAM-009100	Broadband CATV Amplifier	50	1000	14.3	34	105	5	3	SOT-89
MAAM-009455	CATV Push Pull Amplifier	50	1000	20.5	43	325	8	4.2	4 mm PQFN-20
MAAM-007724	Low Noise, Low Distortion Amplifier	50	1005	12.2	32	190	5	3.3	4 mm PQFN-20
MAAM-010373	Broadband CATV Amplifier	50	1100	22	40	148	8	1.66	SOT-89
MAAM-009633	Broadband CATV Amplifier	50	1200	17	37	120	8	1.9	SOT-89
MAAMSS0060	Low Noise, Low Distortion Amplifier	50	1200	17	37	120	8	1.8	SOT-89
MAAMSS0041	Low Noise, Low Distortion Amplifier	50	1200	15	36	100	8	2.7	SOT-89
MAAMSS0042	Low Noise, Low Distortion Amplifier	50	1200	15	38	110	5	3	SOT-89
MAAM-011169	CATV 75 Ω Push Pull Amplifier	45	1200	25	54	480	12	4.4	5x7 mm PQFN-40
MAAM-011182	75 Ω , 8 V RF Amplifier	45	1218	18	38	130	8	2.7	2 mm PDFN-8
MAAM-011163	75 Ω , Differential RF Amplifier	5	1218	19	42	290	5	1.7	SOIC-8EP
MAAM-011240	75 Ω , Differential RF Amplifier	5	1218	17	44	290	5	1.7	SOIC-8EP
MAAM-011251	75 Ω , High Linearity, Low Noise CATV Amplifier	5	1218	15	37	100	5	1.9	SOT-89
MAAM-011258	75 Ω , High Linearity, Low Noise CATV Amplifier	5	1218	15	37	100	5	2.2	SOT-89
MAAL-011119	Satellite TV Amplifier	900	2200	10.5	32	80	2.5	1.5	SOT-363
MAAL-009053	Satellite TV Amplifier	800	3000	11	35	80	3	1.4	SOT-363
MAAL-011139	Low Noise Amplifier	5	4000	21	34	85	5	1	SOT-89

Distributed Amplifiers

Part Number	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Gain Flatness (dB)	Noise Figure (dB)	OIP3 (dBm)	Output P1dB (dBm)	Package
MAAM-011275-DIE	0.03	40000	15	0.75	4	28	21	Die
MAAM-015023-DIE	18000	40000	26	0.5	6	30	21	Die
MAAM-011286-DIE	0.03	40000	16	1	4	30	22	Die
MAAM-011291-DIE	20000	45000	19	—	—	35	28.5	Die
XD1001-BD	18000	50000	17	1	5	24	15	Die
MAAM-011238-DIE	0.1	67500	15	2	7	27	17.6	Die
MAAM-011238	0.1	50000	14	3.5	5.5	27	17	5 mm LGA-12
MAAM-011109	100	40000	13	18	3.5	22	18	5 mm LGA-9

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FTTx Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Bias Current (mA)	Bias Voltage (V)	Noise Figure (dB)	Package
MAAM-007807	CATV and 2nd Stage FTTx Amp	50	1000	9	35	60	5	3.8	SOT-89
MAAM-008863	FTTx RF Amplifier	50	1000	37	—	220	5	4.8	4 mm PQFN-24
MAAM-010239	Low Noise FTTx Amplifier	50	1000	30	35	215	5	3.5	4 mm PQFN-20
MAAM-010333	Optical Node RF Amplifier	50	1200	33	—	260	5	—	4 mm PQFN-24

Hybrid Amplifiers: Gain Blocks

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Package
CA181 ♦	Cascadable	10	250	16.5	35	Connectorized
SMA181	Cascadable	10	250	16.5	35	SMT
EA54	Cascadable, High Gain	5	250	27	16	TO-5
A75-2	Cascadable	5	250	21	19	TO-8
A181	Cascadable	10	250	16.5	35	TO-8
CA79	(non-RoHS) Cascadable	5	300	14	38	Connectorized
A79	Cascadable	5	300	14	38	TO-8
SMA79	Cascadable	5	300	14	38	SMT
A56	Cascadable, High Gain	5	400	26	27	TO-8
SMA87	Cascadable	10	400	14	33	SMT
A87	Cascadable	10	400	14	33	TO-8
CA87 ♦	Cascadable	10	400	14	33	Connectorized
EA2	Cascadable	5	400	13.5	21	TO-5
AMC-146-SMA ♦	Cascadable, High Linearity	10	500	21	35	Connectorized
AMC-151-SMA ♦	Cascadable, High Dynamic Range	5	500	12	36	Connectorized
MAAM-007502-SPA512	Cascadable, Medium Power	10	500	18	40	SMT-8
SMRA89	Cascadable, High Gain	5	500	26.5	35	SMT
SMA74-2	Cascadable, High Efficiency	5	500	26	10	SMT
SMPA511	Cascadable, Medium Power	10	500	12.7	40	SMT
A5	Cascadable Amplifier	5	500	14.8	22	TO-8
PA511	Cascadable, Medium Power	10	500	12.7	40	TO-8
EA54-2	Cascadable, High Gain	5	500	29.5	20	TO-5
A57	Cascadable	10	500	14.7	28	TO-8
SMA57	Cascadable	10	500	14.7	28	SMT
SMA513	Cascadable	10	500	20	30	SMT
A55	Cascadable	10	500	14.7	24	TO-8
RA89-1	Cascadable, High Gain	10	500	30	36	TO-8B
A74-2	Cascadable, High Efficiency	5	500	26	10	TO-8
SMRA89-1	Cascadable, High Gain	10	500	30	36	SMT
A72	Cascadable, High Efficiency	5	500	15	26	TO-8
SMA72	Cascadable, High Efficiency	5	500	15	26	SMT
A77	Cascadable	5	500	16.5	30	TO-8
PA512	Cascadable, Medium Power	10	500	18	40	TO-8
CRA89-1 ♦	Cascadable, High Gain	10	500	30	36	Connectorized
A88	Cascadable	5	500	18.7	30	TO-8
SMA77	Cascadable	5	500	16.5	30	SMT
SMA88	Cascadable	5	500	18.7	30	SMT
RA89	Cascadable, High Gain	5	500	26.5	35	TO-8B
CRA89 ♦	Cascadable, High Gain	5	500	26.5	35	Connectorized

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Hybrid Amplifiers: Gain Blocks (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Package
CA77 ♦	Cascadable	5	500	16.5	30	Connectorized
MAAM-007502-CPA512 ♦	Cascadable, Medium Power	10	500	18	40	Connectorized
A54	Cascadable	5	500	15.5	21	TO-8
MAAM-008200-000A83	Cascadable, High Efficiency	10	500	30	10	TO-8
A513	Cascadable	10	500	20	30	TO-8
A5-5	Cascadable	5	500	15.5	21	TO-8
A5-6	Cascadable	6	600	15.5	21	TO-8
SMA77-1	Cascadable	5	600	16	30	SMT
A77-1	Cascadable	5	600	16	30	TO-8
SMA5-6	Cascadable	6	600	16	21	SMT
CA77-1 ♦	Cascadable	5	600	16	30	Connectorized
A59-1	Cascadable, High Dynamic Range	10	700	10.5	36	TO-8
SMA59-1	Cascadable, High Dynamic Range	10	700	10.5	36	SMT
SMA89	Cascadable	100	800	22	30	SMT
A89	Cascadable	50	800	22	30	TO-8
A11-2	Cascadable	5	1000	16	10	TO-8
AMC-145-SMA ♦	Cascadable	10	1000	10.7	32	Connectorized
AMC-184-SMA ♦	Cascadable	5	1000	20	20	Connectorized
CA17 ♦	Cascadable	10	1000	12	27	Connectorized
CA1021 ♦	Cascadable, High Gain	10	1000	26	26	Connectorized
CRA69 ♦	Cascadable, High Gain	10	1000	25	34	Connectorized
CRA66 ♦	Cascadable, High Gain	10	1000	37	30	Connectorized
CA66-1	Cascadable, High Gain	10	1000	27.5	28	Connectorized
SMA1021	Cascadable, High Gain	10	1000	26	26	SMT
RA66	Cascadable, High Gain	10	1000	37	30	TO-8B
SMRA69	Cascadable, High Gain	10	1000	25	34	SMT
SMA17	Cascadable	10	1000	12	27	SMT
A17	Cascadable Amplifier	10	1000	12	27	TO-8
A66-1	Cascadable, High Gain	10	1000	27.5	28	TO-8
SMA66-1	Cascadable, High Gain	10	1000	27.5	28	SMT
RA69	Cascadable, High Gain	10	1000	25	34	TO-8B
A19-1	Cascadable Amplifier	10	1000	11.5	35	TO-8
SMA19-1	Cascadable	10	1000	11.5	35	SMT
CA19-1 ♦	Cascadable	10	1000	11.5	35	Connectorized
AMC-155-SMA ♦	Cascadable, High Dynamic Range	300	1000	12.3	30	Connectorized
SMRA66	Cascadable, High Gain	10	1000	37	30	SMT
A1021	Cascadable, High Gain	10	1000	26	26	TO-8
CA66 ♦	Cascadable	10	1200	23.5	28	Connectorized
CA64 ♦	Cascadable, High Gain	10	1200	26	20	Connectorized
SMA66	Cascadable	10	1200	23.5	28	SMT
SMA64	Cascadable, High Gain	10	1200	26	20	SMT
A64	Cascadable, High Gain	10	1200	26	20	TO-8
A66	Cascadable	10	1200	23.5	28	TO-8
SMA28	Cascadable	10	1500	11	29	SMT
CA26 ♦	Cascadable	10	1500	20.5	27	Connectorized
CA24 ♦	Cascadable	5	1500	20	21	Connectorized
SMA29-1	Cascadable	10	1500	9	32	SMT
A26	Cascadable Amplifier	10	1500	20.5	27	TO-8
A29-1	Cascadable	10	1500	9	32	TO-8
A28	Cascadable	10	1500	11	29	TO-8

Hybrid Amplifiers: Gain Blocks (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Package
A25	Cascadable Amplifier	5	1500	10	21	TO-8
A24	Cascadable	5	1500	20	21	TO-8
SMA26	Cascadable	10	1500	20.5	27	SMT
SMA24	Cascadable	5	1500	20	21	SMT
A27	Cascadable	5	1500	8.5	28	TO-8
CA28 ♦	Cascadable	10	1500	11	29	Connectorized
CA29-1 ♦	Cascadable	10	1500	9	32	Connectorized
CRA36 ♦	Cascadable, High Gain	100	2000	24	22	Connectorized
SMA36	Cascadable	100	2000	16.5	23	SMT
SMPA2010	Cascadable, Medium Power	200	2000	10	33	SMT
A38	Cascadable	10	2000	9.5	30	TO-8
CA38 ♦	Cascadable	10	2000	9.5	30	Connectorized
SMA39	Cascadable	10	2000	7.5	34	SMT
RA36	Cascadable, High Gain	100	2000	24	22	TO-8
SMA35	Cascadable	10	2000	10	21	SMT
A39	Cascadable	10	2000	7.5	34	TO-8
SMA38	Cascadable	10	2000	9.5	30	SMT
A34	Cascadable	100	2000	16	18	TO-8
A36	Cascadable	100	2000	16.5	23	TO-8
SMA37	Cascadable	10	2000	10	28	SMT
SMRA36	Cascadable, High Gain	100	2000	24	22	SMT
A37	Cascadable	10	2000	10	28	TO-8
SMA34	Cascadable	100	2000	16	18	SMT
A35	Cascadable	10	2000	10	21	TO-8
CA35 ♦	Cascadable	10	2000	10	21	Connectorized
CA36-1 ♦	Cascadable	100	2300	16.2	23	Connectorized
A36-1	Cascadable	100	2300	16.2	23	TO-8
SMA36-1	Cascadable	100	2300	16.2	23	SMT
A33-1	Cascadable	2	2400	9	19	TO-8
SMA33-1	Cascadable	2	2400	9	19	SMT
CA33-1 ♦	Cascadable	2	2400	9	19	Connectorized
CA3010 ♦	Cascadable	0	2500	9.5	35	Connectorized
MAAM-007947-CA3602 ♦	Cascadable	100	2600	15	30	Connectorized
A36-2	Cascadable	100	2600	15	30	TO-8
SMA36-2	Cascadable	100	2600	15	30	SMT
SMPA38-2	Cascadable, Medium Power	200	2600	8.5	33	SMT
PA38-2	Cascadable, Medium Power	200	2600	8.5	33	TO-8
SMA43	Cascadable	100	3200	11.5	21	SMT
A43	Cascadable	100	3200	11.5	21	TO-8
CPA48 ♦	Cascadable, Medium Power	1000	4000	16	34	Connectorized
RA46	Cascadable, High Gain	1000	4000	25.5	30	TO-8B
SMPA48	Cascadable, Medium Power	1000	4000	16	34	SMT
PA48	Cascadable, Medium Power	1000	4000	16	34	TO-8B
SMRA46	Cascadable, High Gain	1000	4000	25.5	30	SMT
SMRA62	Cascadable, High Gain	2000	6000	16	28	SMT
RA62	Cascadable, High Gain	2000	6000	16	28	TO-8B
AM42-0039	Power, C-Band VSAT	5900	7100	33	45	CR15
AM42-0007	Power, GaAs MMIC	14000	14500	22	41	R380/CR15
AM42-0002	Power, VSAT MMIC	14000	14500	22	39	R380 / CR15

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Hybrid Amplifiers: Low Noise Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
AMC-162-SMA ♦	Cascadable, Low Noise, Hi Dyn Rge	10	100	12.5	1.5	30	Connectorized
AMS-162-PIN ♦	Cascadable, High Dynamic Range	10	100	12.5	1.5	30	TO-8
AM-162-PIN ♦	Cascadable, High Dynamic Range	10	100	12.5	1.1	32	TO-8
A101	Cascadable, High Linearity	5	100	17	3	36	TO-8
SMA101	Cascadable, High Linearity	5	100	17	3	36	SMT
MAAM-007844-OCA801 ♦	Cascadable	10	200	27.3	2	28	Connectorized
SMA80-1	Cascadable	10	200	27.3	2	28	SMT
A80-1	Cascadable	10	200	27.3	2	28	TO-8
SMA70-1	Cascadable, High Dynamic Range	10	250	8	1.8	28	SMT
CA83-1 ♦	Cascadable	10	250	35.5	2.5	9	Connectorized
A82-1	Cascadable	20	250	19	2.8	26	TO-8
SMA70	Cascadable, High Dynamic Range	10	250	8	1.6	24	SMT
SMA82-1	Cascadable	20	250	19	2.8	26	SMT
CA82 ♦	Cascadable	20	250	25	2.8	31	Connectorized
A70-1	Cascadable, High Dynamic Range	10	250	8	1.8	28	TO-8
CA231 ♦	Cascadable, High Gain	10	250	26	1.7	22	Connectorized
SMA82	Cascadable	20	250	25	2.8	31	SMT
SMA81-1	Cascadable	20	250	25	2.5	27	SMT
SMA81	Cascadable	20	250	24.5	2.6	28	Ceramic SMT0-8
A231	Cascadable, High Gain	10	250	26	1.7	22	TO-8
A70	Cascadable, High Dynamic Range	10	250	8	1.6	24	TO-8
A81-1	Cascadable	20	250	25	2.5	27	TO-8
A70-3	Cascadable, High Dynamic Range	20	250	8	2.8	40	TO-8
SMA83-1	Cascadable	10	250	35.5	2.5	9	SMT
A82	Cascadable	20	250	25	2.8	31	TO-8
SMA231	Cascadable, High Gain	10	250	26	1.7	22	SMT
A81	Cascadable	20	250	25.5	3	28	TO-8
CA70-2 ♦	Cascadable, High Dynamic Range	10	250	8	2.2	38	Connectorized
A74-1	Cascadable, High Gain	5	250	31	4.5	21	TO-8
A70-2	Cascadable, High Dynamic Range	10	250	8	2.2	38	TO-8
A83-1	Cascadable	10	250	35.5	2.5	9	TO-8
CA78 ♦	Cascadable	5	300	14	3.5	35	Connectorized
SMA87-2	Cascadable	10	300	16	2.9	24	SMT
A78	Cascadable	5	300	14	3.5	35	TO-8
A87-2	Cascadable	10	300	16	2.9	24	TO-8
SMA78	Cascadable	5	300	14	3.5	35	SMT
SMA70-2	Cascadable, High Dynamic Range	10	300	8	2.2	38	Ceramic SMT0-8
SMA70-3	Cascadable, High Dynamic Range	15	300	8	2.8	40	Ceramic SMT0-8
PAW1027 ♦	Ultra Linear Power, Multi Carrier	35	350	38.5	3.7	43	SOT115J
EA1	Cascadable	5	400	14	4.3	13	TO-5
CA87-1 ♦	Cascadable	10	400	16	3.4	31	Connectorized
SMA411	Cascadable	10	400	15.8	3	24	SMT
SMA87-1	Cascadable	10	400	16	3.4	31	SMT
A87-1	Cascadable	10	400	16	3.4	31	TO-8
MAAM-008199-000A51	Cascadable	10	400	15	2.7	10	TO-8
A411	Cascadable	10	400	15.8	3	24	TO-8
CA511 ♦	Cascadable	10	500	17	3.4	33	Connectorized
MAAM-007272-SMA514	Cascadable, High Gain	5	500	28	4	32	SMT0-8
MAAM-007272-OCA515 ♦	Cascadable, High Gain	5	500	27.5	3.5	33	Connectorized

Hybrid Amplifiers: Low Noise Amplifiers (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
CA74 ♦	Cascadable, High Gain	5	500	30	3	20	Connectorized
AMC-147-SMA ♦	Cascadable, High Linearity	5	500	17	3.4	33	Connectorized
AMC-143-SMA ♦	Cascadable	5	500	15.8	2.5	20	Connectorized
AM-131-PIN	Cascadable, Low Noise, High Linearity	5	500	11.5	4	34	TO-8
AMC-123-SMA ♦	Cascadable, Low Noise, High Linearity	5	500	10	5.5	30	Connectorized
MAAM-007272-SMA515	Cascadable, High Gain	5	500	27.5	3.5	33	SMT0-8
A515	Cascadable, High Gain	5	500	27.5	3.5	33	TO-8
CA81-2 ♦	Cascadable	20	500	24.5	3	28	Connectorized
CA75 ♦	Cascadable	5	500	21	2.1	21	Connectorized
CA76 ♦	Cascadable, High Gain	5	500	28	3	28	Connectorized
PAW1027-1 ♦	Ultra Linear Power, Multi Carrier	35	500	38	4.2	43	SOT115J
A76	Cascadable, High Gain	5	500	28	3	28	TO-8
CA531 ♦	Cascadable	10	500	31.7	2	14	Connectorized
CA180 ♦	Cascadable	10	500	16.5	3.4	33	Connectorized
SMA59	Cascadable, High Dynamic Range	5	500	11.5	4.3	36	SMT
SMA81-2	Cascadable	20	500	24.5	3	28	SMT
SMA75-3	Cascadable	10	500	20.5	1.7	16	SMT
A75-3	Cascadable	10	500	20.5	1.7	16	TO-8
SMA75	Cascadable	5	500	21	2.1	21	SMT
SMA74	Cascadable, High Gain	5	500	30	3	20	SMT
SMA58	Cascadable	5	500	11.5	4	34	SMT
EA53-2	Cascadable	5	500	19	3.6	24	TO-5
SMA73	Cascadable, High Gain	5	500	32	3.5	15	SMT
A74	Cascadable, High Gain	5	500	30	3	20	TO-8
A58	Cascadable	5	500	11.5	4	34	TO-8
SMA1	Cascadable	5	500	16	2.4	11	SMT
A1	Cascadable Amplifier	5	500	16	2.4	11	TO-8
A73	Cascadable, High Gain	5	500	32	3.5	15	TO-8
SMA76	Cascadable, High Gain	5	500	28	3	28	SMT
A75	Cascadable Amplifier	5	500	21	2.1	21	TO-8
SMA76-1	Cascadable, High Efficiency	5	500	27.5	3	26	SMT
A59	Cascadable, High Dynamic Range	5	500	11.5	4.3	36	TO-8
A531	Cascadable	10	500	31.7	2	14	TO-8
A76-1	Cascadable, High Efficiency	5	500	27.5	3	26	TO-8
A81-2	Cascadable	20	500	24.5	3	28	TO-8
MAAM-008317-CA7503 ♦	Cascadable	10	500	20.5	1.7	16	Connectorized
SMA180	Cascadable	10	500	16.5	3.4	33	SMT
MAAM-007272-OCA514	Cascadable, High Gain	5	500	28	4	32	Connectorized
A514	Cascadable, High Gain	5	500	28	4	32	TO-8
A511	Cascadable Amplifier	10	500	17	3.4	33	TO-8
A180	Cascadable	10	500	16.5	3.4	33	TO-8
A80	Cascadable	20	500	29	2.5	27	TO-8
A81-3	Cascadable	20	500	17	4	20	TO-8
SMA80	Cascadable	10	550	29	2.3	27	Ceramic SMT0-8
SMA67-1	Cascadable, High Efficiency	10	600	15	3.7	30	SMT

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Hybrid Amplifiers: Low Noise Amplifiers (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
SMA611	Cascadable, Low Noise, Low Volt	5	700	15	3.2	24	SMT
CA67-1 ♦	Cascadable, High Efficiency	10	600	15	3.7	30	Connectorized
A67-1	Cascadable, High Efficiency	10	600	15	3.7	30	TO-8
A611	Cascadable, Low Noise, Low Volt	5	700	15	3.2	24	TO-8
A67	Cascadable, High Efficiency	10	800	14	4	30	TO-8
SMA67	Cascadable, High Efficiency	10	800	14	4	30	SMT
AMC-176-SMA ♦	Cascadable	5	1000	13.2	4	27	Connectorized
CA66-3 ♦	Cascadable, High Efficiency	10	1000	26	3	13	Connectorized
A11	Cascadable Amplifier	5	1000	14.7	3.1	10	TO-8
SMA66-3	Cascadable, High Efficiency	10	1000	26	3	13	SMT
SMA1031	Cascadable, High Gain	10	1000	28.5	2.7	22	SMT
A12	Cascadable Amplifier	10	1000	16	2.8	22	TO-8
A66-3	Cascadable, High Efficiency	10	1000	26	3	13	TO-8
A1031	Cascadable, High Gain	10	1000	28.5	2.7	22	TO-8
A18-1	Cascadable, High Dynamic Range	10	1000	14.7	3.8	30	TO-8
SMA11-2	Cascadable	5	1000	16	2.5	10	SMT
CA18-1 ♦	Cascadable, High Dynamic Range	10	1000	14.7	3.8	30	Connectorized
SMA18-1	Cascadable, High Dynamic Range	10	1000	14.7	3.8	30	SMT
SMA63	Cascadable	5	1000	16	3	15	SMT
AMC-182-SMA ♦	Cascadable, High Gain	5	1000	28.2	3.5	20	Connectorized
A63	Cascadable	5	1000	16	3	15	TO-8
SMA12	Cascadable	10	1000	16	2.8	22	SMT
MAAM-008198-SMA162	Cascadable, High Efficiency	10	1200	13	3.5	18	SMTO-8
SMA1211	Cascadable, Low Volt	10	1200	14	2.8	20	SMT
CA12 ♦	Cascadable, Low Volt	10	1200	14	2.8	20	Connectorized
CA1212 ♦	Cascadable, Low Volt	100	1200	14	1.8	29	Connectorized
A1212	Cascadable Amplifier	100	1200	14	1.8	29	TO-8
SMA1212	Cascadable, Low Volt	100	1200	14	1.8	29	SMT
MAAM-008198-OCA162	Cascadable, High Efficiency	10	1200	13	3.5	18	Connectorized
A1211	Cascadable Amplifier	10	1200	14	2.8	20	TO-8
CA28-2 ♦	Cascadable, High Efficiency	10	1500	14	3.5	24	Connectorized
A28-2	Cascadable, High Efficiency	10	1500	14	3.5	24	TO-8
A25-1	Cascadable	2	1500	13.5	3	22	TO-8
SMA28-2	Cascadable, High Efficiency	10	1500	14	3.5	24	SMT
CA25-1 ♦	Cascadable	2	1500	13.5	3	22	Connectorized
AM-153-PIN ♦	Cascadable, Low Noise	300	1800	12.4	2.5	17	TO-8
PA38	Cascadable, Medium Power	200	2000	10	4	34	TO-8
CA32 ♦	Cascadable, Hi Linearity	100	2000	13	2.1	32	Connectorized
SMA32	Cascadable, Hi Linearity	100	2000	13	2.1	32	SMT
SMA32-1	Cascadable, Low Noise, Low Volt	100	2000	11.5	2.5	25	SMT
A32-1	Cascadable, Low Noise, Low Volt	100	2000	11.5	2.5	25	TO-8
A32	Cascadable, Hi Linearity	100	2000	13	2.1	32	TO-8
CPA38 ♦	Cascadable, Medium Power	200	2000	10	4	34	Connectorized
CA32-1 ♦	Cascadable, Low Noise, Low Volt	100	2000	11.5	2.5	25	Connectorized

Note: Part numbers are RoHS compliant ♦ indicates non-RoHS compliant
Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.

Hybrid Amplifiers: Low Noise Amplifiers (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
A31-1	Cascadable Amplifier	10	2000	11.5	3.5	9	TO-8
SMPA38	Cascadable, Medium Power	200	2000	10	4	34	SMT
MAAM-007501-0A2002	Cascadable	20	2700	11.5	2.5	40	TO-8
MAAM-007501-CA2002	Cascadable	20	2700	11.5	2.5	40	Connectorized
MAAM-007501-SA2002	Cascadable	20	2700	11.5	2.5	40	SMT0-8
SMA45	Cascadable	1000	4000	17.5	4	29	SMT
CA45 ♦	Cascadable	1000	4000	17.5	4	29	Connectorized
A45-1	Cascadable	1000	4000	17.5	4	26	TO-8
SMA4012	Cascadable, Low Noise, Low Volt	1000	4000	18	3.5	26	SMT
A4012	Cascadable, Low Noise, Low Volt	1000	4000	18	3.5	26	TO-8
A4011	Cascadable, Low Noise, Low Volt	1000	4000	15.5	2	29	TO-8
SMA45-1	Cascadable	1000	4000	17.5	4	26	SMT
SMA4011	Cascadable, Low Noise, Low Volt	1000	4000	15.5	2	29	SMT
A45	Cascadable	1000	4000	17.5	4	29	TO-8
A61	Cascadable, Low Noise, Low Volt	2000	6000	7.5	3.2	25	TO-8
A6011	Cascadable, Low Noise, Low Volt	2000	6000	14.8	1.5	30	TO-8
SMA61	Cascadable, Low Noise, Low Volt	2000	6000	7.5	3.2	25	SMT
CA6011 ♦	Cascadable, Low Noise, Low Volt	2000	6000	14.8	1.5	30	Connectorized
SMA6011	Cascadable, Low Noise, Low Volt	1500	6000	14.8	1.5	30	Ceramic SMT0-8

Hybrid Amplifiers: Limiting Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dBm)	Package
CAL7 ♦	Cascadable, Limiting Amplifier	50	500	13	SMA
LA7	Cascadable, Limiting Amplifier	50	500	12.5	TO-8
AL7	Cascadable, Limiting Amplifier	50	500	13	TO-8
SMLA7	Cascadable, Limiting Amplifier	50	500	12.5	Ceramic SMT0-8
CLA7 ♦	Cascadable, Limiting Amplifier	50	500	12.5	SMA
SMAL7	Cascadable, Limiting Amplifier	20	550	13	Ceramic SMT0-8
SMLA17	Cascadable, Limiting Amplifier	10	1000	11.5	Ceramic SMT0-8
CLA17 ♦	Cascadable, Limiting Amplifier	10	1000	11.5	SMA
LA17	Cascadable, Limiting Amplifier	10	1000	11.5	TO-8
SML1	Cascadable, Signal Limiter	5	3000	—	Ceramic SMT0-8
L1	Cascadable, Signal Limiter	5	3000	—	TO-8
SMLA45	Cascadable, Limiting Amplifier	1000	4000	11.5	Ceramic SMT0-8
CL42 ♦	Cascadable, Signal Limiter	50	4000	—	SMA
CLA45-1 ♦	Cascadable, Limiting Amplifier	1000	4000	14	SMA
LA45-1	Cascadable, Limiting Amplifier	1000	4000	14	TO-8
LA45	Cascadable, Limiting Amplifier	1000	4000	11.5	TO-8
L42	Cascadable, Signal Limiter	50	4000	—	TO-8
SML42	Cascadable, Signal Limiter	50	4000	—	SMT
SMLA45-1	Cascadable, Limiting Amplifier	800	4200	14	Ceramic SMT0-8

Note: Part numbers are RoHS compliant ♦ indicates non-RoHS compliant
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MACOM Diodes

For microwave circuit applications from 1 MHz to 80 GHz

MACOM designs, manufactures, and supports one of the widest variety of PIN, Schottky, Varactor, and Multiplier diodes in the industry for microwave circuit applications from 1 MHz to 80 GHz. Our diodes are manufactured in die, SURMOUNT™, plastic, and ceramic packaging for a variety of circuit configurations providing high performance.



Varactor Tuning Diodes

- > GaAs constant gamma series for higher frequency and high Q applications
- > Plastic packaged silicon varactor diodes for surface mount applications, including VCOs, tunable filters, and phase shifters

Multiplier Step Recovery Diodes

- > Flip chip series for higher frequency millimeterwave applications
- > Plastic packaged series for microwave frequency surface mount applications
- > Ceramic packaged series for high power waveguide and coaxial applications

PIN Switch and Attenuator Diodes

- > CERMACHIP® series for microwave frequency applications
- > Plastic series for cost effective, surface mount applications
- > AlGaAs series for low loss, high isolation millimeterwave frequency applications
- > GaAs and silicon flip chip series for surface mount millimeterwave applications
- > SURMOUNT™ chip scale style diodes for surface mount high performance applications
- > HIPAX series for high average power surface mount UHF applications

- > Kilovolt series for high peak voltage HF and VHF applications
- > HIPAX non-magnetic series for high average power MRI HF and VHF applications

PIN Limiter Diodes

- > Die series for chip and wire high frequency microwave applications
- > Ceramic packaged series for waveguide, coaxial, and surface mount applications

Schottky Mixer and Detector Diodes

- > Broadband and high power switch circuits: silicon and GaAs PIN switch diodes
- > Analog attenuator circuits: silicon PIN attenuator diodes
- > High power limiter circuits: silicon PIN limiter diodes
- > Detector and mixer circuits: GaAs and silicon Schottky diodes
- > Multiplier circuits: GaAs and silicon Schottky diodes



Varactor Tuning Diodes

Part Number	Gamma	Total Capacitance (pF)	Quality Factor @ 50 MHz, Min	Breakdown Voltage (V)	Package
MAVR-045436-0287FT	0.5	4.7	1800	30	ODS-287
MAVR-045438-0287FT	0.5	6.8	1600	30	ODS-287
MAVR-045441-0287FT	0.5	12	1200	30	ODS-287
MAVR-045441-0287AT	0.5	12	1200	30	ODS-287
MAVR-045438-0287AT	0.5	6.8	1600	30	ODS-287
MAVR-045440-0287FT	0.5	10	1300	30	ODS-287
MA46603-134	0.5	0.6	6500	30	ODS-134 Die
MAVR-045446-0287AT	0.5	33	750	30	ODS-287
MAVR-045436-0287AT	0.5	4.7	1800	30	ODS-287
MAVR-045440-0287AT	0.5	10	1300	30	ODS-287
MA46600-134	0.5	0.3	8000	30	ODS-134 Die
MA46603-276	0.5	0.6	6500	30	ODS-276
MAVR-045436-12790T	0.5	4.7	1800	30	ODS-1279
MGV050-18	0.5	0.3	4000	22	C01A
MGV050-18-0805-2	0.5	0.36	4000	22	0805-2
MGV050-18-E28 / 28X	0.5	0.38	4000	22	E28 /28X
MGV050-18-H20	0.5	0.48	4000	22	H20
MGV050-20	0.5	0.55	4000	22	C01A
MGV050-20-0805-2	0.5	0.61	4000	22	0805-2
MGV050-20-E28 / 28X	0.5	0.63	4000	22	E28 /28X
MGV050-20-H20	0.5	0.73	4000	22	H20
MGV050-22	0.5	1	3000	22	C01A
MGV050-22-0805-2	0.5	1.06	3000	22	0805-2
MGV050-22-E28 / 28X	0.5	1.08	3000	22	E28 /28X
MGV050-22-H20	0.5	1.18	3000	22	H20
MGV050-24	0.5	1.5	3000	22	C01A
MGV050-24-0805-2	0.5	1.56	3000	22	0805-2
MGV050-24-E28 / 28X	0.5	1.58	3000	22	E28 /28X
MGV050-24-H20	0.5	1.68	3000	22	H20
MGV050-26	0.5	2	3000	22	C01A
MGV050-26-0805-2	0.5	2.06	3000	22	0805-2
MGV050-26-E28 / 28X	0.5	2.08	3000	22	E28 /28X
MGV050-26-H20	0.5	2.18	3000	22	H20
MTV4030-01	—	0.4	5000	30	Die/Various
MTV4030-02	—	0.6	5000	30	Die/Various
MTV4030-03	—	0.8	4800	30	Die/Various
MTV4030-04	—	1	4800	30	Die/Various
MTV4030-05	—	1.2	4600	30	Die/Various
MTV4030-08	—	1.8	4200	30	Die/Various
MTV4030-09	—	2.2	4000	30	Die/Various
MTV4030-10	—	2.7	3800	30	Die/Various
MTV4030-15	—	5.6	3000	30	Die/Various
MTV4030-20	—	15	2000	30	Die/Various
MTV4030-21	—	18	1800	30	Die/Various
MTV4030-22	—	22	1600	30	Die/Various
MTV4030-24	—	33	1400	30	Die/Various
MTV4030-26	—	47	1000	30	Die/Various

Varactor Tuning Diodes (continued)

Part Number	Gamma	Total Capacitance (pF)	Quality Factor @ 50 MHz, Min	Breakdown Voltage (V)	Package
MTV4045-02	—	0.6	3000	45	Die/Various
MTV4045-04	—	1	2800	45	Die/Various
MTV4045-05	—	1.2	2600	45	Die/Various
MTV4045-08	—	1.8	2300	45	Die/Various
MTV4045-13	—	3.9	2000	45	Die/Various
MTV4045-19	—	12	1500	45	Die/Various
MTV4045-20	—	15	1400	45	Die/Various
MTV4045-22	—	22	1200	45	Die/Various
MTV4060-03	—	1.2	2100	60	Die/Various
MTV4060-05	—	1.6	2000	60	Die/Various
MTV4060-06	—	1.8	2000	60	Die/Various
MA46H071-1088	0.75	1	4500	20	ODS-1088
MA46H070-1056	0.75	0.6	4500	20	ODS-1056
MA46H072-1056	0.75	3	3000	20	ODS-1056
MA46H073-1056	0.75	5	2200	20	ODS-1056
MA46H071-1056	0.75	1	4500	20	ODS-1056
MGV075-08	0.75	0.3	4000	22	C01A
MGV075-09	0.75	0.4	4000	22	C01A
MGV075-10	0.75	0.5	3000	22	C01A
MAVR-011020-1411	0.9	0.025	3000	22	Pocket Tape and Gel Pack
MAVR-000250-0287AT	1	2.7	450	12	ODS-287
MAVR-000250-0287FT	1	2.7	450	12	ODS-287
MAVR-000250-11410T	1	2.7	450	12	ODS-1141
MAVR-000250-1146AT	1	2.7	450	12	ODS-1146
MAVR-000250-1146FT	1	2.7	450	12	ODS-1146
MAVR-000250-12790T	1	2.7	450	12	SC-79
MAVR-000120-14110G	1	0.35	3000	20	Flip Chip DIE
MAVR-000120-14110P	1	0.35	3000	20	Flip Chip DIE
MAVR-000403-0287AT	1	15	250	22	ODS-287
MAVR-000405-0287FT	1	22	175	22	ODS-287
MAVR-000407-0287FT	1	33	150	22	ODS-287
MAVR-011005-12790T	1	0.27	—	20	SC-79
MAVR-001340-11410T	1	9.2	600	12	ODS-1141
MAVR-000240-11410T	1	3.5	450	12	SOD323(2L)
MAVR-001320-1146FT	1	28.3	350	12	ODS-1146
MAVR-001350-1146FT	1	5.9	690	12	ODS-1146
MAVR-001330-1146FT	1	13.2	530	12	ODS-1146
MAVR-001350-12790T	1	5.9	690	12	ODS-1279
MAVR-001230-12790T	1	4.7	1700	12	ODS-1279
MAVR-000350-11410T	1	6.2	400	12	ODS-1141
MAVR-000403-0287FT	1	15	250	22	ODS-287
MAVR-000340-11410T	1	9.5	350	12	ODS-1141
MAVR-001330-12790T	1	13.2	530	12	ODS-1279
MAVR-000404-0287FT	1	18	175	22	ODS-287
MAVR-001320-11410T	1	28.3	350	12	ODS-1141
MAVR-000407-0287AT	1	33	150	22	ODS-287
MAVR-001240-12790T	1	3.4	1200	12	ODS-1279
MAVR-000401-0287AT	1	10	250	22	ODS-287

Varactor Tuning Diodes (continued)

Part Number	Gamma	Total Capacitance (pF)	Quality Factor @ 50 MHz, Min	Breakdown Voltage (V)	Package
MAVR-000401-0287FT	1	10	250	22	ODS-287
MA4ST1231-1141T	1	4.7	1700	12	ODS-1141
MAVR-000409-0287FT	1	47	150	22	ODS-287
MAVR-001340-1146FT	1	9.2	600	12	ODS-1146
MAVR-001330-11410T	1	13.2	530	12	ODS-1141
MAVR-000120-12030W	1	0.35	3000	15	Flip Chip DIE
MA4ST1241-1141T	1	3.4	1200	12	ODS-1141
MAVR-001340-12790T	1	9.2	600	12	ODS-1279
MA46452-134	1	1	3000	22	ODS-134 Die
MA46461-186	1	4.7	1500	22	ODS-186
MA46451-120	1	0.7	4000	22	ODS-120
MA46H120	1	0.35	3000	15	Flip Chip DIE
MAVR-000240-0287AT	1	3.5	450	12	ODS-287
MAVR-000240-1146FT	1	3.5	450	12	ODS-1146
MAVR-000320-11410T	1	28	300	12	ODS-1141
MGV100-08	1	0.35	4000	22	Die/Various
MGV100-09	1	0.45	4000	22	Die/Various
MGV100-20	1	0.55	4000	22	Die/Various
MGV100-26	1	1.7	3000	22	Die/Various
MAVR-000202-12790T	1.25	3	2000	22	SC-79
MA46472-134	1.25	1	3000	22	ODS-134 Die
MA46480-134	1.25	3.8	2000	22	ODS-134 Die
MA46H200-1056	1.25	0.6	3000	22	ODS-1056
MA46474-134	1.25	1.5	3000	22	ODS-134 Die
MA46473-134	1.25	1.2	3000	22	ODS-134 Die
MA46475-134	1.25	1.8	3000	22	ODS-134 Die
MA46477-134	1.25	2.2	3000	22	ODS-134 Die
MA46483-186	1.25	6.8	1500	22	ODS-186
MA46473-186	1.25	1.2	3000	22	ODS-186
MA46485-120	1.25	10	1500	22	ODS-120
MA46585-1209	1.25	0.5	3000	18	ODS-1209 Die
MA46474-120	1.25	1.5	3000	22	ODS-120
MA46470-120	1.25	0.5	4000	22	ODS-120
MA46472-94	1.25	1	3000	22	ODS-94
MA46470-134	1.25	0.5	4000	22	ODS-134 Die
MA46H204-1088	1.25	10	1500	22	ODS-1088
MA46H202-1056	1.25	3	2000	22	ODS-1056
MA46477-186	1.25	2.2	3000	22	ODS-186
MA46H204-1056	1.25	10	1500	22	ODS-1056
MA46H201-1088	1.25	1	3000	22	ODS-1088
MA46H203-1088	1.25	5	1500	22	ODS-1088
MA46474-95	1.25	1.5	3000	22	ODS-95
MA46H203-1056	1.25	5	1500	22	ODS-1056
MA46H202-1088	1.25	3	2000	22	ODS-1088
MA46471-134	1.25	0.7	4000	22	ODS-134 Die
MA46474-94	1.25	1.5	3000	22	ODS-94

Varactor Tuning Diodes (continued)

Part Number	Gamma	Total Capacitance (pF)	Quality Factor @ 50 MHz, Min	Breakdown Voltage (V)	Package
MA46580-1209	1.25	0.5	3000	18	ODS-1209 Die
MA46H201-1056	1.25	1	3000	22	ODS-1056
MAVR-000080-0287AT	1.3	24.8	150	12	ODS-287
MAVR-000081-0287FT	1.3	10.1	300	12	ODS-287
MAVR-000080-0287FT	1.3	24.8	150	12	ODS-287
MAVR-000081-0287AT	1.3	10.1	300	12	ODS-287
MAVR-000083-0287FT	1.3	5	450	12	ODS-287
MAVR-000083-0287AT	1.3	5	450	12	ODS-287
MAVR-000079-0287FT	1.3	54.1	80	12	ODS-287
MAVR-000082-0287AT	1.3	7.3	350	12	ODS-287
MA46416-134	1.5	1.8	2500	18	ODS-134 Die
MA46418-30	1.5	2.7	1800	18	ODS-30
MA46H501-1056	1.5	1	2500	18	ODS-1056
MA46H504-1056	1.5	10	1200	18	ODS-1056
MA46413-120	1.5	1	2500	18	ODS-120
MA46H500-1056	1.5	0.6	2500	18	ODS-1056
MA46418-120	1.5	2.7	1800	18	ODS-120
MA46H503	1.5	5	1200	18	ODS-1056
MHV500	—	2.5	2600	22	Die/Various
MHV503	—	4.7	2300	22	Die/Various
MHV504	—	5.6	2200	22	Die/Various
MHV505	—	6.8	2200	22	Die/Various
MHV507	—	10	1500	22	Die/Various
MHV508	—	12	1200	22	Die/Various
MHV509	—	14.6	1000	22	Die/Various
MHV510	—	17.4	800	22	Die/Various
MHV512	—	25.4	650	22	Die/Various
MHV513	—	31	600	22	Die/Various
SMV20413	—	22	200	12	Die/Various
SMV20415	—	11.3	350	12	Die/Various
SMV20422	—	27	150	12	Die/Various

Multiplier Step Recovery Diodes

Part Number	Total Capacitance Min (pF)	Total Capacitance Max (pF)	Reverse Voltage (V)	Lifetime (Typ vs Min) (ns)	T _t (Typ vs Max) (ps)	Package
MMDB30-B11	0.15	0.25	14	4	30	B11
MMDB35-B11	0.13	0.20	16	4	35	B11
MMDB45-B11	0.11	0.20	25	8	40	B11
MMDB30-0402	0.25	0.32	14	4	30	0402
MMDB30-0805-2	0.26	0.33	14	4	30	0805-2
MMDB30-E28 / 28X	0.28	0.36	14	4	30	E28 / 28X
MMDB35-0402	0.22	0.28	16	4	35	0402
MMDB35-0805-2	0.23	0.29	16	4	35	0805-2
MMDB35-E28 / 28X	0.25	0.31	16	4	35	E28 / 28X
MMDB45-0402	0.21	0.28	25	8	45	0402
MMDB45-0805-2	0.22	0.29	25	8	45	0805-2
MMDB45-E28 / 28X	0.24	0.31	25	8	45	E28 / 28X

Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box. All specifications are subject to change.

Multiplier Step Recovery Diodes (continued)

Part Number	Junction Capacitance Min (pF)	Junction Capacitance Max (pF)	Reverse Voltage (V)	Lifetime (T _L Min) (ns)	T _t (Max) (ps)	Package
MSD700	0.2	0.4	15	8	60	Die/Various
MSD700-12	0.2	0.4	15	8	60	CS12
MSD710	0.2	0.4	20	11	70	Die/Various
MSD720	0.2	0.4	30	17	100	Die/Various
MSD701	0.4	0.6	15	8	60	Die/Various
MSD711	0.4	0.6	20	11	70	Die/Various
MSD731	0.4	0.6	40	21	150	Die/Various
MSD722	0.6	0.8	30	17	100	Die/Various
MSD703	0.8	1	15	8	60	Die/Various
MSD723	0.8	1	30	17	100	Die/Various
MSD733	0.8	1	40	21	150	Die/Various
MAVR-044769-12790T	0.8	1.2	30	—	150	ODS-1279
MAI44769-287T	0.8	1.2	30	—	150	ODS-287
MAVR-044769-0287FT	0.8	1.2	30	—	150	ODS-287
MSD724	1	1.4	30	17	100	Die/Various
MSD726	2	3	30	17	100	Die/Various
MSD736	2	3	40	21	150	Die/Various
MAVR-044767-0287AT	3	4.5	30	—	600	ODS-287
MMD0151-A15	—	0.8	15	—	100	A15
MMD0803-A15	—	6.15	70	—	400	A15
MMD0815-A15	—	4.15	50	—	320	A15
MMD0825-A15	—	2.15	45	—	160	A15
MMD0840-A15	—	0.75	15	—	—	A15
MMD805-0805	2.56	3.56	60	80	300	0805-2
MMD810-E28X	1.58	2.58	50	40	250	E28X
MMD810-C12	1.50	2.50	50	40	250	Die
MMD810-E28	1.58	2.58	50	40	250	E28
MMD810-H20	1.68	2.68	50	40	250	H20
MMD810-T86	1.68	2.68	50	40	250	T86
MMD810-T89	1.75	2.75	50	40	250	T89
MMD820-0805	1.06	1.76	40	30	100	0805-2
MMD820-E28X	1.08	1.78	40	30	100	E28X
MMD820-C12	1.00	1.70	40	30	100	Die
MMD820-E28	1.08	1.78	40	30	100	E28
MMD820-H20	1.18	1.88	40	30	100	H20
MMD820-T86	1.18	1.88	40	30	100	T86
MMD830-0805	0.56	1.06	25	15	80	0805-2
MMD830-E28X	0.58	1.08	25	15	80	E28X
MMD830-C11	0.50	1.00	25	15	80	Die
MMD830-E28	0.58	1.08	25	15	80	E28
MMD830-H20	0.68	1.18	25	15	80	H20
MMD830-T86	0.68	1.18	25	10	80	T86
MMD832-0805	0.46	0.86	20	10	80	0805-2
MMD832-E28X	0.48	0.88	20	10	80	E28X
MMD832-C11	0.40	0.80	20	10	80	Die
MMD832-E28	0.48	0.88	20	10	80	E28

Multiplier Step Recovery Diodes (continued)

Part Number	Junction Capacitance Min (pF)	Junction Capacitance Max (pF)	Reverse Voltage (V)	Lifetime (T_L Min) (ns)	T_t (Max) (ps)	Package
MMD832-H20	0.58	0.98	20	10	60	H20
MMD832-T86	0.58	0.98	20	10	60	T86
MMD835-0805	0.36	0.86	15	10	60	0805-2
MMD835-E28X	0.38	0.88	15	10	50	E28X
MMD835-C11	0.30	0.70	15	10	70	Die
MMD835-E28	0.38	0.88	15	10	70	E28
MMD835-H20	0.42	0.92	15	10	70	H20
MMD835-T86	0.48	0.98	15	10	70	T86
MMD837-E28X	0.28	0.48	20	5	70	E28X
MMD837-0805	0.26	0.46	20	5	70	805-2
MMD837-C11	0.20	0.40	20	5	70	Die
MMD837-E28	0.28	0.48	20	5	70	E28
MMD837-H27	0.32	0.52	20	5	70	H27
MMD837-T86	0.38	0.58	20	5	70	T86
MMD840-0805	0.26	0.46	15	7	70	0805-2
MMD840-E28X	0.28	0.48	15	7	70	E28X
MMD840-C11	0.20	0.40	15	7	70	Die
MMD840-E28	0.28	0.48	15	7	70	E28
MMD840-H27	0.32	0.52	15	7	70	H27
MMD840-T86	0.38	0.58	15	7	70	T86
SMMD805-SOD323	2.5	3.5	60	80	300	SOD323
SMMD805-SOT23-0S	2.5	3.5	60	80	300	SOT23-0S
SMMD805-SOT23-IS	2.5	3.5	60	80	300	SOT23-IS
SMMD810-SOD323	1.5	2.5	50	40	250	SOD323
SMMD810-SOT23-0S	1.5	2.5	50	40	250	SOT23-0S
SMMD810-SOT23-IS	1.5	2.5	50	40	250	SOT23-IS
SMMD820-SOD323	1.0	1.7	40	30	125	SOD323
SMMD820-SOT23-0S	1.0	1.7	40	30	125	SOT23-0S
SMMD820-SOT23-IS	1.0	1.7	40	30	125	SOT23-IS
SMMD830-SOD323	0.5	1.0	25	15	110	SOD323
SMMD830-SOT23-0S	0.5	1.0	25	15	110	SOT23-0S
SMMD830-SOT23-IS	0.5	1.0	25	15	110	SOT23-IS
SMMD832-SOD323	0.4	0.8	20	10	100	SOD323
SMMD832-SOT23-0S	0.4	0.8	20	10	100	SOT23-0S
SMMD832-SOT23-IS	0.4	0.8	20	10	100	SOT23-IS
SMMD837-SOD323	0.2	0.4	20	5	90	SOD323
SMMD837-SOT23-0S	0.2	0.4	20	5	90	SOT23-0S
SMMD837-SOT23-IS	0.2	0.4	20	5	90	SOT23-IS
SMMD840-SOD323	0.2	0.4	15	5	90	SOD323
SMMD840-SOT23-0S	0.2	0.4	15	5	90	SOT23-0S

PIN Switch and Attenuator Diodes

Part Number	Min Freq (MHz)	Max Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ohm)	TI (ns)	Breakdown Voltage Min (V)	Package
MA4PI450NM-1091T	1	300	30	1.8	5	8000	50	ODS-1091
MADP-011084-1134B0	5	400	50	2	1	55	50	Ceramic 2-1d
MADP-011048	5	400	51	3	0.5	200	100	4mm HQFN-8
MA4PH611	1	500	10	1	0.4	5000	1000	ODS-1091
MA4PI200NM-401T	5	500	5.5	1.2	0.5	8000	50	ODS-401
MA4PI250NM-1072T	5	500	18	0.8	0.5	8000	50	ODS-1072
MA4PK3004	DC	500	50	4	0.2	65000	3000	ODS-1075
MA4P607-212	1	500	37.5	1.3	0.4	12000	1000	ODS-212 Die
MA4P506-255	1	500	13.6	0.95	0.3	3000	500	ODS-255
MA4P606-36	1	500	20	0.99	0.7	4000	1000	ODS-36
MA4PK3001	DC	500	75	4	0.2	65000	3000	ODS-1084
MA4P607-43	1	500	25	2	0.4	5000	100	ODS-43
MA4P504-255	1	500	7.5	0.4	0.6	1000	500	ODS-255
MA4P606-258	1	500	20	0.98	0.7	4000	1000	ODS-258
MA4PK3000	DC	500	75	4	0.2	65000	3000	ODS-1073
MA4PK2001	DC	500	50	3.2	0.2	30000	2000	ODS-1082
MA4P505-255	1	500	10.7	0.55	0.5	2000	500	ODS-255
MA4PK3003	DC	500	50	4	0.2	65000	3000	ODS-1085
MA4P4002B-402	DC	500	12	2.2	0.5	20000	200	ODS-402
MA4PK3002	DC	500	75	4	0.2	65000	3000	ODS-1074
MA4P4006B-402	DC	500	12	2.2	0.5	20000	600	ODS-402
MA4P606-30	1	500	15	0.8	0.7	4000	1000	ODS-30
MA4PK2000	DC	500	50	3.2	0.2	30000	2000	ODS-1027
MA4PK2002	DC	500	50	3.2	0.2	30000	2000	ODS-1048
MA4PK2003	DC	500	37.5	3.2	0.2	30000	2000	ODS-1080
MA4PK2004	DC	500	37.5	3.2	0.2	30000	2000	ODS-1038
MA4P604-255	1	500	15	0.6	1	3000	1000	ODS-255
MA4P709-150	DC	500	75	3.3	0.3	10000	1500	ODS-150
MA4P4301B-402	DC	500	10	2	1	15000	100	ODS-402
MA4PI200-401T	5	500	5.5	1.2	0.5	8000	50	ODS-401
MA4P4001B-402	DC	500	12	2.2	0.5	20000	100	ODS-402
MA4P607-296	1	500	25	2.35	0.4	5000	1000	ODS-296
MA4P504-186	1	500	7.5	0.4	0.6	1000	500	ODS-186
MA4P504-30	1	500	7.5	0.4	0.6	1000	500	ODS-30
MA4P506-258	1	500	13.6	0.95	0.3	3000	500	ODS-258
MA4P506-30	1	500	13.6	0.95	0.3	3000	500	ODS-30
MA4P506-31	1	500	13.6	0.95	0.3	3000	500	ODS-31
MADP-000015-000030	1	500	15	0.55	0.4	2000	500	ODS-30
MA4P7435NM-1091T	DC	1000	50	2.5	0.2	14000	1100	ODS-1091
MA4P7002B-401T	1	1000	5	0.7	0.9	5000	200	ODS-401
MA4P7441F-1091T	DC	1000	30	2.2	0.5	18000	100	ODS-1091
MA4P7446F-1091T	DC	1000	25	2.2	0.5	19000	600	ODS-1091
MA4PI450-1091T	DC	1000	30	1.8	0.5	8000	50	ODS-1091
1N5719	1	1000	0.3	0.35	1.5	3000	100	ODS-54
MA4P4001F-1091T	DC	1000	7.5	2.2	0.5	20000	100	ODS-1091
MA4P4002F-1091T	DC	1000	7.5	2.2	0.5	20000	200	ODS-1091
MA47266-146	1	1000	0.5	1.5	0.6	4000	200	ODS-146
MA4P606-4	1	1000	1	0.7	0.7	4000	1000	ODS-4
MA4P4301F-1091T	DC	1000	5	2	1	15000	100	ODS-1091

PIN Switch and Attenuator Diodes (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ohm)	TI (ns)	Breakdown Voltage Min (V)	Package
MA4P4006F-1091T	DC	1000	7.5	2.2	0.5	20000	600	ODS-1091
MA4PH239-1079T	DC	1000	1	0.8	6	2000	200	ODS-1079
MA47047-54	1	1000	0.3	0.3	1.5	1000	200	ODS-54
MA4P7102B-401T	1	1000	6	1	0.5	2500	200	ODS-401
MA4P7104B-401T	1	1000	6	1	0.5	2500	400	ODS-401
MA4P606-131	1	1000	15	0.6	0.7	4000	1000	ODS-131 Die
MA4P7101F-1072T	1	1000	11.5	1	0.5	2500	100	ODS-1072
MA44781	10	1000	1.7	1.5	0.8	200	60	ODS-1134
MA4PH237-1079T	1	1000	1	1.5	0.6	3000	200	ODS-1079
MA47208	1	1000	15	1.3	0.3	1300	1000	ODS-114
MA45471	10	1000	1.7	3.3		200	75	ODS-1134
MA4P7006B-401T	1	1000	5	0.7	0.9	5000	600	ODS-401
MA4P7101B-401	1	1000	6	1	0.5	2500	100	ODS-401
MA4PH238-1072T	DC	1000	1	0.5	6	2000	200	Ceramic SMT
MADP-000504-10720T	DC	1000	2.9	0.5	0.6	1000	500	ODS-1072
MADP-007417-10720T	DC	1000	12	0.7	0.8	6500	1000	ODS-1072
MEST2G-150-10-CM30	1	1000	150	1	0.2	3200	500	CM30
MSWSE-020-05	10	1000	20	0.62	0.3	600	250	0503
MSWSE-020-10	10	1000	30	0.37	0.8	490	250	0503
MSWSE-050-10	100	3000	50	0.53	0.4	3200	500	0805P
MADP-011034-10720T	10	1500	6	1	0.4	300	150	ODS-1072
MADP-000404-10720T	100	1500	7.5	0.6	0.7	100	250	ODS-1072
MADP-000488-13740W	100	1500	15	0.16	1.6	4000	900	ODS-1374 Die
MADP-000135-01340W	100	1500	50	0.15	1.2	440	200	ODS-134 Die
MADP-000235-10720T	DC	1500	7.5	1.2	0.5	300	35	ODS-1072
MADP-000234-10720T	DC	1500	3	1.7	0.3	3000	500	ODS-1072
MA4P7418-1072T	DC	1500	11.5	0.8	1.2	7000	1100	ODS-1072
MA4P7470F-1072T	DC	1500	12	0.7	0.8	6500	800	ODS-1072
MA4P7452F-1072T	DC	1500	10	0.7	0.9	9000	150	ODS-1072
MA4P7461F-1072T	DC	1500	8	1	0.5	6000	100	ODS-1072
MA4P7464F-1072T	DC	1500	7.5	0.8	0.5	4500	400	ODS-1072
MA4P505-1072T	DC	1500	15	0.7	0.5	2000	500	ODS-1072
MA4P7002F-1072T	DC	1500	10	0.7	0.9	5000	200	ODS-1072
MA4P504-1072T	DC	1500	7.5	0.55	0.6	1000	500	ODS-1072
MA4P7006F-1072T	DC	1500	10	0.7	0.9	5000	600	ODS-1072
MA4P7102F-1072T	DC	1500	11.5	1	0.5	2500	200	ODS-1072
MA4P7104F-1072T	DC	1500	11.5	1	0.5	2500	400	ODS-1072
MA4P506-1072T	DC	1500	15	1	0.3	3000	500	ODS-1072
MA4P7001F-1072T	DC	1500	10	0.7	0.9	5000	100	ODS-1072
MA4Pi250-1072T	DC	1500	18	0.9	0.5	8000	50	ODS-1072
MA4PH235-1072T	1	1500	1	1.2	0.5	300	35	ODS-1072
MEST2G-050-80	45	1500	50	0.28	0.5	2200	500	2615
MADP-009989	30	1500	4	1.2	0.3	6500	75	SMT and Axial Lead
MADP-000208-13180W	30	1800	2.6	0.81	0.4	500	90	ODS-1318 SURMOUNT™
MADP-000165-01340W	100	2000	50	0.06	2.5	200	200	ODS-134 Die

PIN Switch and Attenuator Diodes (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ohm)	TI (ns)	Breakdown Voltage Min (V)	Package
MADP-042508-130600	50	2000	1.3	0.6	0.9	310	100	ODS-1306 Die
MADP-042505-130600	50	2000	1.3	0.6	0.8	210	80	ODS-1306 Die
MA4P404-258	5	2000	7.5	0.58	0.7	1000	250	ODS-258
MA4P404-30	5	2000	7.5	0.4	0.6	1000	250	ODS-30
MA4PH236-1072T	10	2000	1	0.5	3	1500	600	ODS-1072
MA47120-54T	DC	2000	0.25	1	0.5	3000	35	ODS-54
MA47123-139	DC	2000	0.25	0.5	3	1000	200	ODS-139
MA47600-54	DC	2000	0.25	0.3	6	2000	200	ODS-54
MA4P203-54	DC	2000	0.25	0.25	1.5	100	100	ODS-54
MA4P404-54	DC	2000	0.25	0.3	0.7	1000	250	ODS-54
MA4P504-4	DC	2000	0.25	0.35	0.6	1000	500	ODS-4
MA4P505-4	DC	2000	0.25	0.5	0.6	1000	500	ODS-4
MA4P506-4	DC	2000	0.25	0.85	0.3	2500	500	ODS-4
MA4PH151-139T	DC	2000	0.25	1.2	0.6	1000	100	ODS-139
MA4PH301	DC	2000	0.25	1.1	1	4000	200	ODS-146
MA4PH401-54T	DC	2000	0.25	0.3	1.5	1000	50	ODS-54
MEST2G-150-10-CM32	1	2000	150	0.5	0.2	3000	500	CM32
MSWSE-044-10	1	2000	40	0.3	0.5	1200	300	0805P
MA4P7433ST-1146T	25	2500	0.2	0.47	1.5	200	75	SC-70 (3L)
MADP-007448-0287DT	25	2500	0.3	0.37	2	400	100	SOT-23
MADP-007167-0287FT	1	2500	0.3	0.42	16	3000	200	SOT-23
MADP-007167-0287BT	1	2500	0.3	0.42	16	3000	200	SOT-23
MADP-007436-0287DT	25	2500	0.2	1.12	0.5	200	75	SOT-23
MADP-007433-0287DT	25	2500	0.3	0.42	1.5	200	75	SOT-23
MADP-007167-11410T	1	2500	0.2	0.42	16	3000	200	SOD-323 (2L)
MA4P7455CA-287T	5	2500	0.3	0.35	3	1000	100	SOT-23
MADP-007167-0287GT	1	2500	0.3	0.42	16	3000	200	SOT-24
MA4P7447ST-287T	15	2500	0.3	1.32	0.6	1000	100	SOT-25
MA4P7436CK-287T	25	2500	0.3	1.12	0.5	200	75	SOT-26
MA4P7455CA-1146T	5	2500	2	0.47	3	1000	100	SC70 (3L)
MADP-007448-12790T	25	2500	0.2	0.35	2	400	100	SC-79
MADP-007167-0287DT	1	2500	0.3	0.42	16	3000	200	SOT-23
MA4P7436ST-287T	25	2500	0.3	1.12	0.5	200	75	SOT-23
MA4P7447CA-287T	15	2500	0.3	1.32	0.6	1000	100	SOT-23
MADP-007448-0287BT	25	2500	0.3	0.37	2	400	100	SOT-23
MADP-007448-1146GT	25	2500	0.2	0.37	2	400	100	SC70 (3L)
MA4P7455-287T	5	2500	0.3	0.47	3	1000	100	SOT-23
MADP-007455-0287DT	5	2500	0.3	0.47	3	400	100	SOT-23
MA4P7455ST-287T	5	2500	0.3	0.47	3	1000	100	SOT-23
MA4P7436-1141T	25	2500	0.2	1.11	0.5	200	75	SOD-323 (2L)
MADP-007436-1146DT	25	2500	0.2	1.12	0.5	200	75	SOT-323
MA4P7433ST-287T	25	2500	0.3	0.47	1.5	200	75	SOT-23
MA4P7447-1141T	15	2500	0.2	1.31	0.6	1000	100	SOD-323 (2L)
MA4P7433CK-287T	25	2500	0.3	0.47	1.5	200	75	SOT-23
MA4P7433-287T	25	2500	0.3	0.47	1.5	200	75	SOT-23
MA4P7455CK-1146T	5	2500	0.2	0.47	3	1000	100	SC70 (3L)

PIN Switch and Attenuator Diodes (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ohm)	TI (ns)	Breakdown Voltage Min (V)	Package
MADP-007155-0287DT	15	2500	0.3	1.32	0.6	1000	100	SOT-23
MA4P7447-287T	15	2500	0.3	1.32	0.6	1000	100	SOT-23
MA4P7455CK-287T	5	2500	0.3	0.35	3	1000	100	SOT-23
MA4P7433-1141T	25	2500	0.2	0.46	1.5	200	75	SOD-323 (2L)
MA4P7436-287T	25	2500	0.3	1.12	0.5	200	75	SOT-23
MA4P7433CA-287T	25	2500	0.3	0.47	1.5	200	75	SOT-23
MA4P7447CK-287T	15	2500	0.3	1.32	0.6	1000	100	SOT-23
MA4P7436CK-1146T	25	2500	0.2	1.12	0.5	200	75	SC70 (3L)
MA4P604-258	1	2500	15	0.68	1	3000	1000	ODS-258
MA4P604-30	1	2500	15	0.5	1	3000	1000	ODS-30
MA4P7433CA-1146T	25	2500	0.2	0.47	1.5	200	75	SC-70 (3L)
MA4P7433CK-1146T	25	2500	0.2	0.47	1.5	200	75	SC-70 (3L)
MA4P7436-1146T	25	2500	0.2	1.12	0.5	200	75	SC-70 (3L)
MA4P7436CA-1146T	25	2500	0.2	1.12	0.5	200	75	SOT-323
MA4P7436CA-287T	25	2500	0.3	1.12	0.5	200	75	SOT-23
MA4P7436ST-1146T	25	2500	0.2	1.12	0.5	200	75	SC-70 (3L)
MA4P7455ST-1146T	5	2500	0.3	0.47	3	1000	100	SC-70 (3L)
MADP-007167-0287AT	1	2500	0.3	0.42	16	3000	200	SOT-23
MADP-007433-1146DT	25	2500	0.3	0.42	1.5	200	75	SC70 (3L)
MADP-007448-0287AT	25	2500	0.3	0.37	2	400	100	SOT-23
MADP-007448-0287FT	25	2500	0.3	0.37	2	400	100	SOT-23
MADP-007448-0287GT	25	2500	0.3	0.37	2	400	100	SOT-23
MADP-007448-11410T	25	2500	0.2	0.36	2	400	100	SOD-323 (2L)
MADP-007448-1146BT	25	2500	0.2	0.37	2	400	100	SC70 (3L)
MADP-007455-1146DT	5	2500	0.2	0.42	3	1000	100	SC70 (3L)
MADP-007448-1146DT	25	2500	—	0.25	2	—	100	SMT
MEST2G-050-45	45	2500	50	0.18	0.4	1200	500	2615
MSWSE-010-15	10	3000	10	0.21	0.8	500	200	0503
MEST2G-100-20-CM33	1	2600	100	—	—	2000	500	CM33
MEST2G-160-10-CM33	1	1000	160	—	—	5000	500	CM33
MADP-010633-13920T	25	3000	6	0.4	0.6	1000	500	ODS-132
MADP-010631-13920T	25	3000	5	1	0.5	200	100	ODS-1392
MADP-010630-13920T	25	3000	2	0.35	1.5	200	100	ODS-1392
MA4SPS422	50	3000	1.8	0.34	3.1	10000	200	SURMOUNT™ Die
MSWSE-010-15S	1	3000	10	0.17	0.8	650	200	0402P
MSWSE-010-16S	1	3000	10	0.15	0.9	1000	250	0402P
MSWSE-040-10	1	3000	40	0.12	0.6	700	250	0805P
MSWSE-050-17	100	3000	60	0.2	0.7	1600	500	0805P
MADP-000506-014400	1	4000	10	0.7	0.3	100	500	ODS-144
MADP-007433-0287HT	25	4000	0.3	0.42	1.5	200	75	SOT-23
MADP-007433-12790T	25	4000	0.2	0.4	1.5	200	75	SC-79
MADP-042405-130600	50	4000	1.3	0.27	0.8	210	80	ODS-1306 Die
MADP-007436-12790T	25	4000	0.2	1.1	0.5	200	75	SC-79
MADP-007455-12790T	5	4000	0.2	0.45	3	1000	100	SC-79
MA4P505-36	1	4000	15	0.55	0.5	2000	500	ODS-36
MA4P303-186	20	4000	0.3	0.35	1.5	200	200	ODS-186

PIN Switch and Attenuator Diodes (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ohm)	TI (ns)	Breakdown Voltage Min (V)	Package
MA4P203-30	30	4000	5	0.35	1.5	100	100	ODS-30
MA4P203-1056	30	4000	0.3	0.35	1.5	100	100	ODS-1056
MA4P303-120	20	4000	5	0.35	1.5	200	200	ODS-120
MA4P202-276	50	4000	0.3	0.25	2.5	60	100	ODS-276
MA4P506-131	1	4000	13.6	0.7	0.3	3000	500	ODS-131 Die
MA4P303-1088	20	4000	0.3	0.47	1.5	200	200	ODS-1088
MA4P202-120	50	4000	0.3	0.25	2.5	60	100	ODS-120
MA4P7455-1225	10	4000	—	0.47	1.4	1000	100	SOT-25
MADP-007167-0287HT	1	4000	0.3	0.42	16	3000	200	SOT-23
MADP-042408-130600	50	4000	1.5	0.36	0.6	380	100	ODS-1306 Die
MEST2G-025-10-CM32	1	4000	25	0.22	1.3	2000	200	CM32
MADP-007437-0287BT	5	5000	0.3	0.42	6	2000	200	SOT-23
MADP-007437-0287DT	5	5000	0.3	0.42	6	2000	200	SOT-23
MADP-007438-0287FT	5	5000	0.2	0.42	10	3000	200	SC70 (3L)
MADP-007438-0287DT	5	5000	0.3	0.42	10	3000	200	SC70 (3L)
MA4P7437-1141T	5	5000	0.2	0.46	6	2000	200	SOD-323 (2L)
MADP-007438-0287BT	5	5000	0.3	0.42	10	3000	200	SC70 (3L)
MA4P7437-287T	5	5000	0.3	0.47	6	2000	200	SOT-23
MADP-007437-0287FT	5	5000	0.3	0.42	6	2000	200	SOT-23
MA4P7455-1141T	5	5000	0.2	0.46	3	1000	100	SOD-323 (2L)
MA4P7438-287T	5	5000	0.2	0.47	10	3000	200	SC70 (3L)
MA4P7438-1141T	5	5000	0.2	0.46	10	3000	200	SOD-323 (2L)
MA4P7437CA-287T	5	5000	0.3	0.47	6	2000	200	SOT-23
MA4P7438CA-287T	5	5000	0.3	0.47	10	3000	200	SC70 (3L)
MADP-042308-130600	50	6000	1	0.14	1.3	280	100	ODS-1306 Die
MADP-008120-12790T	10	6000	0.2	0.15	2.5	200	100	SC-79
MADP-042305-130600	50	6000	1	0.14	1.3	180	80	ODS-1306 Die
MA4SPS421	50	6000	1.8	0.13	6.2	5000	200	SURMOUNT™ Die
MA4P505-131	1	6000	10.7	0.35	0.5	2000	500	ODS-131 Die
MADP-017015-1314	1	6000	5	0.32	0.7	1300	115	ODS-1314 Die
MADP-017025-1314	1	6000	5	0.23	1	2300	1335	ODS-1314 Die
MADP-030015-13140P	1	6000	11.5	0.78	0.5	1600	115	ODS-1314 Die
MADP-030025-1314	1	6000	11.5	0.5	0.7	2800	135	ODS-1314 Die
MEST2G-020-15	100	6000	20	0.08	1.2	50	100	2012
MSWSE-005-10S	10	6000	5	0.08	2	180	200	0402P
MSWSE-005-15	10	6000	4	0.11	2	180	200	0503
MSWSH-020-30	100	6000	20	0.13	0.6	600	100	2012
MSWSH-040-30	50	6000	40	0.42	0.4	600	500	2012
MSWSH-100-30	100	6000	100	0.4	0.4	3400	700	CM22
MA4P504-144	1	8000	7.5	0.4	0.6	1000	500	ODS-144
MA4P604-131	1	8000	15	0.3	1	3000	1000	ODS-131 Die
MA47222	1	8000	3.8	0.4	1.6	160	150	ODS-144
MA47223	1	8000	7.5	0.4	0.6	1000	500	ODS-144
MA47418-134	5	10000	6	0.15	3	1000	200	ODS-134 Die
MA47416-132	DC	10000	5	0.15	6	2000	200	ODS-132 Die
MA4P504-132	1	10000	7.5	0.2	0.6	1000	500	ODS-132 Die

PIN Switch and Attenuator Diodes (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ohm)	TI (ns)	Breakdown Voltage Min (V)	Package
MA4P404-132	5	10000	7.5	0.2	0.7	600	250	ODS-132 Die
MEST2G-010-20	100	10000	10	0.3	1.5	50	125	2012
MEST2G-080-25-CM27	1	10000	80	0.3	1	1550	500	CM27
MEST2G-150-20-CM26	1	10000	3	0.19	1.8	1800	500	CM26
MSAT-N25	100	10000	2	—	1.5	3000	200	2012
MSAT-P25	100	10000	2	—	1.5	3000	200	2012
MSWSHB-020-30	50	10000	40	0.5	—	4000	200	2012
MSWSHC-040-40	50	10000	40	0.5	—	3000	300	2615
MADP-011028-14150T	50	12000	4.3	0.24	3.4	2000	200	1.5x1.2 mm TDFN-6
MADP-011027-14150T	50	12000	3.3	0.24	1.9	1000	100	1.5x1.2 mm TDFN-6
MADP-011029-14150T	50	12000	7.5	0.31	1.5	1000	400	1.5x1.2 mm TDFN-6
MADP-042908-130600	50	16000	0.8	0.06	3.1	230	100	ODS-1306 Die
MADP-042905-130600	50	16000	0.8	0.06	3.1	140	80	ODS-1306 Die
MADP-000402-12530G	50	18000	1	0.04	5	200	1000	ODS-1253 Die
MADP-000402-12530P	50	18000	1	0.04	4.5	200	70	ODS-1253 Die
MADP-064908-131000	50	18000	1	0.05	5	200	100	ODS-1310 Die
MA4PBL027	100	18000	0.2	0.03	4	150	90	Beam Lead Die
MA4P7493-134	50	18000	2.5	0.05	1.8	80	150	ODS-134 Die
MA4SPS402	50	18000	1	0.04	5	200	100	ODS-1253 Die
MA4PI61-134	100	18000	2.3	0.1	1.5	150	100	ODS-134 Die
MA4P203-134	30	18000	5	0.15	1.5	100	100	ODS-134 Die
MA4P303-134	20	18000	5	0.15	1.5	200	200	ODS-134 Die
MA4FCP305	100	24000	0.2	0.06	2.1	25	40	ODS-1269 Die
MA4SPS552	50	26000	1	0.06	1.7	2500	200	ODS-1270
MA4SPS502	1	26000	35	0.14	2.4	2800	275	ODS-1270
MA4SPS302	1	26000	0.8	0.4	1.3	460	100	SURMOUNT™ Die
MSWSH-020-24	100	26000	2	—	—	600	200	2020
MADP-001907-13050P	100	30000	0.5	0.03	4.2	4	50	Flip Chip Die
MADP-000907-14020P	100	30000	0.1	0.03	5.2	4	45	Flip Chip Die
MADP-000907-14020W	100	30000	0.1	0.03	5.2	4	45	Flip Chip Die
MA4AGP907	100	30000	0.1	0.03	5.2	4	50	Flip Chip Die
MA4FCP300	100	30000	0.2	0.03	2.6	140	70	ODS-1269 Die
MA4GP907	100	30000	0.3	0.03	4.2	2	45	Flip Chip Die
MA4AGFCP910	100	40000	0.1	0.02	5.2	4	75	Flip Chip Die
MA4AGBLP912	100	40000	0.1	0.02	4	5	50	Beam Lead Die
MA4FCP200	100	40000	0.1	0.02	2.8	100	70	ODS-1264 Die
MA4GP905	100	40000	0.1	0.03	3	2	50	Die
MA4GP022	100	40000	0.3	0.15	1	20	50	ODS-277
MA4GP030	100	40000	0.3	0.06	2	25	100	ODS-277
MGPN1503-C01A	100	26000	—	0.03	3	10	205	C01A
MMP7010	200	14000	—	0.1	1	10	25	Die/Various
MMP7011	200	12000	—	0.15	0.8	10	25	Die/Various
MMP7020	1	18000	—	0.05	1.2	60	70	Die/Various
MMP7021	1	14000	—	0.1	1	60	70	Die/Various
MMP7022	1	10000	—	0.15	0.9	60	70	Die/Various
MMP7023	1	8000	—	0.2	0.7	60	70	Die/Various
MMP7024	1	6000	—	0.25	0.5	60	70	Die/Various

PIN Switch and Attenuator Diodes (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ohm)	TI (ns)	Breakdown Voltage Min (V)	Package
MMP7025	1	18000	—	0.03	1.9	100	100	Die/Various
MMP7026	1	14000	—	0.07	1.5	100	100	Die/Various
MMP7027	1	14000	—	0.1	1.2	100	100	Die/Various
MMP7028	1	10000	—	0.15	1	100	100	Die/Various
MMP7031	1	18000	—	0.03	3	225	200	Die/Various
MMP7033	1	14000	—	0.1	1.6	225	200	Die/Various
MMP7034	1	10000	—	0.15	1	225	200	Die/Various
MMP7035	1	8000	—	0.2	0.8	225	200	Die/Various
MMP7036	1	5000	—	0.3	0.7	225	200	Die/Various
MMP7040	1	15000	—	0.03	2.6	400	200	Die/Various
MMP7041	1	12000	—	0.07	1.5	400	200	Die/Various
MMP7060	0.5	16000	—	0.05	2	1000	250	Die/Various
MMP7061	0.5	14000	—	0.08	1.5	1000	250	Die/Various
MMP7062	0.5	12000	—	0.1	1.2	1000	250	Die/Various
MMP7063	0.5	8000	—	0.2	1	1000	250	Die/Various
MMP7064	0.5	6000	—	0.3	0.8	1500	250	Die/Various
MMP7065	0.5	14000	—	0.08	1.5	1500	500	Die/Various
MMP7066	0.5	12000	—	0.1	1.2	1500	500	Die/Various
MMP7067	0.5	8000	—	0.2	1	1500	500	Die/Various
MMP7068	0.5	4000	—	0.3	0.8	2000	500	Die/Various
MMP7071	0.1	100	—	2	1	8000	100	Die/Various
MMP7071-127-4	0.1	100	5	2	1	8000	100	CS127-4
MMP7071-128-4	0.1	100	5	2	1	8000	100	CS128-4
MMP7078	0.1	100	—	1	0.5	2500	400	Die/Various
MMP7078-127-1	0.1	100	5	1	0.5	2500	400	CS127-1
MMP7078-128-1	0.1	100	5	1	0.5	2500	400	CS128-1
MMP7080	0.1	150	—	0.7	0.8	3000	600	Die/Various
MMP7080-127-1	0.1	150	5	0.7	0.8	3000	600	CS127-1
MMP7080-128-1	0.1	150	5	0.7	0.8	3000	600	CS128-1
MMP7089-127-1	0.1	500	5	0.5	0.6	1000	500	CS127-1
MMP7089-128-1	0.1	500	5	0.5	0.6	1000	500	CS128-1
MMP7092	1	6000	—	0.2	0.6	1000	500	Die/Various
MMSPN080045	2000	20000	—	—	—	—	200	C50
MMSPN080150	2000	35000	—	—	—	—	200	C51
MMSPN050-C53	1000	40000	40	—	0.6	4000	200	C53
MMSPN050-C54	1000	40000	40	—	0.6	4000	200	C54
MNP0008	100	12000	1	0.08	2	150	100	C12p
MNP0008-ET47P	100	12000	1	0.48	2	150	100	ET47p
MNP0008-T54P	100	12000	0.25	0.28	2	150	100	T54p
MNP0008-T55P	100	12000	0.25	0.21	2	150	100	T55p
MNP0008-T89P	100	12000	0.25	0.33	2	150	100	T89p
MNP0010	10	12000	1	0.08	2	300	150	C12p
MNP0010-ET47P	10	12000	1	0.48	2	300	150	ET47p
MNP0010-T54P	10	12000	0.25	0.28	2	300	150	T54p
MNP0010-T55P	10	12000	0.25	0.21	2	300	150	T55p
MNP0010-T89P	10	12000	0.25	0.33	2	300	150	T89p
MNP0012	5	12000	1	0.08	3.5	350	300	C12p

PIN Switch and Attenuator Diodes (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ohm)	TI (ns)	Breakdown Voltage Min (V)	Package
MNP0012-ET47P	5	12000	1	0.48	3.5	350	300	ET47p
MNP0012-T54P	5	12000	0.25	0.28	3.5	350	300	T54p
MNP0012-T55P	5	12000	0.25	0.21	3.5	350	300	T55p
MNP0012-T89P	5	12000	0.25	0.33	3.5	350	300	T89p
MNP0012A	5	8000	1	0.18	0.6	650	350	C22p
MNP0012A-ET47P	5	8000	1	0.58	0.6	650	350	ET47p
MNP0012A-T54P	5	8000	0.25	0.36	0.6	650	350	T54p
MNP0012A-T55P	5	8000	0.25	0.31	0.6	650	350	T55p
MNP0012A-T89P	5	8000	0.25	0.43	0.6	650	350	T89p
MNP0014	1	10000	1.5	0.12	1.3	750	500	C22p
MNP0014-ET47P	1	10000	0.5	0.52	0.8	750	450	ET47p
MNP0014-T54P	1	10000	0.1	0.32	0.8	750	450	T54p
MNP0014-T55P	1	10000	0.1	0.25	0.8	750	450	T55p
MNP0014-T89P	1	10000	0.1	0.37	0.8	750	450	T89p
MNP0014A	1	10000	0.1	0.18	0.8	1400	500	C32p
MPN1000-12	500	26000	0.1	0.02	6.5	80	100	Beam Lead
MPN1002-12	500	20000	0.1	0.03	5.5	80	100	Beam Lead
MPN1003-12	500	18000	0.1	0.035	5.0	80	100	Beam Lead
MPN1005-12	500	18000	0.1	0.048	5.0	80	100	Beam Lead
MPN1100-12	500	22000	0.1	0.025	6.0	50	50	Beam Lead
MPN1103-12	500	17000	0.1	0.06	4.0	50	50	Beam Lead
MPN3001	—	2000	—	0.25	1	—	200	A15
MPN3002	—	2000	—	0.25	1	—	300	A15
MPN4165	—	2000	—	0.3	1.5	—	100	A15
MPN7302	500	12000	1	0.08	1.2	8	20	C11
MPN7302-0805	500	10000	1	0.14	1.2	8	20	0805-2
MPN7302-E28 / 28X	500	10000	1	0.16	1.2	8	20	E28 / 28X
MPN7302-H20	500	6000	1	0.26	1.2	8	20	H20
MPN7306	100	12000	1	0.08	1.2	50	70	C12
MPN7306-0805	100	10000	1	0.14	1.2	50	70	0805-2
MPN7306-E28 / 28X	100	10000	1	0.16	1.2	50	70	E28 / 28X
MPN7306-H20	100	6000	1	0.26	1.2	50	70	H20
MPN73120	5	6000	1	0.3	0.5	4	700	C32
MPN7312A	20	12000	1	0.08	1.2	150	120	C12
MPN7312A-0805	20	10000	1	0.14	1.2	150	120	0805-2
MPN7312A-E28 / 28X	20	10000	1	0.16	1.2	150	120	E28 / 28X
MPN7312A-H20	20	6000	1	0.26	1.2	150	120	H20
MPN7312B	20	12000	1	0.18	0.8	250	120	C12
MPN7312B-0805	20	10000	1	0.24	0.8	250	120	0805-2
MPN7312B-E28 / 28X	20	10000	1	0.26	0.8	250	120	E28 / 28X
MPN7312B-H20	20	6000	1	0.36	0.8	250	120	H20
MPN7315	10	12000	1	0.08	1.2	180	150	C12
MPN7315-0805	10	10000	1	0.14	1.2	180	150	0805-2
MPN7315-E28 / 28X	10	10000	1	0.16	1.2	180	150	E28 / 28X
MPN7315-H20	10	6000	1	0.26	1.2	180	150	H20
MPN7320	5	12000	1	0.02	3	120	150	C01
MPN7320-0805-2	5	10000	1	0.08	3	120	150	0805-2

PIN Switch and Attenuator Diodes (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	CW Power Dissipation (W)	Total Capacitance (pF)	Resistance (Ohm)	TI (ns)	Breakdown Voltage Min (V)	Package
MPN7320-E28 / 28X	5	10000	1	0.1	3	120	150	E28 / 28X
MPN7320-H20	5	6000	1	0.2	3	120	150	H20
MPN7345	5	6000	4	0.3	0.3	500	300	C40
MPN7360	1	6000	10	0.8	0.2	2500	600	C37
MPN7370	1	6000	10	2	0.2	5000	700	C39
MPN7380	1	6000	10	0.4	0.3	2500	800	C38
MPN7420	1	6000	2.5	0.06	1	1000	400	C12
MPN7453A	1	6000	3	0.1	0.7	700	300	C22
MPN7453B	1	6000	3	0.15	0.6	2500	400	C22
MPN7453C	1	6000	3	0.18	0.4	1000	300	C22
MPND4005-0402	100	12000	0.25	0.07	5.5	125	100	0402
MPND4005-B15	100	20000	0.25	0.018	5.5	125	100	B15
MPND4005-B16	100	20000	0.25	0.018	5.5	125	100	B16
SMPN7316-SOD323	50	2000	0.75	0.25	0.6	200	100	SOD323
SMPN7316-SOT23	50	1500	0.75	0.25	0.6	200	100	SOT23
SMPN7335-SOD323	5	1200	0.75	0.3	1.5	500	200	SOD323
SMPN7335-SOT23	5	1000	0.75	0.3	1.5	500	200	SOT23

PIN Limiter Diodes

Part Number	Incident Power, Max (W)	Thermal Resistance	Junction Capacitance (pF)	Resistance (Ohm)	Lifetime (ns)	Vb (V)	Package
MADL-011021-14150T	2.5	100	0.4	1.5	10	—	1.5 x 1.2 mm TDFN-6
MADL-011008	30	150	0.3	1.5	15	—	1.2 x 1.5 mm PDFN-6
MLP7100	50	100	0.2	1.5	5	20-45	Die/Various
MLP7130	50	120	0.12	2	5	15-30	Die/Various
MLP7130-0805-2	50	120	0.12	2	5	15-30	Die/Various
MLP7140	50	100	0.12	2	7	30-40	Die/Various
MADL-000011-13880G	80	175	0.18	2.1	10	—	ODS-13880G Die
MA4L011-31	80	175	0.36	2.1	10	—	ODS-31
MA4L011-137	80	175	0.32	2.1	10	—	ODS-137
MA4L011-1088	80	175	0.3	2.1	10	—	ODS-1088
MA4L011-186	80	175	0.33	2.1	10	—	ODS-186
MA4L011-134	80	175	0.18	2.1	10	—	ODS-134 Die
MA4L011-1056	80	175	0.38	2.1	10	—	ODS-1056
MA4L011-30	80	175	0.36	2.1	10	—	ODS-30
MA4L011-32	80	175	0.48	2.1	10	—	ODS-32
MADL-011021-14210G	90	175	0.2	2.1	10	—	ODS-1056
MADL-011009-01340W	90	175	0.23	1.5	10	—	ODS-134
MADL-000021-003000	90	175	0.38	21	10	—	ODS-30
MA4L022-120	90	175	0.32	2	10	—	ODS-120
MA4L022-137	90	175	0.33	2	10	—	ODS-137
MA4L022-1056	90	175	0.39	2	10	—	ODS-1056
MA4L022-30	90	175	0.37	2	10	—	ODS-30
MA4L022-186	90	175	0.34	2	10	—	ODS-186
MA4L021-134	90	175	0.2	2.1	10	—	ODS-134 Die
MA4L022-134	90	175	0.19	2	10	—	ODS-134 Die
MADL-04L401-0113W0	—	25	0.3	1.2	800	—	ODS-134 Die
MADL-000301-0113W0	—	30	0.2	1.5	200	—	ODS-134 Die
MADL-04L062-0113W0	—	150	0.15	2.5	10	—	ODS-134 Die

PIN Limiter Diodes (continued)

Part Number	Incident Power, Max (W)	Thermal Resistance	Junction Capacitance (pF)	Resistance (Ohm)	Lifetime (ns)	Vb (V)	Package
MA4L021-120	90	175	0.33	2.1	10	—	ODS-120
MA4L021-1056	90	175	0.4	2.1	10	—	ODS-1056
MA4L021-31	90	175	0.38	2.1	10	—	ODS-31
MA4L022-32	90	175	0.49	2	10	—	ODS-32
MADL-011023-14150T	100	175	0.2	1.3	10	—	1.5 x 1.2 mm TDFN-6
MLP7101	100	80	0.5	1.2	10	20-45	Die/Various
MLP7102	100	55	0.7	1	10	20-45	Die/Various
MLP7131	100	80	0.2	1.5	5	15-30	Die/Various
MLP7141	100	70	0.2	1.5	7	30-60	Die/Various
MADL-011010-01340W	125	150	0.24	1.5	15	—	ODS-134
MADL-000031-13880G	125	150	0.21	2.1	20	—	ODS-1388
MA4L032-186	125	150	0.35	2.5	15	—	ODS-186
MA4L031-31	125	150	0.39	2	20	—	ODS-31
MA4L031-186	125	150	0.36	2	20	—	ODS-186
MA4L031-134	125	150	0.21	2	20	—	ODS-134 Die
MA4L032-1056	125	150	0.4	2.5	15	—	ODS-1056
MA4L032-134	125	150	0.2	2.5	15	—	ODS-134 Die
MA4L031-1056	125	150	0.41	2	20	—	ODS-1056
MA4L032-31	125	150	0.38	2.5	15	—	ODS-31
MA4L032-32	125	150	0.5	2.5	15	—	ODS-32
MADL-000032-003000	125	150	0.21	2.1	20	—	ODS-3000
MADL-011011-01340W	200	150	0.17	2.3	10	—	ODS-134
MADL-000062-13880G	200	150	0.15	2.5	10	—	ODS-13880G Die
MADL-000062-105600	200	150	0.35	2.5	10	—	ODS-1056
MA4L062-134	200	150	0.15	2.5	10	—	ODS-134 Die
MLP7110	200	80	0.2	1.5	10	45-75	Die/Various
MADL-000101-13880G	250	30	0.15	2	90	—	ODS-13880G Die
MA4L101-134	250	30	0.15	2	90	—	ODS-134 Die
MA4L101-186	250	30	0.3	2	90	—	ODS-186
MA4L101-30	250	30	0.33	2	90	—	ODS-30
MLP7111	400	60	0.5	1.2	15	45-75	Die/Various
MADL-000301-01340W	500	30	0.2	1.5	200	—	ODS-134 Die
MA4L301-1056	500	30	0.4	1.5	200	—	ODS-1056
MA4L301-31	500	30	0.38	1.5	200	—	ODS-31
MADL-000301-13870G	500	30	0.2	1.5	200	—	ODS-1370
MADL-011052-14280W	500	36	0.19	2	222	—	ODS-134 Die
MLP7112	795	40	0.7	1	20	45-75	Die/Various
MA4L401-1056	1000	25	0.5	1.2	800	—	ODS-1056
MA4L401-31	1000	25	0.48	1.2	800	—	ODS-31
MA4L401-134	1000	25	0.3	1.2	800	—	ODS-134 Die
MA4L401-30	1000	25	0.48	1.2	800	—	ODS-30
MA4L401-120	1000	25	0.43	1.2	800	—	ODS-32
MADL-000401-13870G	1000	25	0.3	1.2	800	—	ODS-13870G Die
MLP7120	1000	40	0.2	1.5	50	120-180	Die/Various
MLP7120-2012	1000	45	0.2	1.5	50	120-180	2012
MLP7121	2000	20	0.6	1	50	120-180	Die/Various
MLP7122	4000	15	0.8	0.5	100	120-180	Die/Various

Schottky Mixer and Detector Diodes

Part Number	Min Frequency (MHz)	Max Frequency (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ohm)	Vf (mV)	Vb (V)	Package
MA4E932A-186	DC	18	—	0.25	—	1	ODS-186
MA4E932B-186	DC	18	—	0.25	—	1	ODS-186
MA4E929B-119	DC	18	—	0.25	—	1	ODS-119
MA4E929A-119	DC	18	—	0.25	—	15	ODS-119
MADS-002811-00540T	DC	3000	1.2	—	—	70	ODS-55
1N5711	DC	3000	1.2	2	—	70	ODS-54
MA4E2812-54	DC	3000	1.2	—	—	20	ODS-57
MA4E2811	DC	3000	1.2	—	—	15	ODS-56
MA40261	DC	3000	-	0.32	—	70	ODS-186
MADS-005711-0054MT	DC	3000	1.2	2	—	20	ODS-54
MA4E1338B1-1146T	DC	4000	1	—	—	20	SC70 (3L)/ SOT-323
MA4E1339A1-1141T	DC	4000	1.2	—	—	70	SOD323 (2L)
MADS-001340-12790T	DC	4000	1	—	—	1.5	SC-79
MA4E2200D1-287T	DC	4000	0.15	—	—	1.5	SOT23
MADS-003000-1292LT	DC	4000	7	0.5	—	8	ODS-1292
MA4E1338A1-1141T	DC	4000	1	1	—	8	SOD323 (2L)
MA4E1340A1-287T	DC	4000	1	—	—	70	SOT23
MADS-003000-1292HT	DC	4000	0.5	6	—	1.5	ODS-1292
MA4E2200A1-1141T	DC	4000	0.15	0.25	—	70	SOD323 (2L)
MA4E1340B1-1146T	DC	4000	1	—	—	20	SC70 (3L)/ SOT-323
MADS-001339-12790T	DC	4000	1.2	—	—	8	SC-79
MADS-001338-12790T	DC	4000	1	—	—	3	SC-79
MA4E20541-1279T	DC	4000	17	0.3	—	3	SC-79
MADS-002200-12790T	DC	4000	0.25	—	—	1.5	SC-79
MA4E2200B1-287T	DC	4000	0.15	0.25	—	3	SOT23
MA4E2054B1-1146T	DC	4000	17	0.3	—	3	SC70 (3L)/ SOT-323
MA4E1339B1-287T	DC	4000	1.2	—	—	3	SOT23
MA4E2054A1-287T	DC	4000	0.3	17	—	3	SOT23
MA4E20541-1141T	DC	4000	0.3	17	—	3	SOD323 (2L)
MA4E1338A1-287T	DC	4000	1	—	—	70	SOT23
MA4E1340A1-1141T	DC	4000	1	—	—	3	SOD323 (2L)
MA4E2054D1-287T	DC	4000	0.3	17	—	3	SOT23
MA4E2054B1-287T	DC	4000	0.3	17	—	3	SOT23
MA4E1338A1-1146T	DC	4000	1	—	—	70	SOT-323
MA4E1338B1-287T	DC	4000	1	—	—	8	SOT23
MA4E1339A1-1146T	DC	4000	1.2	—	—	20	SC70 (3L)/ SOT-323
MA4E1339A1-287T	DC	4000	1.2	—	—	20	SOT23
MA4E1339B1-1146T	DC	4000	1.2	—	—	70	SC70 (3L)/ SOT-323
MA4E1340A1-1146T	DC	4000	1	—	—	70	SC70 (3L)/ SOT-323
MA4E1340B1-287T	DC	4000	1	—	—	3	SOT23
MADS-011010-1415	DC	6000	0.34	7	—	3	1.5 x 1.2mm TDFN-6
MA40205-119	DC	10000	—	0.32	—	3	ODS-119
MA4E931Z2-1261A	DC	10000	—	—	—	3	DIE
MA4E2054L-1261	DC	10000	0.15	17	—	3	ODS-1261
MA40201-119	DC	10000	0.32	—	—	—	ODS-119
MA40143-213	DC	10000	0.32	—	—	—	ODS-213
MA40215-276	DC	10000	0.32	—	—	—	ODS-276
MA40208-276	DC	10000	0.32	—	—	—	ODS-276

Schottky Mixer and Detector Diodes (continued)

Part Number	Min Frequency (MHz)	Max Frequency (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ohm)	Vf (mV)	Vb (V)	Package
MA40147-213	DC	10000	0.32	—	—		ODS-213
MA40264	DC	10000	0.32	—	—	3	ODS-186
MADS-011010-1419	DC	10000	0.15	7	—	3	ODS-1419
MA40215-120	DC	16000	0.32	—	—	5	ODS-1200
MADS-011030-14280W	DC	16000	0.33	6.5	100	3.5	Die
MADS-002545-1307MG	DC	18000	0.11	10	—	5	ODS-1307
MADS-002545-1307LG	DC	18000	0.11	11	—	5	ODS-1307
MADS-002545-1307HG	DC	18000	0.11	10	—	5	ODS-1307
SMS202	DC	18000	0.20	80	—	1	0503
MADS-002502-1246HP	DC	26000	0.12	11	—	3	ODS-1246
MADS-002502-1246LP	DC	26000	0.12	16	—	3	ODS-1246
MADS-002502-1246MP	DC	26000	0.12	12	—	3	ODS-1246
MA4E2513L-1289	DC	26000	0.12	10	—	3	ODS-1289
MA4E2508H-1112	DC	26000	0.24	6	—	5	ODS-1112
MA4E2501L-1290	DC	26000	0.12	10	—	5	ODS-1290
MA4E2532M-1113	DC	26000	0.16	10	—	5	ODS-1113
MA4E2508M-1112	DC	26000	0.24	12	—	5	ODS-1112
MA4E2514L-1116	DC	26000	0.12	16	—	3	ODS-1116
MA4E2508L-1112	DC	26000	16	0.24	—	5	ODS-1112
MA4E2514M-1116	DC	26000	0.12	12	—	3	ODS-1116
MA4E2502H-1246	DC	26000	0.12	11	—	3	ODS-1246
MA4E2502M-1246	DC	26000	0.12	12	—	3	ODS-1246
MA4E2502L-1246	DC	26000	0.12	16	—	3	ODS-1246
MADS-002501-1290LP	DC	26000	0.12	10	—	—	ODS-1290
SMGS11	DC	26500	0.13	13	—	4.5	0503
SMGS21	DC	26500	0.13	13	—	4.5	0503
SMS201	DC	26500	0.10	80	—	1	0503
MA4E2039	DC	60000	0.05	4	—	4.5	Beam Lead
MA4E2040	DC	60000	0.05	4	—	4.5	Beam Lead
MA4E2037	DC	60000	0.05	4	—	4.5	Beam Lead
MADS-001317-1500AG	DC	80000	0.05	4	—	4.5	ODS-1500
MADS-001317-1500AP	DC	80000	0.05	4	—	7	ODS-1500
MA4E2160	DC	80000	0.05	4	—	7	ODS-1262
MA4E1318	DC	80000	0.09	4	—	4.5	ODS-1197
MA4E1317	DC	80000	0.05	4	—	4.5	ODS-1278
MA4E1319-1	DC	80000	0.05	4	—	4.5	ODS-1199
MA4E1319-2	DC	80000	0.05	4	—	4.5	ODS-1200
MADS-001318-1197HP	DC	80000	0.09	4	—	7	Tape and Reel
MA4E1310	DC	110000	0.04	7	—	7	ODS-1278
IN5819	—	—	—	110	—	30	DO-7
MGR700	DC	1000	1.2	—	—	8	Die/Various
MGR701	DC	1000	1	—	—	8	Die/Various
MGR702	DC	1000	1.2	—	—	20	Die/Various
MGR703	DC	1000	1	—	—	20	Die/Various
MGR704	DC	1000	2	—	—	70	Die/Various
MGR705	DC	1000	1.2	—	—	70	Die/Various
MGS802	DC	60000	0.1	7	—	—	Flip Chip
MGS802A	DC	60000	0.15	5	—	—	Flip Chip

Schottky Mixer and Detector Diodes (continued)

Part Number	Min Frequency (MHz)	Max Frequency (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ohm)	Vf (mV)	Vb (V)	Package
MGS803	DC	60000	0.06	7	—	5	Flip Chip
MGS901	DC	60000	0.06	7	—	5	Beam Lead
MGS902	DC	60000	0.1	7	—	—	Beam Lead
MGS903	DC	60000	0.06	7	—	5	Beam Lead
MGS904	DC	60000	0.06	7	—	—	B85
MGS904A	DC	60000	0.08	5	—	—	B85
MGS905	DC	60000	0.06	7	—	5	B86
MGS906	DC	60000	0.04	14	—	10	B90
MGS907	DC	60000	0.04	14	—	—	B85
MGS907A	DC	60000	0.06	12	—	—	B85
MGS907B	DC	60000	0.08	10	—	—	B85
MGS908	DC	60000	0.04	14	—	10	B86
MGS909	DC	60000	0.1	21	—	15	B90
MGS910	DC	60000	0.1	21	—	—	B87
MGS911	DC	60000	0.1	21	—	15	B88
MGS912	DC	60000	0.03	28	—	20	B89
MSS20-046-0805	DC	20000	0.20	80	—	0.8	0805-2
MSS20-046-C15	DC	18000	0.1	80	—	0.8	C15P
MSS20-046-E25	DC	18000	0.20	80	—	0.8	E25
MSS20-046-H27	DC	18000	0.25	80	—	0.8	H27
MSS20-046-T86	DC	12000	0.31	80	—	0.8	T86p
MSS20-047-0805	DC	20000	0.20	80	—	0.8	0805-2
MSS20-047-C15	DC	18000	0.1	80	—	0.8	C15P
MSS20-047-E25	DC	18000	0.20	80	—	0.8	E25
MSS20-047-H27	DC	18000	0.25	80	—	0.8	H27
MSS20-047-T86	DC	12000	0.31	80	—	0.8	T86p
MSS20-050-0805	DC	18000	0.25	80	—	0.8	0805-2
MSS20-050-C15	DC	12000	0.15	80	—	0.8	C15P
MSS20-050-E25	DC	12000	0.25	80	—	0.8	E25
MSS20-050-H27	DC	12000	0.30	80	—	0.8	H27
MSS20-050-T86	DC	12000	0.36	80	—	0.8	T86p
MSS20-051-0805	DC	18000	0.25	80	—	0.8	0805-2
MSS20-051-C15	DC	12000	0.15	80	—	0.8	C15P
MSS20-051-E25	DC	12000	0.25	80	—	0.8	E25
MSS20-051-H27	DC	12000	0.30	80	—	0.8	H27
MSS20-051-T86	DC	12000	0.36	80	—	0.8	T86p
MSS20-054-0805	DC	12000	0.30	80	—	0.8	0805-2
MSS20-054-C15	DC	8000	0.2	80	—	0.8	C15P
MSS20-054-E25	DC	8000	0.30	80	—	0.8	E25
MSS20-054-H27	DC	8000	0.35	80	—	0.8	H27
MSS20-054-T86	DC	8000	0.41	80	—	0.8	T86p
MSS20-055-0805	DC	12000	0.30	80	—	0.8	0805-2
MSS20-055-C15	DC	8000	0.2	80	—	0.8	C15P
MSS20-055-E25	DC	8000	0.30	80	—	0.8	E25
MSS20-055-H27	DC	8000	0.35	80	—	0.8	H27
MSS20-055-T86	DC	8000	0.41	80	—	0.8	T86p
MSS20-140-0402	DC	26000	0.15	80	—	0.8	0402
MSS20-140-B10D	DC	40000	0.08	80	—	0.8	B10D

Schottky Mixer and Detector Diodes (continued)

Part Number	Min Frequency (MHz)	Max Frequency (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ohm)	Vf (mV)	Vb (V)	Package
MSS20-141-0402	DC	40000	0.08	80	—	0.8	0402
MSS20-141-B10D	DC	40000	0.08	80	—	0.8	B10D
MSS20-142-0402	DC	40000	0.1	80	—	0.8	0402
MSS20-142-B10D	DC	40000	0.1	80	—	0.8	B10D
MSS20-143-0402	DC	40000	0.1	80	—	0.8	0402
MSS20-143-B10D	DC	40000	0.1	80	—	0.8	B10D
MSS20-145-0402	DC	40000	0.12	80	—	0.8	0402
MSS20-145-B10D	DC	40000	0.12	80	—	0.8	B10D
MSS20-146-0402	DC	40000	0.12	80	—	0.8	0402
MSS20-146-B10D	DC	40000	0.12	80	—	0.8	B10D
MSS25-047-C15c	DC	40000	0.1	65	—	3	C15c
MSS25-049-C15c	DC	40000	0.12	52	—	3	C15c
MSS25-141-B10D	DC	40000	0.08	65	—	3	B10D
MSS25-143-B10D	DC	40000	0.1	60	—	3	B10D
MSS25-145-B10D	DC	40000	0.12	52	—	3	B10D
MSS30-PCR46-B47	DC	18000	0.13	22	—	2	B47
MSS30-PCR53-B47	DC	18000	0.25	15	—	2	B47
MSS30-046-C15	DC	18000	0.12	18	—	2	C15
MSS30-046-P55	DC	18000	0.30	18	—	2	P55
MSS30-046-P86	DC	18000	0.33	18	—	2	P86
MSS30-050-C15	DC	18000	0.18	15	—	2	C15
MSS30-050-P55	DC	18000	0.35	15	—	2	P55
MSS30-050-P86	DC	18000	0.38	15	—	2	P86
MSS30-142-B10B	DC	18000	0.1	22	—	2	B10B
MSS30-142-E25	DC	18000	0.26	22	—	2	E25
MSS30-142-H20	DC	18000	0.31	22	—	2	H20
MSS30-148-B10B	DC	18000	0.15	15	—	2	B10B
MSS30-148-E25	DC	18000	0.31	15	—	2	E25
MSS30-148-H20	DC	18000	0.36	15	—	2	H20
MSS30-154-B10B	DC	18000	0.25	12	—	2	B10B
MSS30-154-E25	DC	18000	0.41	12	—	2	E25
MSS30-154-H20	DC	18000	0.46	12	—	2	H20
MSS30-242-B20	DC	18000	0.1	22	—	2	B20
MSS30-242-E35	DC	18000	0.21	22	—	2	E35
MSS30-242-H30	DC	18000	0.31	22	—	2	H30
MSS30-248-B20	DC	18000	0.15	15	—	2	B20
MSS30-248-E35	DC	18000	0.25	15	—	2	E35
MSS30-248-H30	DC	18000	0.36	15	—	2	H30
MSS30-254-B20	DC	18000	0.25	12	—	2	B20
MSS30-254-E35	DC	18000	0.35	12	—	2	E35
MSS30-254-H30	DC	18000	0.46	12	—	2	H30
MSS30-346-B21	DC	18000	0.3	16	—	2	B21
MSS30-346-E25	DC	18000	0.40	16	—	2	E25
MSS30-346-H20	DC	18000	0.50	16	—	2	H20
MSS30-442-B41	DC	18000	0.10	22	—	4	B41
MSS30-442-B42	DC	18000	0.1	22	—	2	B42
MSS30-442-E45	DC	18000	0.1	22	—	2	E45
MSS30-442-H40	DC	18000	0.1	22	—	2	H40
MSS30-448-B41	DC	18000	0.15	15	—	2	B41

Schottky Mixer and Detector Diodes (continued)

Part Number	Min Frequency (MHz)	Max Frequency (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ohm)	Vf (mV)	Vb (V)	Package
MSS30-448-B42	DC	18000	0.15	15	—	2	B42
MSS30-448-E45	DC	18000	0.26	15	—	2	E45
MSS30-448-H40	DC	18000	0.35	15	—	2	H40
MSS30-454-B40	DC	18000	0.25	12	—	2	B40
MSS30-454-E45	DC	18000	0.35	12	—	2	E45
MSS30-454-H40	DC	18000	0.46	12	—	2	H40
MSS30-B46-B45	DC	18000	0.125	25	—	2	B45
MSS30-B46-E45	DC	18000	0.25	25	—	2	E45
MSS30-B46-H40	DC	18000	0.35	25	—	2	H40
MSS30-B53-B45	DC	18000	0.25	15	—	2	B45
MSS30-B53-E45	DC	18000	0.35	15	—	2	E45
MSS30-B53-H40	DC	18000	0.46	15	—	2	H40
MSS30-CR46-B49	DC	18000	0.125	22	—	2	B49
MSS30-CR46-E45	DC	18000	0.22	22	—	2	E45
MSS30-CR46-H40	DC	18000	0.33	22	—	2	H40
MSS30-CR53-B49	DC	18000	0.25	15	—	2	B49
MSS30-CR53-E45	DC	18000	0.35	15	—	2	E45
MSS30-CR53-H40	DC	18000	0.45	15	—	2	H40
MSS30-PCB46-B48	DC	18000	0.12	20	—	2	B48
MSS39-045-C15	DC	18000	0.1	—	—	5	C15p
MSS39-045-P55	DC	18000	0.26	—	—	5	P55p
MSS39-045-P86	DC	18000	0.27	—	—	5	P86p
MSS39-048-C15	DC	12000	0.15	—	—	5	C15p
MSS39-048-P55	DC	12000	0.30	—	—	5	P55p
MSS39-048-P86	DC	12000	0.32	—	—	5	P86p
MSS39-144-0402	DC	18000	0.16	—	—	3.5	0402
MSS39-144-0805	DC	18000	0.17	—	—	3.5	0805-2
MSS39-144-B10B	DC	40000	0.08	—	—	3.5	B10Bp
MSS39-144-H27	DC	18000	0.24	—	—	3.5	H27
MSS39-146-0402	DC	18000	0.18	—	—	3.5	0402
MSS39-146-0805	DC	18000	0.20	—	—	3.5	0805-2
MSS39-146-B10B	DC	26000	0.1	—	—	3.5	B10Bp
MSS39-146-H27	DC	18000	0.25	—	—	3.5	H27
MSS39-148-0402	DC	18000	0.20	—	—	3.5	0402
MSS39-148-0805	DC	18000	0.22	—	—	3.5	0805-2
MSS39-148-B10B	DC	18000	0.12	—	—	3.5	B10Bp
MSS39-148-E25	DC	18000	0.22	—	—	3.5	E25
MSS39-148-H20	DC	12000	0.33	—	—	3.5	H20
MSS39-152-0402	DC	18000	0.25	—	—	3.5	0402
MSS39-152-0805	DC	18000	0.27	—	—	3.5	0805-2
MSS39-152-B10B	DC	12000	0.18	—	—	3.5	B10Bp
MSS39-152-E25	DC	12000	0.28	—	—	3.5	E25
MSS39-152-H20	DC	18000	0.36	—	—	3.5	H20
MSS40-045-C15	DC	18000	0.12	15	—	3	C15
MSS40-045-P55	DC	18000	0.28	15	—	3	P55
MSS40-045-P86	DC	18000	0.30	15	—	3	P86
MSS40-048-C15	DC	18000	0.15	15	—	3	C15
MSS40-048-P55	DC	18000	0.30	15	—	3	P55

Schottky Mixer and Detector Diodes (continued)

Part Number	Min Frequency (MHz)	Max Frequency (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ohm)	Vf (mV)	Vb (V)	Package
MSS40-048-P86	DC	18000	0.33	15	—	3	P86
MSS40-141-0402	DC	18000	0.18	18	—	3	0402
MSS40-141-B10B	DC	18000	0.1	22	—	3	B10B
MSS40-141-E25	DC	18000	0.22	18	—	3	E25
MSS40-141-H20	DC	18000	0.30	18	—	3	H20
MSS40-148-0402	DC	18000	0.24	15	—	3	0402
MSS40-148-B10B	DC	18000	0.15	17	—	3	B10B
MSS40-148-E25	DC	18000	0.28	15	—	3	E25
MSS40-148-H20	DC	18000	0.36	15	—	3	H20
MSS40-155-0402	DC	18000	0.38	14	—	3	0402
MSS40-155-B10B	DC	18000	0.3	13	—	3	B10B
MSS40-155-E25	DC	18000	0.41	14	—	3	E25
MSS40-155-H20	DC	18000	0.51	14	—	3	H20
MSS40-244-0805	DC	18000	0.36	28	—	3	0805-4
MSS40-244-B20	DC	18000	0.12	22	—	3	B20
MSS40-244-E35	DC	18000	0.24	28	—	3	E35
MSS40-248-0805	DC	18000	0.25	18	—	3	0805-4
MSS40-248-B20	DC	18000	0.15	17	—	3	B20
MSS40-248-E35	DC	18000	0.28	18	—	3	E35
MSS40-255-0805	DC	18000	0.3	15	—	3	0805-4
MSS40-255-B20	DC	18000	0.3	15	—	3	B20
MSS40-255-E35	DC	18000	0.41	14	—	3	E35
MSS40-448-B42	DC	18000	0.15	17	—	3	B42
MSS40-448-E45	DC	18000	0.25	15	—	3	E45
MSS40-448-H40	DC	18000	0.36	15	—	3	H40
MSS40-455-B40	DC	18000	0.3	17	—	3	B40
MSS40-455-E45	DC	18000	0.40	14	—	3	E45
MSS40-455-H40	DC	18000	0.32	14	—	3	H40
MSS40-B46-B45	DC	18000	0.13	25	—	3	B45
MSS40-B46-E45	DC	18000	0.24	25	—	3	E45
MSS40-B53-B45	DC	18000	0.25	15	—	3	B45
MSS40-B53-E45	DC	18000	0.36	15	—	3	E45
MSS40-CR46-B49	DC	18000	0.125	22	—	3	B49
MSS40-CR46-E45	DC	18000	0.23	15	—	3	E45
MSS40-CR46-H40	DC	18000	0.35	15	—	3	H40
MSS40-CR53-B49	DC	18000	0.25	15	—	3	B49
MSS40-CR53-E45	DC	18000	0.35	15	—	3	E45
MSS40-CR53-H40	DC	18000	0.46	15	—	3	H40
MSS40-PCB46-B48	DC	18000	0.12	20	—	3	B48
MSS40-PCR46-B47	DC	18000	0.13	22	—	3	B47
MSS40-PCR53-B47	DC	18000	0.25	15	—	3	B47
MSS50-046-C26	DC	18000	0.12	20	—	4	C26
MSS50-046-P55	DC	18000	0.28	20	—	4	P55
MSS50-046-P86	DC	18000	0.30	20	—	4	P86
MSS50-048-C15	DC	18000	0.15	15	—	4	C15
MSS50-048-P86	DC	18000	0.33	15	—	4	P86
MSS50-062-C16	DC	18000	0.55	12	—	4	C16
MSS50-062-P55	DC	18000	0.75	12	—	4	P55

Schottky Mixer and Detector Diodes (continued)

Part Number	Min Frequency (MHz)	Max Frequency (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ohm)	Vf (mV)	Vb (V)	Package
MSS50-062-P86	DC	18000	0.78	12	—	4	P86
MSS50-146-0402	DC	18000	0.20	18	—	4	0402
MSS50-146-0805	DC	18000	0.22	18	—	4	0805-2
MSS50-146-B10B	DC	18000	0.12	18	—	4	B10B
MSS50-146-E25	DC	18000	0.24	18	—	4	E25
MSS50-146-H20	DC	18000	0.34	18	—	4	H20
MSS50-155-0402	DC	18000	0.38	15	—	4	0402
MSS50-155-0805	DC	18000	0.40	15	—	4	0805-2A
MSS50-155-B10B	DC	18000	0.3	15	—	4	B10B
MSS50-155-E25	DC	18000	0.41	15	—	4	E25
MSS50-155-H20	DC	18000	0.51	15	—	4	H20
MSS50-244-0805	DC	18000	0.44	16	—	4	0805-4
MSS50-244-B20	DC	18000	0.2	16	—	4	B20
MSS50-244-E35	DC	18000	0.31	16	—	4	E35
MSS50-244-H30	DC	18000	0.42	16	—	4	H30
MSS50-341-B21	DC	18000	0.26	16	—	4	B21
MSS50-341-E25	DC	18000	0.36	16	—	4	E25
MSS50-341-H20	DC	18000	0.48	16	—	4	H20
MSS50-448-0805	DC	18000	0.35	10	—	4	0805-4
MSS50-448-B40	DC	18000	0.25	14	—	4	B40
MSS50-448-E45	DC	18000	0.36	10	—	4	E45
MSS50-448-H40	DC	18000	0.48	10	—	4	H40
MSS50-B46-B45	DC	18000	0.13	20	—	4	B45
MSS50-B46-E45	DC	18000	0.25	20	—	4	E45
MSS50-B46-H40	DC	18000	0.35	20	—	4	H40
MSS50-B53-B45	DC	18000	0.25	15	—	4	B45
MSS50-B53-E45	DC	18000	0.36	15	—	4	E45
MSS50-B53-H40	DC	18000	0.48	15	—	4	H40
MSS50-CR46-B49	DC	18000	0.125	22	—	4	B49
MSS50-CR46-E45	DC	18000	0.25	22	—	4	E45
MSS50-CR46-H40	DC	18000	0.36	22	—	4	H40
MSS50-CR53-B49	DC	18000	0.25	15	—	4	B49
MSS50-CR53-E45	DC	18000	0.36	15	—	4	E45
MSS50-CR53-H40	DC	18000	0.46	15	—	4	H40
MSS50-PCB46-B48	DC	18000	0.12	20	—	4	B48
MSS50-PCR46-B47	DC	18000	0.13	22	—	4	B47
MSS50-PCR53-B48	DC	18000	0.25	15	—	4	B47
MZB600-19-6	DC	8000	0.2	3500	—	3	CS19-6
MZB600-32	DC	8000	0.2	3500	—	3	CS32
MZB600-B11	DC	8000	0.2	3500	—	3	B11
MZB600-C15P	DC	8000	0.2	3500	—	3	C15P
MZB604-B11	DC	8000	0.2	5000	—	4	B11
MZB604-C15P	DC	8000	0.2	5000	—	4	C15P
MZB604-I1	DC	8000	0.2	5000	—	4	CS11
MZB604-19-1	DC	8000	0.2	5000	—	4	CS19-1
MZB604-32	DC	8000	0.2	5000	—	4	CS32
SMSCQ1200-SOT143	DC	3000	0.4	15	270	2	SOT-143
SMSCQ1500-SOT143	DC	3000	0.65	8	270	2	SOT-143

Schottky Mixer and Detector Diodes (continued)

Part Number	Min Frequency (MHz)	Max Frequency (MHz)	Total Capacitance (pF)	Dynamic Resistance (Ohm)	Vf (mV)	Vb (V)	Package
SMSCQ2500-SOT143	DC	3000	0.65	10	400	2	SOT-143
SMSCQ4500-SOT143	DC	3000	0.65	8	600	3	SOT-143
SMSCQ5500-SOT143	DC	3000	0.55	16	1100	3	SOT-143
SMSD3004-SOD323	DC	3000	0.6	10	270	2	SOD-323
SMSD3012-SOD323	DC	3000	0.25	15	270	2	SOD-323
SMSD4004-SOD323	DC	3000	0.6	10	350	2	SOD-323
SMSD4012-SOD323	DC	3000	0.25	15	350	2	SOD-323
SMSD6004-SOD323	DC	3000	0.6	10	600	2	SOD-323
SMSD6012-SOD323	DC	3000	0.25	15	630	2	SOD-323
SMSP3004-SOT143	DC	3000	0.65	10	270	2	SOT-143
SMSP3012-SOT143	DC	3000	0.4	15	270	2	SOT-143
SMSRQ1200-SOT143	DC	3000	0.4	15	270	2	SOT-143
SMSRQ4500-SOT143	DC	3000	0.65	8	600	3	SOT-143
SMST3004-SOT23	DC	3000	0.6	10	270	2	SOT-23
SMST3012-SOT23	DC	3000	0.25	15	270	2	SOT-23
SMST4004-SOT23	DC	3000	0.6	10	350	2	SOT-23
SMST4012-SOT23	DC	3000	0.25	15	350	2	SOT-23
SMST6004-SOT23	DC	3000	0.6	10	600	2	SOT-23
SMST6012-SOT23	DC	3000	0.25	15	630	2	SOT-23
MA4E2532L-1113	DC	1800	0.1	16	440	5	ODS-1113
MNM200	DC	2600	0.14	20	0.4	3	Die/Various
MNM201	DC	2600	0.2	20	0.4	3	Die/Various
MNM202	DC	2600	0.12	20	0.4	3	Die/Various
MNM203	DC	2600	0.14	20	0.4	3	Die/Various
MNM204	DC	2600	0.15	20	0.425	4	Die/Various
MNM205	DC	2600	0.15	20	0.425	4	Die/Various
MNM206	DC	2600	0.12	20	0.425	4	Die/Various
MNM207	DC	2600	0.14	20	0.425	4	Die/Various
MNM208	DC	2600	0.14	20	0.45	4	Die/Various
MNM210	DC	2600	0.14	20	0.45	5	Die/Various
MNM211	DC	2600	0.25	20	0.45	5	Die/Various
MNM212	DC	2600	0.21	20	0.475	5	Die/Various
MNM213	DC	2600	0.15	20	0.475	5	Die/Various
MNM214	DC	2600	0.12	20	0.475	5	Die/Various
MNM215	DC	2600	0.15	20	0.475	5	Die/Various

MACOM Control Products

For a wide range of A&D and commercial applications

MACOM offers control products for a wide range of A&D and commercial applications, covering a broad frequency spectrum from DC to 70 GHz, using Silicon, AlGaAs, and GaAs based technologies.

Power Detectors

- > Broadband devices with integrated low loss directional couplers and built-in temperature compensation circuits
- > Lead-free plastic surface mount packages
- > For power monitoring and leveling in point-to-point radios, IMS, radar, VSAT, EW, A&D systems

Digital Phase Shifters

- > 4-Bit and 6-Bit with either serial or parallel control inputs
- > For military or weather radar, transmit/ receive modules, and EW
- > Convenient surface mount PQFN with 360° coverage, fast switching speed, and low phase error

Voltage Variable Attenuators

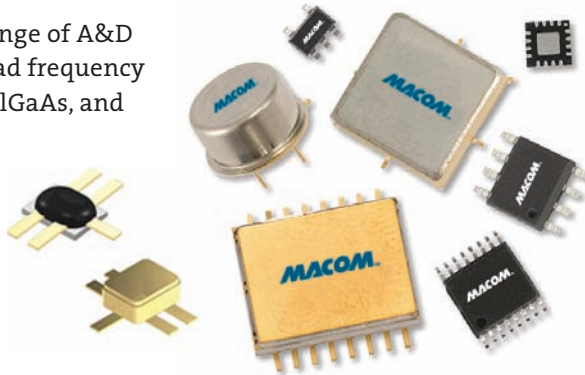
- > Automotive and wireless markets
- > Ideal for cellular infrastructure, handset gain control, radar systems, satellite radios, and test equipment

Digital Attenuators

- > Used in a variety of applications for automotive and wireless markets,
- > Typical applications include: CATV infrastructure, cellular infrastructure, handset gain control, radar systems, satellite radios, and test equipment including 75 Ohm versions for CATV

Limiters

- > Thin-film hybrid manufacturing for the highest levels of performance, repeatability, reliability, and cost-effectiveness



CMOS Switch Drivers

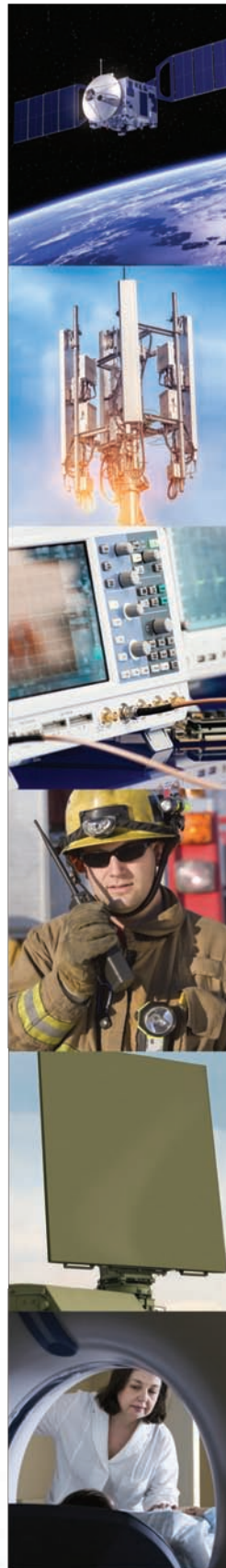
- > For wireless infrastructure base stations and A&D applications including: cordless and mobile phones, satellite radio, GPS and DAB, 2.4 GHz and 5.0 GHz WLAN, VSAT, CATV and broadband, commercial and military radar, and multi-market applications

Switches

- > Frequency spectrum from DC to 70 GHz
- > (HMIC™) PIN diodes: high power and broadband from 50 MHz to 26 GHz
- > AlGaAs PIN diode: upper frequency ranges for instrumentation and radar
- > GaAs pHEMT and MESFET for fast switching and low control voltage for narrow band and broadband
- > 75 Ohm absorptive switches for CATV, FTTx and DBS infrastructure and CPE applications

Phase Detectors

- > SRD reference frequency multiplier, coupling capacitors and a Schottky diode microwave sampler/phase detector in a 0.075" by 0.100" hybrid
- > Used to phase lock microwave oscillators up to 22 GHz to a much lower reference frequency



Limiters

Part Number	Min Freq RF/LO (MHz)	Max Freq RF/LO (MHz)	Insertion Loss (dB)	Ave. Power (W)	Peak Power (W)	Leakage (mW)	Recovery Time (μs)	Package
MADL-011012	300	1000	0.2	360	55.6	100	3	SMT Hermetic
2690-1001 ♦	1000	2000	0.7	1	100	75	100	Coax
2690-1003 ♦	1000	2000	0.9	3	1000	100	1000	Coax
MADL-011014	1000	2000	0.35	200	320	100	3.5	SMT Hermetic
2690-1005 ♦	2000	8000	1.1	1	100	50	100	Coax
2690-1007 ♦	2000	8000	1.3	3	1000	100	1000	Coax
2690-1013 ♦	2000	18000	2	1	100	50	100	Coax
2690-1014 ♦	2000	18000	2.3	2	500	75	250	Coax
2690-1015 ♦	2000	18000	2.3	3	1000	100	1000	Coax
2690-1009 ♦	8000	18000	1.8	1	100	50	100	Coax
2690-1011 ♦	8000	18000	2.3	3	1000	100	1000	Coax
LM202602-H-A-300	2000	6000	0.85	100	100	63	0.1	Surface Mt
LM202802-Q-B-301	2000	8000	1.1	100	125	126	5	Surface Mt
LM202802-Q-C-301	2000	8000	1.1	100	125	126	5	Surface Mt
LM202802-L-C-300	2000	8000	1	4	100	79	75	Surface Mt

Power Detectors

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Sensitivity (dBm)	Directivity (dB)	Max Power (dBm)	Package
MADT-011000-DIE	5000	44000	—	—	—	15	Die
MACP-010571	2000	6000	0.2	-15	15	30	1.5 x 1.2 mm TDFN-6
MACP-010572	6000	18000	0.25	-18	16	30	1.5 x 1.2 mm TDFN-6
MACP-010573	10000	30000	0.5	-17	14	30	1.5 x 1.2 mm TDFN-7
MADT-011000	5000	44000	—	—	—	15	3 mm QFN

Digital Phase Shifters

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Bit Count	LSB (°)	IIP3 (dBm)	RMS Phase (dBm)	Package
MAPS-010163-DIE	1400	2400	3.8	6-Bit	5.6	40	3	Die
MAPS-010164-DIE	2300	3800	3.6	6-Bit	5.6	45	3	Die
MAPS-010165-DIE	3500	6000	4.9	6-Bit	5.6	40	4	Die
MAPS-011007	1200	1400	3.8	6-Bit	5.6	48	2	4 mm PQFN-24
MAPS-010143	1400	2400	3.2	4-Bit	22.5	40	2	4 mm PQFN-24
MAPS-010163	1400	2400	5	6-Bit	5.6	40	3	4 mm PQFN-24
MAPS-010144	2300	3800	2.5	4-Bit	22.5	47	2.2	4 mm PQFN-24
MAPS-010164	2300	3800	3.2	6-Bit	5.6	45	3	4 mm PQFN-24
MAPS-010145	3500	6000	5	4-Bit	22.5	45	3	4 mm PQFN-24
MAPS-010165	3500	6000	5.5	6-Bit	5.6	40	4	4 mm PQFN-24
MAPS-011008	5000	6000	4	6-Bit	5.6	48	2	4 mm PQFN-24
MAPS-010146	8000	12000	6.5	4-Bit	22.5	40	5	4 mm PQFN-24
MAPS-010166	8000	12000	6.5	6-Bit	5.6	40	5	4 mm PQFN-24

Note: Part numbers are RoHS compliant ♦ indicates non-RoHS compliant

Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.

All specifications are subject to change.

Digital Attenuators

Part Number	Min Freq (MHz)	Max Freq (MHz)	Bit Count	Attenuator Range (dB)	LSB (dB)	Insertion Loss (dB)	IIP3 (dBm)	Package
MAAD-011021-DIE	0	40000	6	31.5	0.5	6	38	Die
MAAD-011038-DIE	80000	100000	3	7	1	5	38	Die
MAAD-008866	50	1000	6	31.5	0.5	1.4	40	4 mm PQFN-24
MAAD-010305	50	1100	1	15	15	0.3	50	SOT-25
MAADSS0009	0	2000	4	30	3	1.6	50	SOIC-16
MAATSS0015	0	2000	4	15	1	2	50	SOIC-16
AT-357-SMA	0	2000	5	31	1	6.5	47	C-46
MAATSS0021	50	2000	5	15.5	0.5	1.5	45	SOIC-16
AT-232-PIN	0	2000	4	30	2	2.5	50	CR-6
AT-283-PIN	5	2000	5	15.5	0.5	2.2	47	CR-12
AT-233-PIN	5	2000	4	30	2	1.9	50	CR-12
AT-273-PIN	5	2000	2	32	16	1.3	48	CR-11
AT-263-PIN	5	2000	5	31	1	2.1	48	CR-12
MAATSS0016	500	2000	4	30	2	2.2	47	TSSOP-16
MAATSS0018	100	2000	1	10	10	0.4	50	SOT-25
MAATSS0022	500	2500	5	15.5	0.5	1.8	46	MSOP-10
MAATSS0017	400	2500	5	15.5	0.5	2	47	QSOP-16
MAAD-009195-000100	50	3000	5	15.5	0.5	5.3	40	CR-12
MAAD-009194-000100	50	3000	5	31	1	5.3	41	CR-12
AT-213-PIN	5	3000	4	15	1	1.6	50	CR-11
MAAD-009260-000100	50	3000	2	32	16	2.7	42	CR-12
MAAD-008790-000100	0	4000	5	31	1	5.5	37	CSP-1
MAAD-009170-000100	50	4000	5	15.5	0.5	5.2	40	CSP-1
MAATSS0019	500	4000	4	15	1	1.3	47	TSSOP-16
MAADCC0006	50	4000	4	15	1	2.5	48	CSP-1
MAAD-000523	700	6000	6	31.5	0.5	1.9	52	4 mm PQFN-24
MAADSS0012	800	8000	1	21	—	0.6	41	2 mm PQFN-8
MAAD-011021	0	30000	6	31.5	0.5	6	38	3 mm PQFN-16
MAAD-011035	100	30000	5	31	1	4.8	42	4 mm PQFN-24
MAAD-011036	100	30000	6	31.5	0.5	4.8	41	4 mm PQFN-24

CMOS Switch Drivers

Part Number	Type	Rise Time/Fall Time (ns)	Vcc (V)	Vee (-V)	Icc (mA)	Package
MADR-009151-000DIE	Single	300	5	-5	1	Die
MADR-010269-DIE	Hex FET	8/4.5	3.3	-5	1	Die
MADR-009150	PIN	30	3.3	—	.05	3 mm PQFN-16
MADR-011007	FET	6	—	-5	—	6 mm PQFN-48
MADR-009269-000100	Single, PIN	300	5	5	1	SOIC-8
MADR-009190-000100	Quad	300	5	-5	1	SOIC-16
MADR-009443-000100	Quad	500	5	-5	20	4 mm PQFN-20
MADR-008888-000100	PIN	250	5	28	51	LGA-23
MADR-008851-000100	PIN	320	5	28	1	LGA-23
MADRCC0005	Single	25	5	-5	1	SO-8
MADRCC0004	Quad	25	5	-5	—	SO-16
MADR-007097-000100	Single	2	5	-5	1	SOIC-8
MADRCC0006	Single	500	5	-5	—	SO-8
MADRCC0007	Quad	500	5	-5	—	SOIC16
SMLG1	PIN	30000	15	15	—	SMT

CMOS Switch Drivers

Part Number	Type	Rise Time/Fall Time (ns)	Vcc (V)	Vee (-V)	Icc (mA)	Package
MADRCC0002 ♦	Dual	5000	20	—	—	CSP-9
MADR-010574	PIN	2	3	—	170	7 mm PQFN-16
MADR-007098-000100	PIN	—	5	—	1	SOW-16
MADR-007131-000100	Dual Linearizer	—	5	—	1	CSP-9
MADR-010410	TR Module	6	3	3	—	5 mm PQFN-40

Voltage Variable Attenuators

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Attenuator Range (dB)	Input IP3 (dBm)	Voltage (Volts)	Current (mA)	Package
MAATCC0013	824	960	—	25	—	—	—	SOT-25
MAAV-007088-000100	50	1000	2.8	42	34	—	—	SOW-16
MA4VAT900-1277T	800	1000	1	24	40	—	—	3 mm PQFN-16
MA4VAT904-1061T	800	1000	1	24	49	—	—	SOIC-8
MA4VAT907-1061T	800	1000	1	24	49	—	—	SOIC-8
MAAV-007092-000100	800	1000	3.6	34	40	—	30	6 mm PQFN-28
MAAV-008022	500	2000	2.7	40	32	+5	0.05	SOIC-8
MAAV-007941	0	2000	3.2	12	36	-4	0.02	SOIC-8
SMG2	5	2000	—	23	—	—	—	SMT
MAAM-007987-000CG2	5	2000	—	23	—	—	—	SMA
MA4VAT2004-1061T	1700	2000	1.4	24	49	—	—	SOIC-8
MAAVSS0008	500	2000	2.8	30	28	+5	0.3	SOIC-8
MA4VAT2007-1061T	1700	2000	1.4	23	52	—	—	SOIC-8
CG30	100	2000	—	44	—	—	—	SMA
G2	5	2000	2.6	28	—	+5	15	TO-8
SMG1	5	2000	—	30	—	—	—	SMT-8
SMG30	100	2000	—	44	—	—	—	SMT-8
G1*	5	2000	2.5	25	—	+15	15	TO-8, SMT, SMA
G30	100	2000	—	44	—	—	—	TO-8
MAAV-007090-000100	1700	2000	3.5	35	31	—	—	SOW-16
MA4VAT2000-1277T	1700	2200	1.2	24	21	—	—	3 mm PQFN-16
MAAVSS0001	1800	2500	2.4	42	32	+2.25	0.05	SOT-25
MAAVSS0006	0	2500	3.6	25	36	-3	0.025	SOT-25
MADP-007167-12250T	5	3000	2.8	36	50	—	—	SOT-25
MA4P7455-1225T	10	4000	1	29	43	—	—	SOT-25
CG40	500	4000	—	32	—	—	—	SMA
SMG40	500	4000	—	25	—	—	—	SMT
G40	500	4000	2.5	32	—	+15	12	TO-8
MAAV-011013	5000	45000	1.5	30	42	—	—	3 mm PQFN-16
MAAT-010521	5000	45000	2	40	30	-2	—	3 mm PQFN-16
MAAT-010521-L2	5800	12000	2	30	29	—	—	3 mm PQFN-16
MAAT-010521-L1	5800	16000	2	30	29	—	—	3 mm PQFN-16
MAAT-010521-H1	17600	40000	2	30	29	—	—	3 mm PQFN-16
MAAV-011014	80000	100000	3	25	40	—	—	Die
LG1**	—	—	—	—	—	—	—	TO-8
CLG1	—	—	—	—	—	—	—	SMA

6 **LG1 Linearizer is compatible with the G1 Attenuator. Yields linear attenuation (dB) for linear control voltage. Available in TO-8, SMT, SMA

Switches

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
SPST						
MASW-001150-1316	45	2500	0.3	65	40	Die
MASW6020G	100	6000	0.9	45	46	Die
MA4SW110	50	26500	0.6	48	40	HMIC Die
MA4AGSW1A	50	50000	1.2	48	—	Die
MA4AGSW1	50	50000	0.2	43	—	Die
MASW-008177	5	1000	0.6	53	52	3 mm PQFN-12
MASWSS0162	50	2500	1	48	46	SOIC-8
SW-209-PIN	0	3000	1.5	27	40	CR-2,CR10
SW05-0311	0	3000		40	46	CR-9
MASWSS0148	300	4000	1.6	51	49	3 mm PQFN-12
SW-231-PIN	5	4000	2	22	46	FP-16
SPDT						
MASW2000	0	3000	0.4	45	53	Die
MASW4030G	50	4000	0.6	53	46	Die
MASW-008206-000DIE	2400	5800	0.7	30	54	Die
MASW6010G	200	6000	0.6	45	46	Die
MASW6010	0	6000	0.5	52	46	Die
MASW-010647	8000	10500	0.8	37	60	Die
MASW-011021	6000	14000	0.7	34	60	SURMOUNT™ Die
MASW-002102-13580	2	18000	1.8	55	40	Die
MASW-011108-DIE	6000	18000	0.6	44	—	Die
MASW20000	50	20000	1.4	58	43	Die
MASW-002103-1363	50	20000	0.8	38	40	SURMOUNT™ Die
MA4SW210B-1	2000	26000	1.2	48	40	Die
MASW-011052	2000	26000	0.8	50	43	Die
MASW-011107-DIE	DC	26500	1.3	46	45	Die
MA4SW210	50	26500	0.6	52	40	HMIC Die
MASW-002100-1191	50	26500	0.3	65	40	Die
MASW-011128-DIE	50	26500	1.7	50	42	Die
MASW-011144-DIE	20000	40000	65	30	—	Die
MASW-011068 • Reflective	20000	40000	0.7	28	55	Die
MASW-010646	26000	40000	0.6	39	60	Die
MASW-011036	26000	40000	0.7	40	60	Die
MA4AGSW2	50	50000	0.6	46	—	Die
MASW-011111	80000	100000	0.8	25	—	Die
MASWSS0103	5	1000	0.8	71	47	4 mm PQFN-20
MA8334-004	20	1000	0.4	25	—	844-004
MA8334-001	20	1000	0.4	25	80	844-001
MASWSS0161	500	2000	0.6	30	55	SOIC-8
MASWSS0179	50	2000	0.5	28	52	SOT-26
MASWSS0201	0	2500	1	45	44	3 mm PQFN-12
MASWSS0180	50	2500	0.7	38	46	SOIC-8
MASWSS0157	50	2500	0.7	35	45	SOIC-8
MASW-007221	500	3000	0.4	22	52	SC-70 (SOT-363)
MASW-008899	500	3000	0.3	24	48	SC-70 (SOT-363)
MASW-007075-000100	0	3000	1.8	36	46	SOW-24
MASWSS0166	900	3000	0.4	21	55	SC-70 (SOT-363)
MASWSS0151	0	3000	0.6	32	55	SC-70 (SOT-363)

• Not yet released

Switches (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
SPDT (continued)						
MASW-007072-000100	0	3000	0.6	30	46	SOIC-16
MASW-007935	0	3000	0.7	34	50	SOT-26
MASWSS0192	50	3000	0.2	24	53	SC-70 (SOT-363)
MASWSS0143	100	3000	0.4	18	58	SOT-26
MASWSS0204	300	3000	0.3	22	56	SC-70 (SOT-363)
SW-313-PIN	50	3000	0.8	52	46	CR-9
MASWSS0181	300	3000	0.5	23	57	SOT-26
MASWSS0136	0	3000	0.4	27	48	SC-70 (SOT-363)
MASWSS0176	50	3000	0.3	23	45	SOT-26
MASWSS0178	10	3000	0.6	57	43	MSOP-8
MASWSS0169	100	3000	0.7	48	50	MSOP-10
MASWSS0167	500	3000	0.4	28	48	1.2 x 1.5 mm PQFN-6
MASWSS0115	50	3000	0.3	24	46	SC-70 (SOT-363)
MASWSS0121	500	3000	0.7	54	46	4 mm PQFN-16
MASW-009101	5	3000	1	65	39	3 mm PQFN-16
MASW-008801	5	3000	0.8	85	47	3 mm PQFN-16
SW-228-PIN	0	4000	0.7	42	46	CR-2
MASW-007071-000100	0	4000	1.8	30	46	4 x 6 mm PQFN
SW-226-PIN	0	4000	1	48	46	CR-2
MASW-000932	10	4000	53	43	72	4 mm PQFN-16
MASW-008543	10	4000	0.7	58	53	MSOP-8
MASW-009588	500	4000	0.4	26	55	1 mm PDFN-6
MASW-010370	1500	4000	0.5	37	—	3 mm PQFN-16
MASW-008853	0	5000	0.2	25	56	SC-70 (SOT-363)
MASW-011043	0	6000	0.6	30	—	2 mm STQFN-12
MASW-011120	30	6000	0.25	44	68	5 mm HQFN-20
MASW-000834-13560T	50	6000	0.2	53	65	4 mm PQFN-16
MASW-000825-12770T	50	6000	0.3	35	64	3 mm PQFN-16
MASW-007588	1000	6000	0.9	28	55	3 mm PQFN-12
MASW-000822-12770T	50	6000	0.2	32	60	3 mm PQFN-16
MASWSS0202	1000	6000	0.6	29	52	3 mm PQFN-12
MASWSS0093	50	6000	0.8	28	55	3 mm PQFN-12
MASW-009444	200	6000	0	28	54	1 mm PDFN-6
MASW-000936	50	6000	0.2	45	72	4 mm PQFN
MASW-007921	50	7000	0.7	30	58	2 mm PDFN-8
MASW-007107	0	8000	0.5	30	54	2 mm PQFN-8
MASW-011071	8000	10500	1	38	60	7 mm PQFN-44
MASW-008322	500	20000	1	45	48	4 mm PQFN-24
MASW-011057 • Reflective	13000	20000	0.8	42	55	4 mm QFN-20
MASW-011102	0	30000	1.8	40	45	3 mm PQFN-14
MASW-011105	17700	31000	1.6	30	43	3 mm PQFN-14
MASW-011098	26000	40000	1.17	38	—	5 mm 20-LD laminate
SP3T						
MASW-011053	2000	18000	0.8	50	48	Die
MASW-003102-13590	2000	18000	0.8	50	40	Die
MASW-003103-1364	50	20000	0.8	40	40	SURMOUNT™ Die
MA4SW310B-1	2000	26000	1.2	47	40	Die
MA4SW310	50	26500	0.8	48	40	Die
MASW-003100-1192	50	26500	0.3	65	40	Die

• Not yet released

Switches (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
SP3T (continued)						
MA4AGSW3	50	50000	0.6	48	—	Die
MASW-011029	75000	100000	1.3	33	—	Die
MASW-011074 • Asymmetrical	100	1000	0.45	57	60	12 mm WHQFN-28
MASW-011041	50	1500	0.3	51	73	9 mm HQFN-20
MASWSS0200	500	2500	0.6	24	61	3 mm PQFN-12
MASWSS0199	0	2500	0.5	30	58	3 mm PQFN-12
MASW-011030	50	2500	0.4	27	77	7 mm HQFN-16
MASW-007074-000100	0	3000	2	32	45	SOW-24
MASWSS0144	500	3000	0.6	24	55	3 mm PQFN-12
MASW-008955	0	3000	0.5	22	54	2 mm PDFN-8
MASW-008330	500	3000	0.3	24	50	2 mm PQFN-8
MASWSS0191	500	3000	0.6	30	58	2 mm VTDFN-8
MASW-010612	0	3500	0.6	21	54	1.5 mm PDFN-8
MASW-009482	50	4000	0.7	23	65	2 mm STQFN-12
SP4T						
MA4AGSW4	50	50000	0.8	42	40	Die
MA4SW410B-1	2000	18000	0.8	48	40	Die
MA4SW410	50	26500	0.7	48	40	Die
MASW4060G	0	4000	1.3	50	46	Die
MASW-004102-12760	2	18000	1.5	50	40	Die
MASW-004103-1365	50	20000	0.8	50	63	SURMOUNT™ Die
MASW-004100-1193	50	26500	0.3	65	40	Die
MASW-004240-13170	10	24000	2.5	50	—	Die
MASW-011087	27000	30000	0.85	50	55	Die
MASW-011075 • Asymmetrical	100	1000	0.45	57	60	12 mm WHQFN-28
MASW-011040	50	1500	0.3	51	73	9 mm HQFN-20
MASWCC0010	0	4000	2.3	38	40	CSP-2
MASWCC0009	3	3000	1.4	42	46	QSOP24
MASW-007813-000000	500	3000	0.8	27	58	3 mm PQFN-16
MASW-008566	50	3000	0.7	26	57	4 mm PQFN-16
SP5T						
MA4SW510B-1	2000	18000	0.9	40	40	Die
MASW-005102-13600	2000	18000	0.9	40	40	Die
MA4SW510	50	26500	0.9	38	40	Die
MASW-005100-1194	50	26500	0.9	38	40	Die
MASW-006102-13610	50	26500	0.3	65	40	Die
MA4AGSW5	50	50000	1.1	47	40	Die
MASW-010351	10	4000	1.4	57	50	4 mm PQFN-24
SP6T						
MA4SW610B-1	2000	18000	1.3	45	40	Die
MASW-006102-13610	50	26500	1.3	45	40	Die
MASWCC0006	0	4000	2.1	25	40	CSP-2

• Not yet released

Note: Part numbers are RoHS compliant
 Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
 All specifications are subject to change.

Switches (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
SP8T						
MASWAGSW8-1	50	50000	1.5	37	40	Die
DPDT						
MASW2040	0	2000	0.4	20	46	Die
MASW6030G	0	6000	0.6	40	45	Die
MASWSS0184	200	4000	0.7	35	58	3 mm PQFN-12LD
MASW-007587-000000	200	4000	0.7	38	59	3 mm PQFN-12LD
MASWSS0190	2000	6000	0.8	43	50	2 mm UTQFN-8LD
MASWSS0130	500	3000	0.7	27	55	3 mm PQFN-12LD
MASW-009460	500	3000	0.6	19	52	3 mm PQFN-12LD

Phase Detectors

Part Number	SRD VBR Min (V)	SRD CJ Typ (pF)	SRD TL Typ (ns)	SRD TT Max (ps)	Cap CT Typ (pF)	SD CJ Typ (pF)	SD VF Typ	SD RD Typ (mV)	FMW Typ (GHz)	Package
MSPD1000-E50/E50SM	15	1	35	95	20	0.4	270	7	0.5	E50 / E50SM
MSPD1000-H50	15	1	35	95	20	0.4	270	7	0.5	H50
MSPD1002-E50/E50SM	15	0.5	20	70	3.5	0.22	270	8	2	E50 / E50SM
MSPD1011-122/121	15	22	10	100	0.5	0.08	300	20	20	CS122 / CS121
MSPD1012-121	15	22	10	100	0.5	0.08	450	20	20	CS121
MSPD1012-122	15	22	10	100	0.5	0.08	450	20	20	CS122
MSPD1012-E50/E50SM	15	0.5	10	70	2.5	0.18	270	9	12	E50 / E50SM
MSPD1012-H50	15	0.5	10	70	2.5	0.18	270	9	12	H50
MSPD1013-121	15	22	10	100	0.5	0.08	550	20	20	CS121
MSPD1013-122	15	22	10	100	0.5	0.08	550	20	20	CS122
MSPD2018-E50/E50SM	15	0.35	5	55	0.6	0.1	430	16	22	E50 / E50SM
MSPD2018-H50	15	0.35	5	55	0.6	0.1	430	16	22	H50

MACOM Frequency Conversion Products

Offering a broad range of frequency and performance specifications

MACOM's frequency conversion products include hybrid mixers, mixers, receivers, transceivers, up converters, and frequency multipliers. Our frequency conversion devices are ideal for point-to-point radio, aerospace and defense, and other broadband communications applications. Available as surface mount devices, our reliable products enable easy assembly and integration for real estate constrained customers.



Frequency Multipliers

- > Combining an active doubler with an output buffer amplifier to deliver constant power over a range of input powers
- > Available as bare die or in surface mount lead-free QFN packages

Hybrid Mixers

- > For aerospace and defense, wireless, test and measurement, and broadband communications applications
- > Available in subsets of the frequency range:
 - RF and LO: 50 kHz to 24 GHz
 - IF: DC to 8 GHz
- > Double and triple balanced designs
- > Variety of technologies
 - GaAs pHEMT
 - Si HMIC™
- > Connectorized, flat pack, drop-in, and surface mount packages

Receivers

- > Widely used in point-to-point radio, aerospace and defense, and broadband communications applications
- > Features an integrated LNA, mixer and LO buffer amplifier on a single chip
- > 4500 to 45000 MHz frequency range
- > Excellent noise figure and conversion gain performance
- > Lead-free QFN or SMD packages

Transceivers

- > Monolithic and stereo doppler transceivers for directional motion detection
- > Used in automatic door openers, ground speed recorders and police radar detectors

Up Converters

- > Applications include point-to-point radio and broadband communications
- > Featuring an integrated image reject (balanced) mixer, LO buffer, RF buffer, and LO doubler or variable attenuator on a single chip
- > 5600 to 40000 MHz frequency range
- > Lead-free QFN or SMD packages
- > Excellent variable gain control with adjustable bias, high linearity and image rejection, with low LO leakage

Mixers

- > Constructed using broadband ferrite balun transformers and matched silicon Schottky diodes
- > Ideal for use in CATV head end systems and up converter applications



Frequency Multipliers

Part Number	Min Freq RF (MHz)	Max Freq RF (MHz)	Min Output (MHz)	Max Output (MHz)	Input power (dB)	Multiply Factor	Conversion Loss (dB)	Package
XX1000-BD	7500	25000	15000	50000	0	2	13	Die
XX1007-BD	13500	17000	27000	34000	8	2	12	Die
FM-105-PIN ♦	10	750	20	1500	24	2	12	RH-3
FM-104-PIN ♦	75	1500	150	3000	24	2	10	FP-3
FM-107-PIN ♦	5	2400	10	4800	10	2	11	FP-2
FMS-109-PIN ♦	5	2400	10	4800	10	2	11	SF-1
SFD25H	5	2400	10	4800	23	2	12	SMT
SFD25	5	2400	10	4800	10	2	11.5	SMT
CSFD25H ♦	10	2400	20	4800	23	2	12	SMT
CSFD25 ♦	10	2400	20	4800	10	2	11.5	SMT
FD25 ♦	5	2400	10	4800	10	2	11.5	TO-8
FD25C ♦	5	2400	10	4800	10	2	11.5	Conn
FD25H ♦	5	2400	10	4800	23	2	12	TO-8
FD25HC ♦	5	2400	10	4800	23	2	12	Conn
FD25E ♦	5	2400	10	4800	10	2	11.5	Flatpack
SFD26	50	3300	100	6600	10	2	13	SMT
FD26C ♦	50	3300	100	6600	110	2	13	Conn
CSFD26 ♦	50	3300	100	6600	10	2	13.5	SMT
FD26	50	3300	100	6600	10	2	13	TO-8
XX1002-QH	2500	6000	5000	12000	3	2	13	4 mm PQFN-24
FDC2310 ♦	1500	8000	3000	16000	10	2	11	Open Carrier
FDC2710 ♦	3500	8000	7000	16000	10	2	11.2	Open Carrier
FD93C ♦	2000	9000	4000	18000	12	2	12	Conn
FD93 ♦	2000	9000	4000	18000	12	2	12	Versapac
FD93H	2000	9000	4000	18000	19	2	12	Versapac
FD93HC ♦	2000	9000	4000	18000	19	2	12	Conn
FDZ5013 ♦	3000	12000	6000	24000	13	2	12	Versapac
FDZ5013C ♦	3000	12000	6000	24000	13	2	12	Conn
MAFC-004403	8000	12000	16000	24000	0	2	17	4 mm QFN
MAFC-010511	8000	12000	16000	24000	0	—	17	3 mm PQFN-16
XX1010-QT	14625	15000	29250	30000	4.5	2	14	3 mm QFN-16
XX1007-QT	13500	17000	27000	34000	8	2	10	3 mm PQFN-16
XX1000-QT	7500	22500	15000	45000	6	2	12	3 mm QFN-16

Note: Part numbers are RoHS compliant ♦ indicates non-RoHS compliant
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Hybrid Mixers

Part Number	Min Freq RF/LO (MHz)	Max Freq RF/LO (MHz)	Min Freq IF (MHz)	Max Freq IF (MHz)	LO Drive (dB)	Conversion Loss/Gain (dB)	Package
MDS-222-PIN ♦	0.2	200	0.2	200	7	7.5	SF-1
MAC-50-PIN ♦	0.2	200	0	200	7	6	TO-5-2
M6D-50 ♦	0.05	200	0	200	7	7	Relay Can
SM6D	0.05	200	0	200	7	7	SMT
MAC-51-PIN ♦	5	500	0	500	7	7	TO-5-2
MD-108-PIN ♦	5	500	0	500	7	9	RH-3
MDS-223-PIN ♦	10	500	10	500	7	7	SF-1
MD-161-PIN ♦	1	500	0	500	13	8	FP-2
SM6V	0.4	500	0	500	7	6.5	SMT
M9BC ♦	0.5	500	0	500	17	7	Relay Can
M1H ♦	180	620	0	200	7	7	SMA Relay can
M6EH ♦	5	750	0	500	20	7.5	Relay Can
SM6EH	5	750	0	500	20	7.5	SMT
SM2E	10	1000	0	600	20	8	SMT
M2EC ♦	10	1000	0	600	20	8	SMA
M2E	10	1000	0	600	20	8	TO-8
MD-148-PIN ♦	10	1500	10	1500	10	6	FP-2
MDS-158-PIN ♦	5	1500	—	—	7	9	SF-1
MD-160-PIN ♦	1	1500	1	1000	13	9	RH-3
MDS-148-PIN	10	1500	10	1500	10	6	SF-1
MD-158-PIN ♦	5	1500	—	1000	7	7	FP-2
MD-149-PIN ♦	10	1500	10	1500	7	7.5	FP-2
MDS-149-PIN ♦	10	1500	10	1500	7	6	SF-1
CSM1-17	10	1500	1	500	17	7.5	SMT
M9HC ♦	10	1500	0	600	20	8	SMA
M4A ♦	10	1500	0	1000	7	7.5	Flatpack
SM4A	10	1500	0	1000	7	7.5	SMT
M2AC ♦	10	1500	0	800	7	7.5	SMA
CSM1-13	10	1500	1	500	13	7.5	SMT
SM4B ♦	10	1500	0	1000	13	7.5	SMT
M2BC ♦	10	1600	0	800	13	7.5	SMA
M2B ♦	10	1600	0	800	13	7.5	TO-8
CSM1-10	10	2000	1	500	10	7.5	SMT
M2TC ♦	10	2400	1	1000	13	8	SMA
SM4G ♦	800	2400	0	1500	7	7.5	SMT
CSM2-10	10	2800	10	2000	10	8.5	SMT
CSM2-17	10	2800	10	2000	17	8.5	SMT
CSM2-13	10	2800	10	2000	13	8.5	SMT
MD-123-PIN ♦	10	3000	10	3000	7	8	FP-2
SM4T17	1	3400	1	2000	17	8	SMT
SM4TH	1	3400	1	2000	23	8	SMT
M8T ♦	1	3400	1	2000	10	7	TO-8
M8TC ♦	1	3400	1	2000	10	7	SMA
M8TH ♦	1	3400	1	2000	23	7.5	TO-8
CSM4T17	1	3400	1	2000	17	8	SMT
CSM4TH	1	3400	1	2000	23	8	SMT
SM4T	1	3400	1	2000	10	8	SMT

Hybrid Mixers (continued)

Part Number	Min Freq RF/LO (MHz)	Max Freq RF/LO (MHz)	Min Freq IF (MHz)	Max Freq IF (MHz)	LO Drive (dB)	Conversion Loss/Gain (dB)	Package
M8THC ♦	1	3400	1	2000	23	7.5	SMA
CSM4T	1	3400	1	2000	10	8	SMT
M4TH ♦	1	3400	1	2000	23	8	Flatpack
MDC-169-SMA ♦	1	3500	1	3500	10	10	C-7
MDS-169-PIN ♦	1	3500	5	1500	10	8	SF-1
MD-189-PIN ♦	1	3500	1	3500	23	8	FP-2
MDS-189-PIN ♦	1	3500	1	3500	23	8	SF-1
MD-169-PIN ♦	1	3500	1	3500	10	10	FP-2
M2GC ♦	800	3500	0	1500	7	8	SMA
M2G	800	3500	0	1500	7	8	TO-8
MDC-179-SMA ♦	1	4000	5	1500	7	10.5	C-7
MD-179-PIN ♦	1	4000	5	1500	7	10.5	FP-2
M8H-3 ♦	3700	4200	0	2000	7	5	TO-8
MC2110 ♦	3400	4700	0	1000	10	6.2	Open Carrier
CSM5TH	50	4800	50	3000	23	7	SMT
CSM5T17	50	4800	50	3000	17	7.8	SMT
CSM5T	50	4800	50	3000	10	7.2	SMT
SM5T17	50	5000	50	3000	17	7.5	SMT
SM5TH	50	5000	50	3000	23	7.7	SMT
SM5T	50	5000	50	3000	10	7.5	SMT
MZ6310C ♦	250	5500	0	1500	10	7	SMA
M63C ♦	2500	5500	0	1500	9	5.5	SMA
M8HC-7 ♦	2400	6000	0	2000	7	6	SMA
M8H-7 ♦	2400	6000	0	2000	7	6	TO-8
MDC-162-SMA ♦	1000	7000	10	2000	13	6	C-2
MY63 ♦	2500	7000	0	15000	9	5.8	Versapac
MY63C ♦	2500	7000	0	15000	9	5.8	SMA
M63H ♦	2500	7500	0	1500	20	6	Minpac
MY63H ♦	2500	7500	0	1500	20	6	Versapac
MY63HC ♦	2500	7500	0	1500	20	6	SMA
M63HC ♦	2500	7500	0	1500	20	6	SMA
MC2310 ♦	2200	8000	0	2000	10	7	Open Carrier
MC2320 ♦	2200	8000	0	2000	13	7	Open Carrier
MC2307 ♦	2200	8000	0	2000	7	7	Open Carrier
MY76H ♦	4500	8500	0	2000	20	7	Versapac
MY76HC ♦	4500	8500	0	2000	20	7	SMA
M76H ♦	4500	8500	0	2000	20	7	Minpac
MY76C ♦	4500	9500	0	2000	10	6	SMA
M76 ♦	4500	9500	0	2000	10	6	Minpac
M76C ♦	4500	9500	0	2000	10	6	SMA
MY76 ♦	4500	9500	0	2000	10	6	Versapac
MC4113 ♦	2000	10000	0	2000	13	7.5	Open Carrier
MC4120 ♦	2000	10000	0	2000	20	7.5	Open Carrier
MC4107 ♦	2000	10000	0	2000	7	7.5	Open Carrier
MY84 ♦	1800	10000	0	1000	9	6.5	Versapac

Hybrid Mixers (continued)

Part Number	Min Freq RF/LO (MHz)	Max Freq RF/LO (MHz)	Min Freq IF (MHz)	Max Freq IF (MHz)	LO Drive (dB)	Conversion Loss/Gain (dB)	Package
MY84C ♦	1800	10000	0	1000	9	6.5	SMA
MY77 ♦	8000	12500	0	2500	10	5.5	Versapac
M77C ♦	8000	12500	0	2500	10	5.5	SMA
MY77C ♦	8000	12500	0	2500	10	5.5	SMA
M14A ♦	6000	14000	0	2000	7	6.5	SMA
MC2710 ♦	10000	15000	0	2000	10	6	Open Carrier
MC2707 ♦	10000	15000	0	2000	7	7	Open Carrier
M67C ♦	9000	15000	0	2500	10	6.5	SMA
MC2720 ♦	10000	15000	0	2000	20	6	Open Carrier
MC3013 ♦	20000	16000	1000	8000	13	8	Open Carrier
MY85C ♦	2000	18000	0	1000	7	8	SMA
MZ7407C ♦	6000	18000	0	3000	7	6.5	SMA
M88H ♦	2000	18000	2000	8000	21	8	Minpac
MZ8810C ♦	2000	18000	1000	8000	10	7.5	SMA
M85 ♦	2000	18000	0	1000	7	8	Minpac
MZ8813 ♦	2000	18000	1000	8000	13	7	Versapac
MY83H ♦	2	18000	30	5000	20	8.5	Versapac
MZ7407 ♦	6000	18000	0	3000	7	6.5	Versapac
M83	1000	18000	30	5000	13	7.5	Minpac
M74 ♦	7000	18000	0	3000	10	6.5	Minpac
MY88HC ♦	1000	18000	1000	8000	21	8	SMA
M93C ♦	2000	18000	30	4000	10	8	SMA
MZ7410 ♦	6000	18000	0	3000	10	6.5	Versapac
MY88C ♦	2000	18000	1000	8000	13	8	SMA
M83C ♦	1000	18000	30	5000	13	7.5	SMA
M89C ♦	1000	18000	1000	8000	10	8	SMA
M79HC ♦	5000	18000	0	3000	20	7.5	SMA
M79H ♦	5000	18000	0	3000	20	7.5	Minpac
MY93C ♦	2000	18000	30	4000	10	8	SMA
MY93 ♦	2000	18000	30	4000	10	8	Versapac
MY89 ♦	2000	18000	2000	8000	10	8	Versapac
M85C ♦	2000	18000	0	1000	7	8	SMA
M88HC ♦	2000	18000	2000	8000	21	8	SMA
MY88	2000	18000	1000	8000	13	8	Versapac
MY89C ♦	2000	18000	2000	8000	10	8	SMA
MZ9310 ♦	2000	18000	30	5000	10	7.5	Versapac
MZ7420C ♦	6000	18000	0	3000	20	7.5	SMA
M79C ♦	5000	18000	0	3000	10	7	SMA
MZ7410C ♦	6000	18000	0	3000	10	6.5	SMA
M88C ♦	2000	18000	1000	8000	13	8	SMA
MY83HC ♦	2	18000	30	5000	20	8.5	SMA
M86C ♦	3500	18000	0	3000	7	7	SMA
MY82 ♦	2000	18000	30	5000	13	7.5	Versapac
M80C ♦	4000	18000	0	3000	7	6.5	SMA
MZ9310 ♦	2000	18000	30	5000	10	7.5	SMA
MY82C ♦	2000	18000	30	5000	13	7.5	SMA

Note: Part numbers are RoHS compliant ♦ indicates non-RoHS compliant
 Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
 All specifications are subject to change.

Hybrid Mixers (continued)

Part Number	Min Freq RF/LO (MHz)	Max Freq RF/LO (MHz)	Min Freq IF (MHz)	Max Freq IF (MHz)	LO Drive (dB)	Conversion Loss/Gain (dB)	Package
M74C ♦	7000	18000	0	3000	10	6.5	SMA
MY85 ♦	2000	18000	0	1000	7	8	Versapac
M50A ♦	2000	18000	2000	18000	10	8	Minpac
MZ7420 ♦	6000	18000	0	3000	20	7.5	Versapac
MZ9313 ♦	2000	18000	30	5000	13	7	Versapac
MZ9313C ♦	2000	18000	30	5000	13	7	SMA
M87C ♦	500	19000	30	5000	13	9	SMA
MY87 ♦	500	19000	30	5000	13	10.5	Versapac
MY87C ♦	500	19000	30	5000	13	10.5	SMA
MC4507 ♦	4000	20000	0	4000	7	7.5	Open Carrier
MC4513 ♦	4000	20000	0	4000	13	7.5	Open Carrier
MC4510 ♦	4000	20000	0	4000	10	7.5	Open Carrier
MY52 ♦	2000	24000	100	5000	10	8	Versapac
MY51 ♦	2000	24000	1000	15000	10	8	Versapac
MY51C ♦	2000	24000	1000	15000	10	8	SMA
MY52C ♦	2000	24000	100	5000	10	8	SMA
M52C ♦	2000	24000	100	5000	10	8	SMA
M51C ♦	2000	24000	1000	15000	10	8	SMA
MY50AC ♦	2000	26000	1000	12000	10	8	SMA
MY50 ♦	2000	26000	1000	15000	10	8	Versapac
MZ5010C ♦	2000	26000	1	15000	10	8.5	SMA
MY50A ♦	2000	26000	1000	12000	10	8	Versapac
M53C ♦	2000	26000	100	6000	10	8	SMA
M50C ♦	2000	26000	1000	15000	10	8	SMA
MZ5010 ♦	2000	26000	1	15000	10	8.5	Versapac
MY50C ♦	2000	26000	1000	15000	10	8	SMA

Receivers/Down Converters

Part Number	Min Freq (MHz)	Max Freq (MHz)	Conversion Gain (dB)	Noise Figure (dBm)	Image Rejection (dBm)	LO Input Power (dBm)	Package
XR1011-QH	45000	10500	13	1.8	20	5	4 mm QFN-24
XR1015-QH	10000	16000	12	2.5	20	5	4 mm QFN-24
XR1019-QH	27500	33400	13	2.5	20	4	4 mm QFN-24
XR1020	32000	36000	14	3	20	4	4 mm QFN-24
XR1008-QB	37000	40000	9	3.5	18	2	7 mm SMT
MADC-011010	37400	40000	13	3.8	25	4	4 mm QFN-24
MADC-010736	40500	43500	12	3.5	20	2	6 mm SMD-13
MADC-011021	71000	86000	12	5	-20	-5	8 mm SMT

Transceivers

Part Number	Description	Op Freq (GHz)	Output Power (mW)	Op Current (mA)	IF Bandwidth	Package
MACS-007801-0MIR10	Mono Transceiver	24.125 +/-25 MHz	8	175	10 Hz to 1 kHz	Die Cast Waveguide
MACS-007802-0MIR10	Stereo Transceiver	24.125 +/-25 MHz	8	175	10 Hz to 1 kHz	Die Cast Waveguide
MACS-007801-0MIRMO	Mono Transceiver	24.125 +/-25 MHz	5	90	10 Hz to 1 kHz	Die Cast Waveguide
MACS-007802-0MIRSO	Stereo Transceiver	24.125 +/-25 MHz	5	90	10 Hz to 1 kHz	Die Cast Waveguide
MACS-007800-0MIR00	Local Oscillator	24.150 +/-25 MHz	5	90	—	Die Cast Waveguide

Up Converters

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dBm)	OIP3 (dBm)	Package
MAUC-010506	Up Converter	17680	23620	14	35	4 mm PQFN-24
MAUC-011003	Up Converter	27500	33400	12	32	4 mm PQFN-24
XU1019-QH	Up Converter	37000	40000	7	27	4 mm PQFN-24
MAMF-011142	Up Converter	71000	86000	30	—	SMT

Mixers

Part Number	Min Freq RF/LO (MHz)	Max Freq RF/LO (MHz)	Min Freq IF (MHz)	Max Freq IF (MHz)	Conversion Loss/Gain (dBm)	LO Drive (dBm)	Package
MAMX-011044-DIE	2500	9000	0	3500	7.5	23	Bare Die
MAMX-0011040-DIE	8000	26000	0	4000	8	—	Bare Die
XM1001-BD	12000	40000	0	4000	8	—	Die
XM1003-BD	32000	42000	0	4000	12	—	Die
MAMX-011036-DIE	8000	43000	0	10000	8	15	Die
MAMX-011043-DIE	15000	45000	0	10000	9	16	Bare Die
MAMX-011037-DIE	18000	46000	0	20000	6.5	—	Die
XM1002-BD	34000	46000	0	4000	9	—	Die
MA4EXP950H1-1277T	850	1050	0	200	8.3	15	3 mm MLP
MAMX-090950-1277LT	850	1050	0	400	8.2	7	3 mm MLP
MA4EX950L1-1225T	700	1200	0	400	8	5	SOT-25
MA4EX950H1-1225T	700	1200	0	400	6.6	15	SOT-25
MAMX-000900-1061LT	700	1400	0	400	6.7	7	SOIC-8
MAMXSS0013	1400	2100	0	500	8	5	SOT-25
MA4EX240L1-1225T	1700	2500	0	400	7	5	SOT-25
MA4EXP240L-1277T	2300	2800	0	200	8.3	5	3 mm MLP
MA4EX600L1-1225T	4200	6000	0	2000	5.8	15	SOT-25
MA4EX580L1-1225T	4700	6000	0	1050	7.6	5	SOT-25
MAMX-000600-1225MT	4200	6000	0	2000	6.5	10	SOT-25
MAMX-011044	2500	9000	0	3500	8.5	18	4 mm QFN-24
MAMX-011035	5500	19000	0	6000	6	15	3 mm AQFN-12
MAMX-011067	5000	20000	0	6000	6	15	3 mm PQFN-12
MAMX-011023	5000	25000	4000	2300	9	-2	1.5 x 1.2 mm TDFN-6
MAMX-011040	8000	26000	0	4000	8	14	4 mm AQFN-24
MAMX-011009	14000	32000	0	7000	-10	—	1.5 x 1.2 mm TDFN-6
MAMX-011021	5000	35000	0	4500	8	14	1.5 x 1.2 mm TDFN-6
MAMX-011071	8000	36000	0	10000	9.5	—	3 mm PQFN-12
MAMX-011036	8000	43000	0	10000	8.5	—	3 mm AQFN-12
MAMX-011043	15000	45000	0	15000	9	15	4 mm QFN-24
MAMX-011054	18000	46000	0	20000	6.5	—	3 mm AQFN-12
MAMX-011074	18000	46000	0	20000	7	—	3 mm PQFN-12

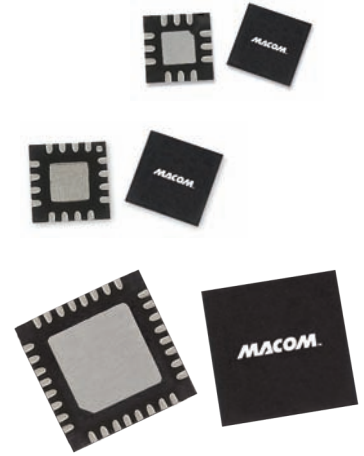
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MACOM Multifunction Modules

Integrating size, weight, power and cost for next generation applications

MACOM's multifunctional modules are designed to provide customers with an affordable, highly integrated unit while delivering reliability and performance.

Applications such as radar and commercial 5G face size constraints and the need for higher frequency necessitates multifunction integration. From MACOM, one can expect an even higher level of integration of RF and microwave chipsets. In the data center and optical transport world, integrated products will provide data conversion and data transport solutions coupled with RF and microwave solutions to provide a very high level of integration that will ultimately drive optimal affordability and reliability.



Core Chips

- > Designed for communication radar and weather applications
- > Ideal for high levels of integration on a single IC
- > Includes "common path" circuit which incorporates a 4-bit digital attenuator, a 6-bit digital phase shifter, and a T/R SPDT switch
- > RoHS compliant

Switch LNAs

- > Multifunction MMIC includes a SPDT switch and LNA with by-pass mode for RDX path
- > Compact surface mount module
- > Ideally suited for base stations and for use on the front end of WLAN 802.11a modules where small size is critical

MoCA Front-end Integrated Circuits

- > Integrated front end GaAsIC for MoCA mid-band RF applications
- > Fully compatible with Entropic Communications chipset
- > Chip includes a power amplifier, T/R switch, power detector, switched attenuators, bias circuits, and digital control circuitry
- > The digital inputs control all circuit operating modes

High Power Switch and Integrated Bias Module

- > High power broadband PIN SPDT switch with 5 V power management chip for 0.7 - 6 GHz TDD-LTE applications
- > Integrated bias controller utilizes a boost circuit
- > Requires only a single 5 V supply
- > Single Tx/Rx control signal is compatible with 1.8 V or 3.3 V logic



Core Chips

Part Number	Min Freq (GHz)	Max Freq (GHz)	Transmit Gain (dB)	Transmit P _{SAT} (dBm)	Receive Gain (dB)	Receive Noise Figure (dBm)	Package
MAMF-011015	8	11	11	23	24	2	7 mm PQFN-16
MAMF-011099*	24	30	22	29	25	3.5	6.5 mm AQFN-40

* In development

Switch LNAs

Part Number	Min Freq (GHz)	Max Freq (GHz)	Rx Gain (dB)	Rx Noise Figure (dB)	Rx OIP3 (dBm)	Tx IPO.1dB CW (dBm)	Bias Voltage (V)	Bias Current (mA)	Package
MAIA-011002	0.4	4	34@2.7 GHz 32@3.5 GHz	1.1@2.7 GHz 1.3@3.5 GHz	36	50	LNA 3 Switch 3/28	Tx: 100 (3 V), 10 (28 V) Rx: 240 (3 V), 0 (28 V)	5 mm HQFN-32
MAIA-011004	0.4	5	34@2.7GHz 32@3.5 GHz	1.1@2.7 GHz 1.3@3.5 GHz	36	50	LNA 3 Switch 3/28	Tx: 100 (3 V), 10 (28 V) Rx: 240 (3 V), 0 (28 V)	5 mm HQFN-32
MAMF-011038	5	6	12	2.2	22	31	3	10	2 mm STQFN-12
MAMF-011069	1.8	3.9	33@2.6 GHz 34@3.5 GHz	1.2@2.6 GHz 1.5@3.5 GHz	32	44	LNA 3 Switch 3/28	LNA: 105; Switch: 20 (per channel)	5 mm PQFN-32
MAMF-011133*	2.3	5	32-34 in HG mode 18-20 in LG mode	1.3@3.5 GHz	34	43	5	Rx: 95 HG; 45 LG Tx: 2 (per channel)	6 mm QFN-40
MAMF-011119	1	6	35@2.5 GHz 33.5@4.5 GHz	1.2@2.5 GHz 1.5@4.5 GHz	31	40.5	5	Tx: 1.4; Rx: 78	6 mm QFN-20
MAMF-011126	1	6	35.2@2.5 GHz 34@3.75 GHz 33.5@4.5 GHz	1.2@2.5 GHz 1.3@3.75 GHz 1.4@4.5	30	—	5	78	6 mm QFN-20
MAMF-011138	2	6	35	1.2	35	—	5	115	6 mm QFN-40

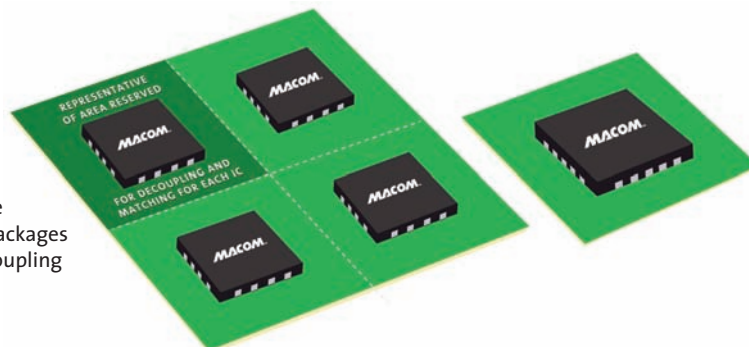
* In development

MoCA Front-end Integrated Circuits

Part Number	Min Freq (MHz)	Max Freq (MHz)	Tx Gain (dB)	Vdd (V)	Package
XZ1003-QT	775	1525	16.8	3.3	3 mm PQFN-16
XZ1004-QT	475	625	17.5	3.3	3 mm PQFN-16

High Power Switch and Integrated Bias Module

Part Number	Min Freq (GHz)	Max Freq (GHz)	Low IL (Tx) (dB)	Low IL (Rx) (dB)	Receive Isolation (dB)	Tx IPO.1dB CW (dBm)	Bias Voltage (V)	Bias Current (Rx) (mA)	Package
MAMF-011070	0.03	6	0.3	0.4	43	51	Single 5 V only	Tx: 140; Rx: 90	5 mm HQFN-20



16 x 16 = 256 mm square
4 ICs in 4 mm x 4 mm packages
2 mm clearance for decoupling

9 x 9 = 81 mm square
(70% reduction in size)
1 multifunction IC in 5 mm x 5 mm package
2 mm clearance for decoupling

MACOM Passive Products

A variety of solutions for A&D and communications

MACOM offers a variety of passive solutions for a wide range of A&D, wireless, and wireline communication applications. Passive components include transformers, capacitors, dividers/combiners, couplers, and filters/diplexers.

Bias Networks

MACOM offers 1800 to 40000 MHz bias networks suitable for DC biasing of PIN diode control circuits.

- > Functions as RF to DC decoupling networks, as well as a DC return
- > Can also be used as bi-directional reactive couplers for Schottky detector circuits in multi-market applications

Couplers

- > Used extensively in a range of A&D, wireless, and wireline communications applications. MACOM offers connectorized and surface mount devices with a broad range of coupling values

Hybrid Couplers

- > Products available in subsets of the 2-3000 MHz frequency range
- > Available as TO-cans, flatpacks, surface mount, and connectorized

Directional Couplers

- > Coupling values of 6 dB to 30 dB
- > Products available in subsets of the 2 MHz to 18 GHz frequency range
- > 75 Ω products available for CATV, DTV, and DBS applications

Power Dividers/Combiners

Used in a range of A&D, wireless, and wireline communications applications.

- > 50 ohm and 75 ohm devices
- > Products available in subsets of 400 kHz to 26 GHz frequency range
- > 2, 3, 4, 5, 6, and 8 channel versions available

Transformers/ Baluns

MACOM offers many standard transformers used for a variety of wireless, wireline, and A&D communications applications.

- > Standard impedance ratios up to 4:1
- > Balanced/unbalanced versions
- > 50 Ω and 75 Ω nominal impedance devices available
- > Surface mount, flat pack and connectorized packages

Filters/Diplexers

MACOM offers a variety of highpass, lowpass, and diplex filter components and assemblies used in common wireless communications standards and CATV, DBS, and DTV applications.

- > 50 Ω and 75 Ω diplexers
- > Multi-chip and MMIC products
- > Low cost surface mount packaging

Capacitors

- > Suitable for DC blocking and RF bias networks in a variety of control and filter circuits
- > Capacitance-temperature coefficient provides <200 ppm/C
- > Insertion loss <0.1 dB at 15 GHz
- > Ideal for chip and wire/ribbon microwave high performance circuits



Bias Networks

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Isolation Loss (dB)	Package
MABT-011000-14230G	200	1800	0.2	35	Die
MABT-011000-14230W	200	1800	0.2	35	Die
MABT-011000-14230P	200	1800	0.2	35	Die
MABT-011000-14235P	200	1800	0.2	35	Die
MA4BN1840-1	18000	40000	0.2	35	Die
MA4BN1840-2	18000	40000	0.2	35	Die

Couplers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Coupling, Nom (dB)	Isolation (dB)	Input Power (dBm)	IL (dB)	Impedance (Ω)	Package
JHS-113-PIN ♦	Quad Hybrid	7	14	3	28	36	—	50	SF-1
JHS-114-PIN ♦	Quad Hybrid	20	40	3	28	37	—	50	SF-1
JH-114-PIN ♦	Quad Hybrid	20	40	3	30	37	—	50	FP-2
JH-133-PIN ♦	Quad Hybrid	20	40	3	28	37	—	50	TO-8-2
JHS-115-PIN ♦	Quad Hybrid	40	80	3	30	30	—	50	SF-1
JH-115-PIN ♦	Quad Hybrid	40	80	3	30	30	—	50	FP-2
MACP-010507-CH0160	Coupler, 17 dB	5	120	17	38	27	0.5	75	Ceramic
JH-119-PIN ♦	Quad Hybrid	80	160	3	33	36	—	50	FP-2
JHS-119-PIN ♦	Quad Hybrid	80	160	3	33	36	—	50	SF-1
HH-106-PIN ♦	Hybrid Junction	2	200	3	30	30	—	50	FP-2
JH-121-PIN ♦	Quad Hybrid	100	200	3	25	36	—	50	FP-2
HHS-109-PIN	Hybrid Junction	5	200	3	40	27	—	50	SF-1
HH-109-PIN ♦	Hybrid Junction	5	200	3	40	27	—	50	FP-2
JHS-121-PIN	Quad Hybrid	100	200	3	25	36	—	50	SF-1
MACP-011047	Coupler, 14 dB	5	300	14	30	27	0.35	75	FR4
JH-136-PIN ♦	Quad Hybrid	175	350	3	28	36	—	50	FP-2
CHS-137-PIN ♦	Bi-Directional	1	400	20	40	35	—	50	SF-1
JHS-142-PIN ♦	Quad Hybrid	200	400	3	30	37	—	50	SF-1
MACP-007984-MDC201	Coupler, 20 dB	350	450	20	38	24	0.3	50	Ceramic
CHS-134-PIN ♦	Bi-Directional	10	500	11	31	30	—	50	SF-1
CH-134-PIN ♦	Bi-Directional	10	500	11	31	30	—	50	FP-2
JHS-139-PIN ♦	Quad Hybrid	250	500	3	30	36	—	50	SF-1
HH-110-PIN ♦	Hybrid Junction	10	500	3	37	30	—	50	FP-2
JH-139-PIN ♦	Quad Hybrid	250	500	3	30	36	—	50	FP-2
HHS-110-PIN	Hybrid Junction	10	500	3	40	30	—	50	SF-1
MACPCC0002	Bi-Directional 17 dB Coupler	960	824	17	32	33	—	50	SOIC-8
MACP-009821-CG0650	Coupler, 16 dB	5	862	16	33	24	1.1	75	FR4
MACP-010382-CF0A40	Coupler, 15 dB	4	862	15	33	24	0.7	75	FR4
MACP-010383-CH0A40	Coupler, 17 dB	4	862	17	35	24	0.6	75	FR4
MACP-010389-CE0880	Coupler, 14 dB	4	862	14	38	24	1	75	FR4
ELDC-10	Coupler 10 dB, 75 Ohm	5	870	10	28	24	—	50	FR4
MACP-009598-C80160	Coupler, 9 dB	5	900	9	26	24	1.9	75	Ceramic
CH-132-BNC ♦	Bi-Directional	1	1000	20	40	—	—	50	C-8-132
2020-6602-20 ♦	Directional Mini Octave	500	1000	20	45	47	—	50	Conn
2020-6600-06 ♦	Directional Mini Octave	500	1000	6	31	47	—	50	Conn
2020-6603-30 ♦	Directional Mini Octave	500	1000	30	55	47	—	50	Conn
2031-6330-00 ♦	Stripline 180 Deg. Hybrid	500	1000	3	25	45	—	50	Conn

Couplers (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Coupling, Nom (dB)	Isolation (dB)	Input Power (dBm)	IL (dB)	Impedance (Ω)	Package
2020-6601-10 ♦	Directional Mini Octave	500	1000	10	35	47	—	50	Conn
CH-140-PIN ♦	Directional	5	1000	20	40	35	—	50	FP-2
MACP-007486-CH0010	Coupler, 17 dB	5	1000	17	38	24	0.6	75	FR4
MACP-007490-CA0010	Coupler, 10.5 dB	5	1000	11	30	24	1.3	75	FR4
MACP-008125-CK07F0	Coupler, 20 dB	5	1000	20	34	24	0.5	75	FR4
MACP-008311-CE0370	Coupler, 14 dB	5	1000	14	39	24	1	75	FR4
MACP-008764-CH0370	Coupler, 17 dB	5	1000	17	39	24	1.3	75	FR4
MACP-009404-C80370	Coupler, 8 dB	5	1000	8	25	24	1.5	75	FR4
MACP-009596-CA0160	Coupler, 10 dB	5	1000	10	30	24	1.3	75	Ceramic
MACP-009736-CD0160	Coupler, 13 dB	5	1000	13	28	24	1.3	75	Ceramic
MACP-009943-CH07F0	Coupler, 17 dB	5	1000	17	37	24	0.6	75	FR4
MACP-009944-CK07F0	Coupler, 20 dB	5	1000	20	30	24	0.5	75	FR4
MACP-010718-CG09E0	Coupler, 17 dB	40	1002	17	35	24	0.6	75	Ceramic
MACP-007727-CI07B0	Coupler, 18 dB	5	1200	18	26	24	1	75	FR4
MACP-007741-CG09E0	Coupler, 17 dB	5	1200	17	32	24	0.8	75	Ceramic
MACP-009011-C80370	Coupler, 8 dB	5	1200	8	25	24	1.8	75	FR4
MACP-009730-C60370	Coupler, 6 dB	5	1200	6	16	24	2.5	75	FR4
MACP-009945-CH0670	Coupler, 18 dB	5	1200	18	33	24	1.3	75	FR4
MACP-010249-CI08A0	Coupler, 18 dB	5	1200	18	32	24	0.6	75	SOT
MACP-010250-C808A0	Coupler, 8 dB	5	1200	9	24	28	1.6	75	SOT
MACP-010414-CA0370	Coupler, 10 dB	5	1200	10	21	24	1.3	75	FR4
MACP-010446-C80370	Coupler, 8 dB	5	1200	8	21	24	1.9	75	FR4
MACP-011029	Coupler, 17.5 dB	5	1218	17.5	30	27	0.6	75	FR4
MACP-011010	Coupler, 12 dB	5	1225	12	20	24	1.6	75	FR4
MACP-011014	Coupler, 17.5 dB	5	1225	17	36	27	0.65	75	FR4
MACP-011032	Coupler, 7 dB	5	1225	7	17	27	1.8	75	FR4
MACP-011033	Coupler, 8 dB	5	1225	8	18	27	1.5	75	FR4
MACP-011035	Coupler, 12 dB	5	1225	12	29	27	1.5	75	FR4
MACP-011036	Coupler, 16 dB	5	1225	16	34	27	1	75	FR4
MACP-011037	Coupler, 10 dB	5	1225	10	24	27	1.5	75	FR4
MACP-011038	Coupler, 16 dB	5	1225	16	33	32	0.9	75	FR4
MACP-011045	Coupler, 23 dB	5	1225	23	39	40	0.6	50	FR4
MACP-011050	Coupler, 9 dB	5	1225	9	42	33	1.6	75	FR4
MACP-011051	Coupler, 7.5 dB	5	1225	7.5	42	33	2	75	FR4
MACP-011054	Coupler, 9 dB	5	1225	9	42	33	1.6	75	FR4
MACP-011055	Coupler, 15.2 dB	5	1225	15.2	37	32	0.9	75	FR4
MACP-011056	Coupler, 16 dB	5	1225	16	43	33	0.7	75	FR4
MACP-011062	Coupler, 12.5 dB	5	1225	12.5	42	33	0.95	75	FR4
MACP-011015	Coupler, 8 dB	40	1250	8	27	24	1.8	75	FR4
MACP-011058	Coupler, 10 dB	5	1250	10	42	33	1.5	75	FR4
MACP-011059	Coupler, 12 dB	5	1250	12	32	33	0.95	75	FR4
MACP-011034	Coupler, 10 dB	5	1255	7	30	27	1.35	75	FR4
MACP-011013	Coupler, 20 dB	5	1500	20	27	27	0.9	75	FR4
2031-6331-00 ♦	Stripline 180 Deg. Hybrid	1000	2000	3	25	45	—	50	Conn
2025-6002-10 ♦	Stripline Directional	500	2000	10	28	47	—	50	Conn
2020-6604-06 ♦	Directional Mini Octave	1000	2000	6	31	47	—	50	Conn
2035-6364-00 ♦	Air Dielectric 90 Deg. Hybrid	1000	2000	3	20	47	—	50	Conn
2032-6344-00 ♦	Stripline 90 Deg. Hybrid	1000	2000	3	22	45	—	50	Conn

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Couplers (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Coupling, Nom (dB)	Isolation (dB)	Input Power (dBm)	IL (dB)	Impedance (Ω)	Package
H-9-N	Hybrid Junction	2	2000	4	40	44	—	50	Conn
2025-6004-20 ♦	Stripline Directional	500	2000	20	42	47	—	50	Conn
2020-6607-30 ♦	Directional Mini Octave	1000	2000	30	55	47	—	50	Conn
JH-141-PIN ♦	High-Freq Quad Hybrid	1000	2000	3	27	44	—	50	FP-2
HH-128-PIN ♦	Hybrid Junction	20	2000	3	35	27	—	50	FP-3
2020-6605-10 ♦	Directional Mini Octave	1000	2000	10	35	47	—	50	Conn
MACPCC0001	Bi-Directional 17 dB Coupler	1700	2000	17	34	33	—	50	SOIC-8
2020-6606-20 ♦	Directional Mini Octave	1000	2000	20	45	47	—	50	Conn
2025-6001-06 ♦	Stripline Directional	500	2000	6	24	47	—	50	Conn
2032-6350-00 ♦	Stripline 90 Deg. Hybrid	500	2000	3	24	45	—	50	Conn
MACP-011068	Coupler, 17.3 dB	5	2000	17.3	26	33	1.1	75	FR4
MACP-010381-C70880	Coupler, 7dB	5	2400	7	21	24	2.5	75	FR4
MACP-011086	Coupler, 14 dB	5	3000	14	25	3	—	50	SMT
H-183-4-N ♦	Hybrid Junction	30	3000	5	20	37	—	50	Conn
MACP-011031	Coupler, 14 dB	5	3250	14	36	27	1.8	75	FR4
MACP-011074	14 dB Couplers	5	3250	14	36	30	1	75	SMT
2032-6345-00 ♦	Stripline 90 Deg. Hybrid	2000	4000	3	22	45	—	50	Conn
2020-6609-10 ♦	Directional Mini Octave	2000	4000	10	32	47	—	50	Conn
2031-6332-00 ♦	Stripline 180 Deg. Hybrid	2000	4000	3	22	45	—	50	Conn
2020-6611-30 ♦	Directional Mini Octave	2000	4000	30	52	47	—	50	Conn
2020-6610-20 ♦	Directional Mini Octave	2000	4000	20	42	47	—	50	Conn
2025-6006-10 ♦	Stripline Directional	1000	4000	10	28	47	—	50	Conn
2025-6008-20 ♦	Stripline Directional	1000	4000	20	42	47	—	50	Conn
2025-6005-06 ♦	Stripline Directional	1000	4000	6	24	47	—	50	Conn
2020-6612-06 ♦	Directional Mini Octave	2600	5200	6	26	47	—	50	Conn
2020-6613-10 ♦	Directional Mini Octave	2600	5200	10	30	47	—	50	Conn
2031-6333-00 ♦	Stripline 180 Deg. Hybrid	2600	5200	3	20	45	—	50	Conn
2020-6614-20 ♦	Directional Mini Octave	2600	5200	20	40	47	—	50	Conn
2035-6366-00 ♦	Air Dielectric 90 Deg. Hybrid	2600	5200	3	18	47	—	50	Conn
2020-6615-30 ♦	Directional Mini Octave	2600	5200	30	50	47	—	50	Conn
2032-6347-00 ♦	Stripline 90 Deg. Hybrid	4000	8000	3	20	45	—	50	Conn
2020-6616-06 ♦	Directional Mini Octave	4000	8000	6	28	47	—	50	Conn
2032-6352-00 ♦	Stripline 90 Deg. Hybrid	2000	8000	3	20	45	—	50	Conn
2031-6334-00 ♦	Stripline 180 Deg. Hybrid	4000	8000	3	20	45	—	50	Conn
2020-6618-20 ♦	Directional Mini Octave	4000	8000	20	40	47	—	50	Conn
2020-6617-10 ♦	Directional Mini Octave	4000	8000	10	30	47	—	50	Conn
2020-6619-30 ♦	Directional Mini Octave	4000	8000	30	50	47	—	50	Conn
2025-6012-20 ♦	Stripline Directional	2000	8400	20	40	47	—	50	Conn
2025-6010-10 ♦	Stripline Directional	2000	8400	10	28	47	—	50	Conn
2025-6009-06 ♦	Stripline Directional	2000	8400	6	24	47	—	50	Conn
2032-6348-00 ♦	Stripline 90 Deg. Hybrid	8000	12400	3	18	45	—	50	Conn
2026-6001-10 ♦	Stripline Directional	1000	12400	10	28	47	—	50	Conn
2020-4018-20 ♦	Directional Mini Octave	7000	12400	20	38	—	—	50	Conn
2025-6016-20 ♦	Stripline Directional	4000	12400	20	35	47	—	50	Conn
2031-6335-00 ♦	Stripline 180 Deg. Hybrid	8000	12400	3	17	45	—	50	Conn
2020-6623-30 ♦	Directional Mini Octave	7000	12400	30	47	47	—	50	Conn
2020-6622-20 ♦	Directional Mini Octave	7000	12400	20	38	47	—	50	Conn
2026-6003-20 ♦	Stripline Directional	1000	12400	20	37	47	—	50	Conn
2025-6014-10 ♦	Stripline Directional	4000	12400	10	25	47	—	50	Conn
2032-6354-00 ♦	Stripline 90 Deg. Hybrid	4000	12400	3	20	47	—	50	Conn
2031-6338-00 ♦	Stripline 180 Deg. Hybrid	4000	12400	3	17	45	—	50	Conn

Couplers (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Coupling, Nom (dB)	Isolation (dB)	Input Power (dBm)	IL (dB)	Impedance (Ω)	Package
2032-6371-00 ♦	Stripline 90 Deg. Hybrid	2000	18000	3	20	47	—	50	Conn
2025-6018-10 ♦	Stripline Directional	6000	18000	10	26	47	—	50	Conn
2025-6017-06 ♦	Stripline Directional	6000	18000	6	21	47	—	50	Conn
2026-6007-10 ♦	Stripline Directional	1000	18000	10	25	47	—	50	Conn
2026-6010-10 ♦	Stripline Directional	500	18000	10	25	47	—	50	Conn
2031-6339-00 ♦	Stripline 180 Deg. Hybrid	7000	18000	3	14	43	—	50	Conn
2032-6375-00 ♦	Stripline 90 Deg. Hybrid	4000	18000	3	18	50	—	50	Conn
2032-6374-00 ♦	Stripline 90 Deg. Hybrid	6500	18000	3	18	45	—	50	Conn
2025-6020-20 ♦	Stripline Directional	6000	18000	20	35	47	—	50	Conn
2026-6012-20 ♦	Stripline Directional	500	18000	20	35	47	—	50	Conn
2026-6009-20 ♦	Stripline Directional	1000	18000	20	37	47	—	50	Conn
2026-6004-10 ♦	Stripline Directional	2000	18000	10	25	47	—	50	Conn
2020-6624-06 ♦	Directional Mini Octave	7000	18000	6	21	47	—	50	Conn
2020-6625-10 ♦	Directional Mini Octave	7000	18000	10	30	47	—	50	Conn
2020-6626-20 ♦	Directional Mini Octave	7000	18000	20	35	47	—	50	Conn
2020-6627-30 ♦	Directional Mini Octave	7000	18000	30	45	47	—	50	Conn
2020-6628-06 ♦	Directional Mini Octave	12400	18000	6	21	47	—	50	Conn
2020-6629-10 ♦	Directional Mini Octave	12400	18000	10	30	47	—	50	Conn
2020-6630-20 ♦	Directional Mini Octave	12400	18000	20	35	47	—	50	Conn
2020-6631-30 ♦	Directional Mini Octave	12400	18000	30	42	47	—	50	Conn
2025-6019-16 ♦	Stripline Directional	6000	18000	16	32	47	—	50	Conn

Power Dividers/Combiners

Part Number	Min Freq (MHz)	Max Freq (MHz)	Channels (#)	Amplitude Balance (dB)	Phase Bal (°)	Isolation (dB)	Max Input Power (dBm)	Impedance (Ω)	Package
M3H-50-PIN ♦	1	100	3	0.2	1	30	30	50	TO-5
MTH-50-PIN ♦	1	100	2	0.1	1	30	30	50	TO-5-1
MAPD-008762-ES0001	120	160	2	1	1	20	30	50	FR4
MAPD-009850-HW1268	112	168	2	1	1	18	30	50	FR4
THV-50-N ♦	2	200	2	0.2	1	30	33	50	Conn
THV-50-TNC ♦	2	200	2	0.2	1	30	33	50	Conn
THV-50-BNC ♦	2	200	2	0.2	1	30	33	50	Conn
THV-50-SMA ♦	2	200	33	0.2	1	30	33	50	Conn
MAPD-008109-C30040	5	200	3	0.1	1	30	30	75	FR4
M3V-50-PIN ♦	50	300	3	0.2	2	25	30	50	TO-5
DS-310-PIN ♦	0	300	4	0.2	4	25	30	50	FP-5
DS-117-PIN ♦	1	300	3	0.3	4	20	30	50	FP-3
DS-308-BNC ♦	1	300	3	0.3	4	20	30	50	C-8
MAPD-011026	5	300	3	0.1	0.6	22	27	75	FR4
TU-50-N ♦	20	400	2	0.2	1	35	33	50	Conn
TU-50-SMA ♦	20	400	2	0.2	1	35	33	50	Conn
DSS-113-PIN ♦	0	400	2	0.2	1	25	30	50	SF-1
DS-113-PIN ♦	0	400	2	0.2	1	25	30	50	FP-2
MTV-50-PIN ♦	40	400	2	0.2	2	30	30	50	TO-5-1
TU-50-BNC ♦	20	400	33	0.2	1	35	33	50	Conn
TU-50-TNC ♦	20	400	2	0.2	1	35	33	50	Conn

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Power Dividers/Combiners (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Channels (#)	Amplitude Balance (dB)	Phase Bal (°)	Isolation (dB)	Max Input Power (dBm)	Impedance (Ω)	Package
DS-112-PIN ♦	10	500	4	0.2	5	25	30	50	FP-5
DSS-333-PIN ♦	10	500	2	0.2	2	25	30	50	SF-1
DS-318-PIN ♦	5	500	2	0.2	2	18	30	50	RH-1
DS-309-BNC ♦	2	500	8	0.2	2	30	33	50	C-18
DS-319-PIN ♦	10	500	2	0.2	1	25	30	50	TO-8-2
DS-109-PIN ♦	10	500	2	0.2	1	25	30	50	FP-2
DS-312-BNC ♦	10	500	4	0.2	2	25	30	50	C-14
MAPD-007249-ESML21	5	500	2	0.2	1	25	30	50	Ceramic
DS-328-PIN ♦	3	700	3	0.3	3	20	30	50	TO-8-2
MAPD-008072-ESSM26	5	900	2	0.1	0.1	20	30	50	Ceramic
MAPDCC0017	824	960	6	0.2	6	20	30	50	SOW-16
MAPDCC0005	824	960	3	0.6	2	15	30	50	SOIC-8
MAPDCC0009	824	960	4	0.3	3	20	30	50	SOIC-8
MAPDCC0001	824	960	2	0.1	0.5	15	30	50	SOIC-8
MAPDCC0011	824	960	2	0.1	3	13	30	50	SOT-26
MAPDCC0021	824	960	8	0.4	5	20	30	50	SSOP-20
MAPDCC0019	824	960	6	0.5	4	20	30	50	SOIC-16
H-81-4-SMA ♦	5	1000	2	0.5	2.5	25	33	50	Conn
T-1000-TNC ♦	10	1000	2	0.1	1	25	33	50	Conn
H-81-4-N ♦	5	1000	2	0.5	2.5	25	33	50	Conn
T-1000-BNC ♦	10	1000	2	0.1	1	25	33	50	Conn
DSS-327-PIN ♦	5	1000	2	0.3	3	16	30	50	SF-1
T-1000-SMA ♦	10	1000	2	0.1	1	25	33	50	Conn
T-1000-N ♦	10	1000	2	0.1	1	25	33	50	Conn
DS-323-PIN ♦	25	1000	3	0.4	4	24	30	50	FP-3
DS-324-PIN ♦	25	1000	4	0.3	6	20	30	50	FP-5
DS-327-PIN ♦	5	1000	2	0.2	3	20	30	50	FP-2
ELPD-20-1	5	1000	2	0.5	4	22	30	50	SM-139
ESSMJ-2-12-75	5	1000	2	0.5	4	30	30	50	SM-44
MAPD-010362-C20FAO	5	1000	2	0.4	3	19	24	75	FR4
MAPD-010038-C209CO	5	1000	2	0.3	0.3	30	30	75	FR4
MAPD-009918-C209CO	5	1000	2	0.3	0.9	26	30	75	FR4
MAPD-009278-5T1000	5	1000	2	0.2	1	16	24	50	FR4
MAPD-008812-0003HW	5	1000	3	0.2	2	20	24	50	FR4
MAPD-008108-C202CO	5	1000	2	0.1	0.8	18	30	75	Ceramic
MAPD-007246-ES4700	2	1000	4	0.2	5	20	30	50	FR4
MAPDCT0033	5	1000	2	0.4	0	22	30	75	FR4
MAPDCT0030	5	1000	2	0.2	1	20	30	75	SOT
MAPDCT0029	5	1000	2	0.3	1	14	30	75	FR4
MAPDCT0028	5	1000	4	0.3	0.5	20	30	75	FR4
MAPDCT0027	5	1000	2	0.3	1	15	30	75	FR4
MAPD-011020	5	1200	2	0	0.6	19	30	75	FR4
MAPD-010281-C2W024	5	1200	2	0.2	1.3	—	30	75	FR4
MAPD-010047-C2W24M	5	1200	2	0.2	1.3	—	30	75	FR4
MAPD-009492-C2W180	5	1200	2	1.3	1.3	—	17	75	FR4
MAPDCT0032	5	1200	3	0.3	3	20	24	75	FR4
MAPDCT0024	5	1200	2	0.3	2.1	—	14	75	FR4
MAPDCT0017	46	1200	3	0.3	3	20	24	75	SM-4

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Power Dividers/Combiners (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Channels (#)	Amplitude Balance (dB)	Phase Bal (°)	Isolation (dB)	Max Input Power (dBm)	Impedance (Ω)	Package
MAPD-011053	5	1218	2	0.3	3	41	33	75	FR4
MAPD-011050	5	1218	2	0.4	1.5	27	27	75	FR4
MAPD-011039	5	1218	2	0.6	2.5	26	30	75	FR4
MAPD-010274-C209C0	5	1218	2	0.2	0.6	16	30	75	FR4
MAPD-011052	5	1225	2	0.3	0	27	27	75	FR4
MAPD-011051	5	1225	2	0.5	5	27	27	75	FR4
MAPD-011040	5	1225	2	0.3	5	17	30	75	FR4
MAPD-011035	5	1225	2	0.5	5	17	30	75	FR4
MAPD-011032	5	1250	2	0.2	0.4	18	27	75	SOT
DS-331-PIN ♦	750	1500	2	0.2	6	10	30	50	TO-8
MAPD-011027	5	1500	3	0.3	6	18	27	75	FR4
MAPD-011002	5	1600	2	0.3	0.7	26	30	75	FR4
MAPD-010638-C2WSOT	5	1600	2	0.3	1	23	24	75	FR4
MAPDCC0003	1510	1660	2	0.1	1	15	30	50	SOIC-8
MAPDCC0004	1700	1900	2	0.1	2	15	30	50	SOIC-8
MAPDCC0002	1850	1990	2	0.1	1	15	30	50	SOIC-8
MAPDCC0006	1850	1990	3	0.3	7	12	30	50	SOIC-8
MAPDCC0015	1850	1990	5	0.2	6	21	30	50	SOIC-16
2089-6406-00 ♦	500	2000	4	0.4	6	20	36	50	Conn
DS-4-4-BNC ♦	2	2000	4	1	5	30	30	50	Conn
MAPDCC0008	1700	2000	4	0.1	4	18	30	50	SOW-16
H-8-4-SMA ♦	2	2000	2	0.1	2.5	25	33	50	Conn
2089-6206-00 ♦	500	2000	2	0.3	4	20	36	50	Conn
2089-6201-00 ♦	1000	2000	2	0.2	4	20	33	50	Conn
DS-4-4-SMA ♦	2	2000	4	1	5	30	30	50	Conn
2089-6801-00 ♦	1000	2000	8	0.8	8	20	38	50	Conn
2089-6401-00 ♦	1000	2000	4	0.4	6	20	36	50	Conn
DSS-313-PIN ♦	10	2000	2	0.3	4	23	24	50	SF-1
DS-4-4-N ♦	2	2000	4	1	5	30	30	50	Conn
DS-313-PIN ♦	10	2000	2	0.3	4	23	24	50	FP-2
MAPDCC0018	1700	2000	6	0.5	8	18	30	50	SOW-16
DS-409-4BNC ♦	10	2000	4	0.5	5	25	37	50	Conn
DS-808-4BNC ♦	20	2000	8	0.6	5	20	37	50	Conn
DS-409-4SMA ♦	10	2000	4	0.5	5	25	37	50	Conn
DS-808-4SMA ♦	20	2000	8	0.6	5	20	37	50	Conn
DS-808-4N ♦	20	2000	8	5	0.6	20	37	50	Conn
MAPDCC0020	1700	2000	6	1	4	21	30	50	SOIC-16
DS-409-4TNC ♦	10	2000	4	0.5	5	25	37	50	Conn
DS-332-PIN ♦	1000	2000	2	0.2	6	10	30	50	TO-8
DS-808-4TNC ♦	20	2000	8	0.6	5	20	37	50	Conn
2089-6806-00 ♦	500	2000	8	0.8	8	20	41	50	Conn
MAPDCC0014	1700	2000	4	0.8	5	18	30	50	SOIC-16
MAPD-007530-000100	1700	2000	2	0.2	1.5	16	30	50	SOT-26
MAPD-011007	5	2150	2	0.3	1	30	27	75	FR4
MAPD-010424-C20C80	5	2400	2	0.2	5	6	24	75	FR4
MAPDCT0026	5	2400	2	0.8	2	10	30	75	FR4
MAPDCC0010	2200	2500	2	0.1	2	22	30	50	SOT-25
MAPD-008957-CT0012	1	2700	2	0.5	2	12	30	50	FR4

Note: Part numbers are RoHS compliant ♦ indicates non-RoHS compliant

Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.

All specifications are subject to change.

Power Dividers/Combiners (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Channels (#)	Amplitude Balance (dB)	Phase Bal (°)	Isolation (dB)	Max Input Power (dBm)	Impedance (Ω)	Package
2089-6802-00 ♦	2000	4000	8	0.8	10	18	38	50	Conn
2089-6402-00 ♦	2000	4000	36	0.4	6	20	36	50	Conn
2089-6202-00 ♦	2000	4000	2	0.2	4	20	33	50	Conn
2089-6203-00 ♦	4000	8000	2	0.2	6	20	33	50	Conn
2089-6403-00 ♦	4000	8000	4	0.4	8	20	36	50	Conn
2089-6807-00 ♦	2000	8000	8	1.2	16	15	41	50	Conn
2089-6207-00 ♦	2000	8000	2	0.3	8	18	36	50	Conn
2089-6407-00 ♦	2000	8000	4	0.5	12	18	39	50	Conn
2089-6404-00 ♦	8000	12400	4	0.5	8	18	36	50	Conn
2089-6204-00 ♦	8000	12400	2	0.2	6	20	33	50	Conn
2089-6808-00 ♦	2000	18000	8	1.8	24	15	45	50	Conn
2089-6805-00 ♦	12400	18000	8	0.8	24	15	40	50	Conn
2090-6814-00 ♦	1000	18000	8	1.4	16	17	47	50	Conn
2089-6405-00 ♦	12400	18000	4	0.5	8	15	38	50	Conn
2090-6205-00 ♦	2000	18000	2	0.3	5	23	46	50	Conn
2090-6414-00 ♦	1000	18000	4	1	12	18	47	50	Conn
2089-6205-00 ♦	12400	18000	2	0.3	6	17	35	50	Conn
2090-6210-00 ♦	8000	18000	2	0.3	5	18	43	50	Conn
2089-6210-00 ♦	7000	18000	2	0.3	8	17	35	50	Conn
2089-6209-00 ♦	4000	18000	2	0.3	8	17	36	50	Conn
2089-6410-00 ♦	7000	18000	4	0.5	12	15	38	50	Conn
2089-6409-00 ♦	4000	18000	4	0.5	12	15	39	50	Conn
2090-6304-00 ♦	500	18000	3	0.5	—	18	49	50	Conn
2089-6208-00 ♦	2000	18000	2	0.3	8	17	40	50	Conn
2090-6214-00 ♦	1000	18000	2	0.4	5	22	47	50	Conn
2089-6408-00 ♦	2000	18000	4	0.5	12	17	20	50	Conn

Transformers/Baluns

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Impedance Ratio	Insertion Loss (dB)	Impedance (Ω)	Package
MABA-009807-CF4010	Flux Coupled Balun, sealed cover	0	3	1:4	1	50	Ceramic
MABA-011006	Flux Coupled Unun	8	8	1:20	0.9	50	FR4
ETC16-1T-2TR	Flux Coupled Balun	5	40	1:16	1	50	Ceramic
MABA-009412-CF1BC0	Flux Coupled Balun, CT on both sides	1	50	1:1	0.4	75	FR4 8
MABA-010411-CT1160	Transmission Line Balun	30	60	1:1	0.8	75	SOT
MABAES0017	Flux Coupled Balun	5	65	1:2.53	0.8	75	SOT
MABA-011017	Flux Coupled Balun, Step Down	5	85	2:1	0.5	75	SOT
MABA-010181-CF9A40	Flux Coupled Balun	5	90	1:9	1.3	75	FR4
MABA-008282-CFGA40	Flux Coupled Balun	5	90	1:16	1.5	75	FR4
MABA-011073	Flux Coupled Balun	1	100	1:1	0.3	75	SOT
MABA-010655-CF1A40	Flux Coupled Transformer, Ethernet	1	100	1:1	0.3	50	FR4
MABA-010061-CF4FA0	Flux Coupled Balun	5	100	1:4	1.2	75	SOT
MABA-009776-CF28A0	Flux Coupled Unun, Step Down	5	100	2:1	0.4	75	FR4
MABA-009573-CF1A40	Flux Coupled Balun	5	100	1:1.77	0.3	75	FR4
MABA-008124-CF1FA0	Flux Coupled Balun	5	100	1:1	0.7	75	SOT

Transformers / Baluns (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Impedance Ratio	Insertion Loss (dB)	Impedance (Ω)	Package
MABA-008570-ETC414	Flux Coupled Unun	3	110	1:4	0.3	50	Ceramic
MABA-009650-CF1160	Flux Coupled Balun	5	120	1:1	0.4	75	Ceramic
MABA-009005-CF1A40	Flux Coupled Balun	5	120	1:1	0.2	75	FR4
MABA-008965-CF1160	Flux Coupled Balun	5	120	1:1	0.2	75	Ceramic
MABA-011026	Flux Coupled Balun	5	200	1:1	0.5	75	SOT
MABA-011002	Flux Coupled Balun, Step Down	5	200	4:1	1	75	FR4
MABA-010400-CT18A0	Transmission Line Balun, with Tertiary Winding	40	200	1:1	0.4	75	
MABA-009836-CF48A0	Flux Coupled Balun	5	200	1:4	0.5	50	SOT
MABA-009600-CF48A0	Flux Coupled Balun	4	200	1:4	0.7	50	SOT
MABA-009594-CF18A0	Flux Coupled Balun	5	200	1:1	0.4	75	SOT
MABA-009572-CF18A0	Flux Coupled Balun	5	200	1:1	0.5	75	SOT
MABA-009274-TC11T2	Flux Coupled Balun	0	200	1:1	0.5	50	Ceramic
MABA-008482-CF1A40	Flux Coupled Balun	5	200	1:1.78	0.4	75	FR4
MABA-008354	Flux Coupled Balun, Step Down	5	200	4:1	1.1	75	FR4
MABA-008260-CF4A40	Flux Coupled Balun	5	200	1:4	0.8	75	FR4
MABA-007532-CF18A0	Flux Coupled Balun	5	200	1:1	0.4	75	SOT
ETC1-1T-2TR	Flux Coupled Balun	0	200	1:1	0.3	50	Ceramic
MABAES0060	Flux Coupled Balun	0	200	1:1	1	50	Ceramic
MABACT0071	Flux Coupled Balun	3	200	1:1	0.5	75	FR4
MABACT0068	Flux Coupled Balun	5	200	1:2	0.4	75	FR4
MABACT0062	Flux Coupled Balun	3	200	1:1	0.5	75	Ceramic
MABACT0048	Flux Coupled Balun	5	200	1:2	0.4	75	FR4
MABACT0018	Flux Coupled Balun	5	200	1:4	0.7	50	SOT
MABACT0012	Flux Coupled Balun	3	200	1:1	0.8	75	Ceramic
MABA-007488-CT9550	Transmission Line Balun	5	220	1:9	0.8	75	FR4
MABAES0008	Flux Coupled Balun	3	250	1:4	0.6	50	Ceramic
MABA-011064	Flux Coupled Balun, Step Down	5	300	4:1	1.5	75	SOT
MABA-011063	Flux Coupled Balun, Step Down	5	300	2:1	0.8	75	SOT
MABA-011062	Flux Coupled Balun	1	300	1:2	0.6	75	SOT
MABA-011056	Flux Coupled Balun, Step Down	5	300	2:1	0.8	75	SOT
MABA-011050	Flux Coupled Balun	5	300	1:2	0.6	75	FR4
MABA-011040	Flux Coupled Balun	1	300	1:6	0.6	50	SOT
MABA-011039	Flux Coupled Balun	1	300	1:4	0.7	75	SOT
MABA-011038	Flux Coupled Balun	1	300	1:3	0.6	50	SOT
MABA-011009	Transmission Line Balun, with Tertiary Winding	5	300	1:1	0.2	75	SOT
MABA-009852-CF1A40	Flux Coupled Balun	5	300	1:1	0.2	75	FR4
MABA-009250-CT0068	Flux Coupled Balun	3	300	1:2	0.7	50	Ceramic
MABA-011020	Flux Coupled Balun	1	350	1:4	0.8	50	Ceramic
MABA-009387-ES0040	Flux Coupled Balun	1	350	1:2	1.6	50	SOT
MABA-007766-CF28A0	Flux Coupled Balun	5	350	1:1.5	1.4	50	SOT
MABA-007493-CF4160	Flux Coupled Balun	1	350	1:4	1.6	50	Ceramic
MABA-007237-ETC410	Flux Coupled Balun	1	350	1:4	1.2	50	Ceramic
MABACT0067	Flux Coupled Balun	1	350	1:4	1.3	50	FR4
TP-104-PIN ♦	Pulse	1	400	4:01	0.4	50	FP-1
MABA-010721-CF1670	Transmission Line Balun, with Center Tap	5	400	1:1	0.5	75	FR4
MABA-009126-ET11SM	Flux Coupled Unun, Sealed Cover	0	400	1:1	1	50	Ceramic
ETC36-1T-2TR	Flux Coupled Balun	5	400	1:36	12	50	Ceramic
TP-102-PIN	Pulse Transformer	1	500	4:01	0.4	50	FP-1
MABA-010143-FLUX18	Flux Coupled Balun	2	500	1:8	1	50	Ceramic
MABA-009947-CF3160	Flux Coupled Balun	0	500	1:3	0.7	50	Ceramic

Transformers / Baluns (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Impedance Ratio	Insertion Loss (dB)	Impedance (Ω)	Package
MABA-008570-ETC414	Flux Coupled Unun	3	110	1:4	0.3	50	Ceramic
MABA-009484-ETC31T	Flux Coupled Balun	2	500	1:3	0.7	50	Ceramic
MABA-009180-500MHZ	Flux Coupled Balun	0	500	1:1	1	50	Ceramic
ETC1-1T-5	Transmission Line Balun, with Tertiary Winding	2	500	1:1	2	50	Ceramic
MABA-009298-CT48A0	Flux Coupled Balun, Wide Bandwidth	1	650	1:4	1.5	50	SOT
MABAES0031	Flux Coupled Balun, Wide Bandwidth	1	650	1:4	1	50	SOT
MABACT0064	Flux Coupled Balun	1	650	1:4	1.5	50	SOT
MABA-009488-61HWCA	Flux Coupled Balun	3	800	1:4	1	50	FR4
ETC4-1-2TR	Flux Coupled Balun, Wide Bandwidth	2	800	1:4	1.2	50	Ceramic
MABAES0061	Flux Coupled Balun, Wide Bandwidth	2	800	1:4	1.2	50	Ceramic
ETC1-1-6	Transmission Line Balun, with Tertiary Winding	760	960	1:1	0.2	50	Ceramic
TP-105-PIN ♦	Pulse Transformer	0.5	1000	1.4:1	0.4	50	FP-1
TP-103-PIN ♦	Pulse Transformer	0.5	1000	4:01	0.4	50	FP-1
MABA-011037	Transmission Line Balun, Low Profile	2	1000	1:4	0.7	50	FR4
MABA-011032	Transmission Line Balun	40	1000	1:3	1	75	SOT
MABA-011016	Transmission Line Balun, with Center Tap	5	1000	1:1	0.8	50	Ceramic
MABA-010463-CA2A40	Auto Transformer	20	1000	1:1.77	1.2	75	Ceramic
MABA-010449-CA2A40	Auto Transformer	5	1000	1:2	0.8	75	FR4
MABA-009711-ETK2MM	Transmission Line Balun, Low Profile	2	1000	1:4	0.7	50	FR4
MABA-009092-CT1A40	Transmission Line Balun	5	1000	1:1.33	0.7	75	FR4
MABA-008752-CT1P57	Auto Transformer	2	1000	1:1.5	0.4	50	Ceramic
MABA-008639-TC41T7	Transmission Line Balun	6	1000	1:4	3	50	Ceramic
MABA-007569-ETK42T	Transmission Line Balun	2	1000	1:4	0.3	50	Ceramic
ETC1.5-4	Auto Transformer	5	1000	1:1.5	1	75	Ceramic
MABAES0034	Auto Transformer	20	1000	1:4	2	50	Ceramic
MABACT0066	Transmission Line Balun	5	1000	1:4	1.3	50	SOT
MABACT0063	Auto Transformer	5	1000	1:1.5	0.5	75	Ceramic
MABA-010245-CT1160	Transmission Line Balun	46	1002	1:1	0.4	75	Ceramic
TP-108-PIN ♦	Flux Coupled Balun	350	1125	2.5:1	0.8	50	FP-1
MABA-011086	Transmission Line Balun	5	1200	1:1	1.3	75	FR4
MABA-011058	Transmission Line Balun, with Tertiary Winding	50	1200	1:1	0.6	75	FR4
MABA-011051	Transmission Line Balun, with Tertiary Winding	5	1200	1:1.33	2.9	75	FR4
MABA-011031	Transmission Line Balun	5	1200	1:1	0.2	75	FR4
MABA-011029	Transmission Line Balun	5	1200	1:2	1.5	75	FR4
MABA-011027	Transmission Line Balun	5	1200	1:3	2.1	75	FR4
MABA-011015	Transmission Line Balun	45	1200	1:2.78	1.7	75	FR4
MABA-011014	Transmission Line Balun	45	1200	1:1	0.9	75	FR4
MABA-011010	Transmission Line Balun, with Tertiary Winding	5	1200	1:1.33	0.95	75	FR4
MABA-010441-CT38A0	Transmission Line Balun	5	1200	1:3	1.1	75	FR4
MABA-010392-CT18A0	Transmission Line Balun	5	1200	1:1	0.7	50	SOT
MABA-010321-CT1A43	Transmission Line Balun, with Tertiary Winding	50	1200	1:1	0.7	75	FR4
MABA-010321-CT1A42	Transmission Line Balun, with Tertiary Winding	50	1200	1:1	0.7	75	FR4
MABA-010314-CT1370	Transmission Line Balun	5	1200	1:1	0.9	75	FR4
MABA-010268-CT4160	Transmission Line Balun	5	1200	1:4	0.7	50	Ceramic
MABA-010238-CT4A80	Transmission Line Balun	5	1200	1:2	1.3	75	FR4
MABA-010129-CT4A40	Transmission Line Balun	5	1200	1:4	0.7	50	SOT
MABA-009691-CT1881	Transmission Line Balun	5	1200	1:1	0.2	75	FR4

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Transformers / Baluns (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Impedance Ratio	Insertion Loss (dB)	Impedance (ohms)	Package
MABA-009602-ES2922	Transmission Line Balun, with Tertiary Winding	50	1200	1:1	0.8	50	Ceramic
MABA-009232-CT4A4B	Transmission Line Balun	5	1200	1:4	1	50	FR4
MABA-009231-CT1A4B	Transmission Line Balun	5	1200	1:1	0.7	50	FR4
MABA-009210-CT1760	Transmission Line Balun, with Tertiary Winding	50	1200	1:1	0.6	75	FR4
MABA-008979-CF0290	Transmission Line Balun, with Tertiary Winding	50	1200	1:1	0.7	75	SOT
MABA-008483-CT1760	Transmission Line Balun, with Tertiary Winding	50	1200	1:1	0.63	75	FR4
MABA-007748-CT1160	Transmission Line Balun, with Tertiary Winding	5	1200	1:1	0.6	75	Ceramic
MABA-007681-CT2010	Transmission Line Balun	5	1200	1:2	0.6	75	FR4
MABAES0029	Transmission Line Balun, with Tertiary Winding	50	1200	1:1	1	75	SOT
MABACT0069	Transmission Line Balun, with Tertiary Winding	50	1200	1:1	0.8	75	SOT
MABACT0061	Auto Transformer	5	1200	1:4	1.6	50	Ceramic
MABACT0060	Transmission Line Balun, with Tertiary Winding	5	1200	1:1	0.7	50	FR4
MABACT0043	Transmission Line Balun	5	1200	1:1	0.5	75	SOT
MABA-011103	Auto Transformer	40	1215	1:1.77	2.8	75	Ceramic
MABA-011104	Auto Transformer	5	1218	1:1.5	0.4	75	Ceramic
MABACT0040	Transmission Line Balun, with center tap	5	1218	1:1	1.1	75	FR4
MABA-011094	Transmission Line Balun	5	1225	1:1	0.9	75	Ceramic
MABA-011085	Transmission Line Balun, with Tertiary Winding	5	1225	1:1	0.4	75	FR4
TP-101-PIN ◆	Pulse Transformer	0	1500	1.6:1	0.4	50	FP-1
TPX-75-4N ◆	50 / 75 Ohm	10	1500	1.5:1	0.3	50 / 75	Conn
MABA-010247-2R1250	Transmission Line Balun	1	1600	1:2	1.5	50	FR4
MABA-011028	Transmission Line Balun	600	1700	1:1	0.3	50	FR4
MABA-011112	Transmission Line Balun	5	1800	1:1	0.9	75	FR4
MABA-011113	Transmission Line Balun	5	1800	1:2	0.7	75	FR4
MABA-010374-CT4A40	Transmission Line Balun	10	1900	1:4	1.8	75	FR4
MABA-010386-CA3A40	Auto Transformer	5	2400	1:3	3	75	FR4
MABA-010012-ES4302	Transmission Line Balun	30	2500	1:4	1.8	50	Ceramic
MABA-011047	Transmission Line Balun	5	3000	1:1	0.7	50	Ceramic
MABA-010125-TC1113	Transmission Line Balun	5	3000	1:1	1.5	50	Ceramic
MABA-009822-715254	Transmission Line Balun	5	3000	1:1	0.3	50	Ceramic
MABA-008757-CT1160	Transmission Line Balun	5	3000	1:1	2	75	Ceramic
MABA-007871-CT1A40	Transmission Line Balun	5	3000	1:1	0.6	50	FR4
MABA-007327-CT1A40	Transmission Line Balun	5	3000	1:1	1.6	75	FR4
MABA-007236-C16423	Transmission Line Balun	500	3000	1:4	3	50	Ceramic
MABA-007159-000000	Transmission Line Balun	5	3000	1:1	0.3	50	Ceramic
ETC1-1-13	Transmission Line Balun	5	3000	1:1	0.3	50	Ceramic
ETC1.6-4-2-3	Transmission Line Balun	500	3000	1:4	0.2	50	Ceramic
MABACT0065	Transmission Line Balun	500	3000	1:4	0.2	50	Ceramic
MABACT0059	Transmission Line Balun	5	3000	1:1	2	75	Ceramic
MABACT0039	Transmission Line Balun	5	3000	1:1	1.3	75	SOT
MABA-011042	Transmission Line Balun	2500	3200	1:1	0.9	50	Ceramic
MABA-011100	Transformer Balun	20	4000	1:2	1.5	50	SMT
MABA-011082	Transmission Line Balun, with Tertiary Winding	5	8000	1:1	1.4	50	SMT
MABA-011108	Transmission Line Balun, with Tertiary Winding	5	10000	1:1	1.4	50	SMT
MABA-011118	Transmission Line Balun	10	10000	1:2	1.9	50	SMT
MABA-000001-75KIT1	CATV Transformer Designer's™ Kit					75	SMT
MABA-000001-50KIT1	Transformer Designer's Kit					50	SMT

MNS Chip Capacitors

Part Number	Capacitance (pf)	Standoff Voltage (V)	Chip Style	Package
MA4M3010	10	200	350	Die
MA4M2020	20	200	132	Die
MA4M3030	30	200	352	Die
MA4M1050	50	100	132	Die
MA4M3050	50	200	354	Die
MA4M1100	100	100	199	Die
MA4M3100	100	50	358	Die
MA4M3150	150	50	359	Die

High Q MNOS Series Chip Capacitors: 9000 Series VB >50 V & 9100 Series VB >100 V

Part Number	Capacitance (pf)	Working Voltage (V)	Chip Size + .002"	Package
902R0 thru 9010R	2 to 10	50	0.010" x 0.010" x 0.005"	Die
9011R thru 9029R	11 to 29	50	0.015" x 0.015" x 0.005"	Die
9030R thru 9049R	30 to 49	50	0.020" x 0.020" x 0.006"	Die
9050R thru 9099R	50 to 99	50	0.030" x 0.030" x 0.006"	Die
0100 thru 90199R	100 to 199	50	0.040" x 0.040" x 0.008"	Die
90200 thru 90399R	200 to 399	50	0.050" x 0.050" x 0.008"	Die
90400 thru 90600R	400 to 600	50	0.070" x 0.070" x 0.008"	Die
910R1 thru 911R9	0.1 to 1.9	100	0.010" x 0.010" x 0.005"	Die
912R0 thru 919R9	2 to 9.9	100	0.015" x 0.015" x 0.005"	Die
9110R thru 9129R	10 to 29	100	0.020" x 0.020" x 0.006"	Die
9130R thru 9149R	30 to 49	100	0.030" x 0.030" x 0.006"	Die
9150R thru 9199R	50 to 99	100	0.040" x 0.040" x 0.008"	Die
91100 thru 91199	100 to 199	100	0.050" x 0.050" x 0.008"	Die
91200 thru 91399	200 to 399	100	0.070" x 0.070" x 0.008"	Die

Beam Lead Capacitors: 9000 Series VB >50 V

Part Number	Capacitance Range (pf)	Package
90100ROM	100 + 20%	14-4
9010ROM	10 + 20%	14-3
9015ROM	15 + 20%	14-3
901R0 thru 901R5	1.0 to 1.5	14-1
901R0 thru 902R2	1.0 to 2.2	14-2
9022ROM	22 + 20%	14-3
902R2 thru 904R7	2.2 to 4.7	14-2
9033ROM	33 + 20%	14-3
9047ROM	47 + 20%	14-4
905R6M	5.6 + 20%	14-2
9068ROM	68 + 20%	14-4
906R8M	6.8 + 20%	14-2
9082ROM	82 + 20%	14-4
908R2M	8.2 + 20%	14-2
90R1 thru 90R9	0.1 to 0.9	14-1
90R5 thru 901R0	0.5 to 1.0	14-2

Detailed specifications can be found quickly on our website at macom.com by typing the part number into the search box.
All specifications are subject to change.

Binary Chip Capacitors

Part Number	PAD1 (pF)	PAD2 (pF)	PAD3 (pF)	PAD4 (pF)	Total (pF)	Chip Size
9115R0K-BOO	1	2	4	8	15	0.020 x 0.020
9115R0K-BSP-1	1	2	4	8	15	0.030 x 0.020
911R5K-BSP-3	0.1	0.2	0.4	0.8	1.5	0.015 x 0.015
9122R5K-BOO	1.5	3	6	12	22.5	0.020 x 0.020
9122R5K-BSP-1	1.5	3	6	12	22.5	0.030 x 0.020
913R0K-BSP-3	0.2	0.4	0.8	1.6	3	0.015 x 0.015
913R7K-BOO	0.25	0.5	1	2	3.75	0.020 x 0.020
913R7K-BSP-1	0.25	0.5	1	2	3.75	0.030 x 0.020
913R7K-BSP-3	0.25	0.5	1	2	3.75	0.015 x 0.015
915R6K-BSP-3	0.35	0.75	1.5	3	5.6	0.015 x 0.015
917R5K-BOO	0.5	1	2	4	7.5	0.020 x 0.020
917R5K-BSP-1	0.5	1	2	4	7.5	0.030 x 0.020

DC Floating / RF Bypass Mounting Capacitors: 9100 & 9000 Series

Part Number	Capacitance Range (pF)	Chip Size A	Chip Size B	Pad Size D	Pad Size E	Customer Specified Field D
SP49	5 – 50	0.014	0.034	0.011	0.031	0.005 – 0.020
SP84	7 – 70	0.02	0.04	0.016	0.03	0.005 – 0.020
SP51	8 – 80	0.015	0.045	0.013	0.043	0.005 – 0.020
SP14	9 – 90	0.02	0.04	0.016	0.036	0.005 – 0.020
SP34	9 – 90	0.024	0.034	0.02	0.03	0.005 – 0.020
SP6	10 – 100	0.014	0.055	0.012	0.053	0.005 – 0.020
SP89	12 – 120	0.02	0.06	0.014	0.055	0.005 – 0.020
SP80	13 – 130	0.016	0.065	0.014	0.063	0.005 – 0.020
SP12	14-140	0.02	0.055	0.018	0.053	0.005 – 0.020
SP87	15 – 150	0.013	0.12	0.009	0.16	0.005 – 0.020
SP81	17 – 170	0.015	0.09	0.013	0.088	0.005 – 0.020
SP22	24 – 240	0.025	0.08	0.021	0.075	0.005 – 0.020
SP88	25 – 250	0.021	0.121	0.015	0.115	0.005 – 0.020
SP48	29 – 290	0.035	0.065	0.031	0.061	0.005 – 0.020
SP64	75 – 750	0.055	0.102	0.051	0.098	0.005 – 0.020
SP120	90 – 900	0.055	0.12	0.05	0.115	0.005 – 0.020
SP7	100 – 1000	0.085	0.085	0.081	0.081	0.005 – 0.020
SP2	150 – 1500	0.11	0.11	0.1	0.1	0.005 – 0.020
SP68	175 – 1750	0.101	0.124	0.097	0.12	0.005 – 0.020
SP1	200 – 2000	0.11	0.14	0.1	0.13	0.005 – 0.020
SP5	200 – 1000	0.1	0.1	0.095	0.095	0.005 – 0.020
SP20	200 – 2000	0.12	0.14	0.11	0.13	0.005 – 0.020
SP29	200 – 2000	0.121	0.121	0.115	0.115	0.005 – 0.020
SP38	200 – 2000	0.094	0.152	0.091	0.148	0.005 – 0.020
SP39	200 – 2000	0.12	0.134	0.11	0.13	0.005 – 0.020
SP40	200 – 2000	0.107	0.134	0.103	0.13	0.005 – 0.020
SP77	300 – 3000	0.118	0.175	0.114	0.171	0.005 – 0.020
SP52	300 – 3000	0.13	0.17	0.124	0.164	0.005 – 0.020
SP104	350 – 3500	0.142	0.171	0.138	0.167	0.005 – 0.020
SP111	350 – 3500	0.143	0.18	0.138	0.167	0.005 – 0.020
SP37	350 – 3500	0.151	0.168	0.147	0.164	0.005 – 0.020
SP44	350 – 3500	0.14	0.17	0.135	0.165	0.005 – 0.020
SP55	360 – 3600	0.117	0.22	0.113	0.216	0.005 – 0.020

MNOS Series Capacitors

Part Number	Type	Capacitance Range Min (pF)	Range (pF)	Capacitance Dwy Min (V)	IR Min (Ω)	TCC Typ (ppm/+°C)	Package
MBC50-0.2B14	Beam Lead	0.16	0.24	50	1000	55	B14
MBC50-1.0B14	Beam Lead	0.8	1.2	50	1000	55	B14
MBC50-1B12	Beam Lead	0.8	1.2	50	1000	55	B12
MBC50-1.5B14	Beam Lead	1.2	1.8	50	1000	55	B14
MBC50-2.0B14	Beam Lead	1.6	2.4	50	1000	55	B14
MBC50-2B12	Beam Lead	1.6	2.4	50	1000	55	B12
MBC50-3B12	Beam Lead	2.4	3.6	50	1000	55	B12
MBC50-4B12	Beam Lead	3.2	4.8	50	1000	55	B12
MBC50-6B12	Beam Lead	4.8	7.2	50	1000	55	B12
MBC50-8B12	Beam Lead	6.4	9.6	50	1000	55	B12
MBC50-10B12	Beam Lead	8	12	50	1000	55	B12
MBC50-15B12	Beam Lead	12	18	50	1000	55	B12
MBC50-20B12	Beam Lead	16	24	50	1000	55	B12
MBC50-33B13	Beam Lead	26.4	39.6	50	1000	55	B13
MBC50-47B13	Beam Lead	37.6	56.4	50	1000	55	B13
MBC50-68B13	Beam Lead	54.4	81.6	50	1000	55	B13
MBC50-82B13	Beam Lead	65.6	96	50	1000	55	B13
MBC50-100B13	Beam Lead	80	120	50	1000	55	B13
MC2DXXX010-010	Chips	0.1	5	50	1000	55	Die
MC2SXXX010-010	Chips	0.25	8	50	1000	55	Die
MC2SXXX011-011	Chips	1	12	50	1000	55	B12
MC2DXXX015-015	Chips	1.5	15	50	1000	55	Die
MC2RXXX010-015	Chips	2	20	50	1000	55	Die
MC2SXXX015-015	Chips	3	30	50	1000	55	Die
MC2SXXX016-016	Chips	3	35	50	1000	55	Die
MC2RXXX015-020	Chips	5	42	50	1000	55	Die
MC2DXXX020-020	Chips	5	50	50	1000	55	Die
MC2SXXX020-020	Chips	5	55	50	1000	55	Die
MC2SXXX022-022	Chips	5	60	50	1000	55	Die
MC2RXXX015-032	Chips	5	62	50	1000	55	Die
MC2SXXX025-025	Chips	10	100	50	1000	55	Die
MC2RXXX022-042	Chips	15	120	50	1000	55	Die
MC2SXXX030-030	Chips	10	120	50	1000	55	Die
MC2SXXX035-035	Chips	15	150	50	1000	55	Die
MC2SXXX040-040	Chips	20	200	50	1000	55	Die
MC2SXXX050-050	Chips	25	250	50	1000	55	Die
MC2SXXX055-055	Chips	25	300	50	1000	55	Die
MC2SXXX060-060	Chips	35	375	50	1000	55	Die
MC2SXXX070-070	Chips	50	550	50	1000	55	Die
MC2SXXX080-080	Chips	70	700	50	1000	55	Die
MC2RXXX097-107	Chips	100	999	50	1000	55	Die
MC2RXXX099-138	Chips	100	999	50	1000	55	Die
MC2SXXX100-100	Chips	100	999	50	1000	55	Die
MC2RXXX127-145	Chips	200	1800	50	1000	55	Die
MC2RXXX142-160	Chips	200	2200	50	1000	55	Die
MC2B0.8020-020	Binary Chip	1.2	1.8	50	1000	55	C20
MC2B002020-020	Binary Chip	3	4.5	50	1000	55	C20
MC2B004020-020	Binary Chip	6.4	9.6	50	1000	55	C20
MC2B008020-020	Binary Chip	12	18	50	1000	55	C20
MC2B016020-020	Binary Chip	24	36	50	1000	55	C20

Filters/Diplexers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Rejection (dB)	Crossover Freq (dB)	Package
MAFL-011082	Reflection-less Low Pass Filter	5	684		0.75	24	
MAFLCT0066	CATV Diplex Filter	5	870	0.8	46	30/46	SMT
MAFLCT0083	CATV Diplex Filter	5	860	0.9	59	65/94	
MAFLES0102	CATV Diplex Filter	5	870	1	45	42/54	
MAFL-011013	Broadband CATV Diplexer 5 - 42 / 54 - 1000 MHz	5	1000	0.5	50	42/54	
MAFL-011013	Broadband CATV Diplexer 5 - 42 / 54 - 1000 MHz	5	1000	0.5	50	42/54	
MAFL-009511-CD0A10	CATV Diplex Filter 5 - 42 / 52 - 1000MHz	5	1000	0.5	55	42/52	
MAFL-007529-CD0550	CATV Diplex Filter	5	1000	0.5	—	36/48	30 x 30 mm
MAFL-009055-CD4254	Broadband CATV Diplexer	5	1000	0.5	55	42/54	SMT
MAFL-007988-CD0550	CATV Diplex Filter 5 - 65 / 88 - 1000 MHz	5	1000	0.5	50	65/88	
MAFL-009593-CD0A10	CATV Diplex Filter	5	1000	1	57	65/86	
MAFL-010467-CD0B20	CATV Diplexer	5	1002	1.5	60	65/108	SMT
MAFL-011024	Broadband CATV Diplexer	5	1002	0.5	50	85/108	SMT
MAFL-011025	Broadband CATV Diplexer 5 - 65 / 108 - 1002 MHz	5	1002	0.5	50	65/108	SMT
MAFL-010465-CD0B20	Filter, MoCA Diplexer 5 - 42 / 88 - 1002 MHz	5	1002	1.8	64	42/88	SMT
MAFL-011015	CATV Diplex Filter 5 - 42 / 54 - 1002 MHz	5	1002	0.5	—	42/54	SMT
MAFL-011014	CATV Diplex Filter 5 - 65 / 88 - 1002MHz	5	1002	0.5	55	65/88	SMT
MAFL-011027	Vertical Plug-in	5	1002	1.2	45	85/102	
MAFLCT0068	CATV Diplex Filter 5 - 42 / 54 - 1100MHz	5	1100	1.2	50	42/54	SMT
MAFL-008098-CD0550	CATV Diplex Filter 5 - 42 / 54 - 1100 MHz	5	1100	0.5	50	42/54	
MAFL-011078	CATV Diplex Filter 5 - 42 / 54 - 1218 MHz	5	1218	0.5	50	42/54	
MAFL-011047	Plug-and-Play Horizontal Filter, 5 - 42 / 54 - 1218 MHz	5	1218	1	—	42/54	31 x 27.8 mm
MAFL-011048	Plug-and-Play Horizontal Filter	5	1218	1	—	42/54	31 x 27.8 mm
MAFL-011049	Plug-and-Play Horizontal Filter, 5 - 65 / 86 - 1218 MHz	5	1218	1	—	65/85	31 x 27.8 mm
MAFL-011050	Plug-and-Play Horizontal Filter, 5 - 65 / 86 - 1218 MHz	5	1218	1	—	65/85	31 x 27.8 mm
MAFL-011051	Plug-and-Play Horizontal Filter, 5 - 85 / 102 - 1218 MHz	5	1218	1.4	—	85/102	31 x 27.8 mm
MAFL-011052	Plug-and-Play Horizontal Filter	5	1218	1.4	—	85/102	31 x 27.8 mm
MAFL-011053	Plug-and-Play Horizontal Filter, 5 - 204 / 258 - 1218 MHz	5	1218	1	—	204/258	31 x 27.8 mm
MAFL-011054	Plug-and-Play Horizontal Filter	5	1218	1	—	204/258	31 x 27.8 mm
MAFL-011055	Surface Mount DOCSIS 3.1 Diplex Filter, 5 - 42 / 54 - 1218 MHz	5	1218	0.5	50	42/54	30 x 30 mm
MAFL-011057	Surface Mount DOCSIS 3.1 Diplex Filter, 5 - 85 / 102 - 1218 MHz	5	1218	0.5	50	85/102	30 x 30 mm
MAFL-011059	Plug-and-Play Vertical Filter	5	1218	1	—	42/54	50.8 x 19.05 mm
MAFL-011060	Plug-and-Play Vertical Filter	5	1218	1	—	65/85	50.8 x 19.05 mm
MAFL-011061	Plug-and-Play Vertical Filter	5	1218	1	—	85/102	50.8 x 19.05 mm
MAFL-011062	Plug-and-Play Vertical Filter	5	1218	1	—	204/258	50.8 x 19.05 mm
MAFL-011077	CATV Diplex Filter	5	1218	1.4	50	85/102	SMT
MAFL-011081	Surface Mount DOCSIS 3.1 Diplex Filter, 5-204 / 208 MHz	5	1218	0.5	50	204/208	SMT
MAFLCT0081	CATV Bandpass Filter 50 - 870 / 975 - 1025 / 1125 - 1425 MHz	50	1425	1.1	56	870/1125	SMT
MAFL-009217-CD0ACO	CATV Diplex Filter 5 - 864 / 1128 - 1525 MHz	5	1525	1	44	864/1128	SMT
MAFL-008070-CLOAD0	CATV MoCA Low Pass Filter 50 - 870/ 975 - 1525 MHz	50	1525	1.8	30	—	SMT
MAFL-010464-CD0B20	CATV Diplexer 35 x 25mm, SMT	5	1525	1.8	60	42/88	SMT
MAFL-010101-CB0AD0	MoCA Band Pass Filter 1125 - 1550 MHz	1125	1550	1.7	40	1125/1550	SMT
MAFL-009906-CLOAD0	MoCA Low Pass Filter 5 - 1550 MHz	5	1550	1	32	—	SMT
MAFL-010256-CB0AD0	MoCA Band Pass Filter 1125 - 1550 MHz	1125	1550	1.7	38	1125/1550	SMT
MAFL-008290-CD0ACO	CATV Diplex Filter 5 - 1002 / 1125 - 1550 MHz	5	1550	1.7	40	1002/1125	SMT
MAFL-010412-CLOAD0	MoCA Low Pass Filter	5	1550	1.5	37	5 - 1002	15 x 15 mm

Filters/Diplexers (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Rejection (dB)	Crossover Freq (dB)	Package
MAFL-011018	MoCA Triplex Filter 5-42 / 54-1002 / 1125-1675 MHz	5	1675	1.2	70	42/54 & 1002/1125	SMT
MAFL-011023	MoCA Triplex Filter 5-65 / 88-1002 / 1125-1675 MHz	5	1675	1.2	50	65/88 & 1002/1125	SMT
MAFL-011026	MoCA Triplex Filter 5-85 / 105-1002 / 1125-1675 MHz	5	1675	1.2	70	85/105 & 1002/1125	SMT
MAFL-011012	CATV Diplex Filter 5-1002 / 1125-1675 MHz	5	1675	1.5	39	1002/1125	SMT
MAFL-009272-CD0AC0	Diplexer	5	1675	1.7	40	1002/1125	
MAFL-011030	CATV Diplexer, 5-1218 / 1350-1700 MHz	5	1700	1.5	45	1218/1350	
MAFL-010140-CT0C60	MoCA Triplex Filter 5-2000 MHz	5	2000	1.5	62	42/52 & 1002/1125	SMT
MAFL-010608	SAT Diplexer	350	3000	2.5	35	875/950	
MAFL-011003	MoCA Band Pass Filter	500	3000	2	37	650 - 875	15 x 15 mm
MAFL-010670-CB0AD0	MoCA Band Pass Filter 500-3000 MHz	350	3000	2	50	650/875	SMT
MAFL-010639-CB0AD0	MoCA Band Pass Filter 500-3000 MHz	500	3000	2	40	650/875	
MAFL-009478-CD0AC0	MoCA Diplex Filter	50	3000	1.5	40	870/950	
MAFL-010609	SAT Triplexer	500	4500	2.5	40	1450/1650 & 2150/2500	

MACOM Frequency Generation Products

Leading-edge solutions for challenging communications needs

MACOM voltage controlled oscillators (VCOs) generate frequency in aerospace and defense, point-to-point microwave backhaul, and other commercial communications applications. IC VCOs support a variety of applications operating between the 500 to 14400 MHz frequency range.

Featuring low phase noise, stable performance over temperature, low power consumption, and highly linear tuning, MACOM's VCOs provide leading edge solutions for challenging communications needs.



VCOs

- > Low phase noise
- > Wide tuning range
- > Low power consumption
- > Bandwidths greater than 10%
- > RoHs compliant package

NLTL GaAs Comb Generators

- > Superior phase noise performance up to -18 dBc/Hz better than a SRD
- > Usable harmonics out to 50 GHz
- > Available in SMT or connectorized packages



Voltage Controlled Oscillators (VCOs)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Phase Noise at 10 kHz Offset (Vt=5V)(dBc/Hz)	Phase Noise at 100 kHz Offset (Vt=5V)(dBc/Hz)	Pout at Fo (dBm)	DC Current (mA)	Package
MAOC-011030	5458	6129	-93	-117	14	185	5 mm PQFN-32
MAOC-009259	5700	6400	-93	-117	12	190	5 mm PQFN-32
MAOC-009260	6100	7000	-92	-117	8.5	205	5 mm PQFN-32
MAOC-009261	7100	7900	-93	-116	10	180	5 mm PQFN-32
MAOC-009262	7400	8210	-92	-117	14	170	5 mm PQFN-32
MAOC-009263	7800	8700	-90	-115	10.5	180	5 mm PQFN-32
MAOC-010334	8400	9250	-88	-115	10	168	5 mm PQFN-32
MAOC-009264	8800	9800	-88	-115	9	185	5 mm PQFN-32
MAOC-009871	9200	10200	-86	-113	7	185	5 mm PQFN-32
MAOC-009265	9400	10800	-86	-113	8.5	175	5 mm PQFN-32
MAOC-009266	10200	11300	-87	-114	8.5	200	5 mm PQFN-32
MAOC-009872	11000	11800	-83	-112	7	165	5 mm PQFN-32
MAOC-009267	11200	12600	-82	-112	6	175	5 mm PQFN-32
MAOC-009269	11400	12800	-83	-110	5	180	5 mm PQFN-32
MAOC-009270	12200	13800	-78	-107	6.5	165	5 mm PQFN-32
MAOC-009268	12700	14200	-79	-108	9	165	5 mm PQFN-32
MAOC-011027	13400	14400	-79	-108	8	205	5 mm PQFN-32

NLTL GaAs Comb Generators

Part Number	Power Min (dBm)	Power Max (dBm)	Output Harmonics 1	Output Harmonics 2	Output Harmonics 3	Package
MLPNC-7102-SMA800	21 @ 400 MHz	23 @ 600 MHz	> -8 @ 4 GHz	> -16 @ 12 GHz	> -20 @ 20 GHz	SMA800
MLPNC-7102-SMT680	21 @ 400 MHz	23 @ 600 MHz	> -8 @ 4 GHz	> -16 @ 12 GHz	> -20 @ 20 GHz	SMT680
MLPNC-7103-SMA800	21 @ 800 MHz	23 @ 1300 MHz	> -5 @ 6 GHz	> -15 @ 18 GHz	> -20 @ 30 GHz	SMA800
MLPNC-7103-SMT680	21 @ 800 MHz	23 @ 1300 MHz	> -5 @ 6 GHz	> -15 @ 18 GHz	> -20 @ 30 GHz	SMT680
MLPNC-7100SI-SMA800	18 @ 75 MHz	24 @ 250 MHz	> -15 @ 1 GHz	> -18 @ 2 GHz	> -24 @ 4 GHz	SMA800
MLPNC-7100SI-SMT580	18 @ 75 MHz	24 @ 250 MHz	> -15 @ 1 GHz	> -18 @ 2 GHz	> -24 @ 4 GHz	SMT580
MLPNC-7100-SMA850	20 @ 100 MHz	24 @ 400 MHz	> -8 @ 4 GHz	> -18 @ 12 GHz	> -35 @ 20 GHz	SMA850
MLPNC-7100-SMT680	20 @ 100 MHz	24 @ 400 MHz	> -8 @ 4 GHz	> -16 @ 12 GHz	> -35 @ 20 GHz	SMT680
MLPNC-7102SI-SMA800	18 @ 300 MHz	24 @ 700 MHz	> -10 @ 4 GHz	> -15 @ 8 GHz	> -22 @ 12 GHz	SMA800
MLPNC-7102SI-SMT580	18 @ 300 MHz	24 @ 700 MHz	> -10 @ 4 GHz	> -15 @ 8 GHz	> -22 @ 12 GHz	SMT580
MLPNC-7103SI-SMA800	18 @ 600 MHz	24 @ 1500 MHz	> -10 @ 4 GHz	> -8 @ 8 GHz	> -20 @ 15 GHz	SMA800
MLPNC-7103SI-SMT580	18 @ 600 MHz	24 @ 1500 MHz	> -10 @ 4 GHz	> -8 @ 8 GHz	> -20 @ 15 GHz	SMT580

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Discrete components, MMICs, and integrated modules

MACOM continues to build upon our legacy of providing high-reliability semiconductor products to the Aerospace and Defense industry by adding to our product portfolio and capabilities. MACOM's standard line of RF and microwave components provides solutions to meet the requirements commonly found on airborne applications, high MTBF ground-based equipment, and space applications.

From our DLA-Certified and US Trusted Foundry in Lowell, Massachusetts, we continue to improve our ability to provide the highest quality aerospace and defense products.

When program screening requirements call for more than MACOM's standard catalog screening, custom screening programs can be created by adding screening options or by generating a program specific sequence.

MACOM's Space & High-Reliability Evolution

Watkins Johnson Company/Stellex Microwave Systems/Tyco Electronics/Anzac/RHG/Phoenix Microwave/Metelics/Micrometrics/Hi-Rel Components & MACOM

1960s

- > Pioneered production of TWT's for Pioneer, Voyager, and DSCS satellites

1970s

- > First solid state flight qualified production amplifiers and mixers

1980s / 1990s / through today

- > Participated in more than 85 programs (USA & International)
- > Provided hundreds of space qualified solid state space component models

Hi-Reliability Catalog Screened Products

- > 40+ year history of proven Hi-Rel manufacturing processes supporting both thin film & solder circuit assemblies
- > Same proven manufacturing processes as used in equivalent component designs for custom military and space programs
- > Long established cost effective standardized screening programs for catalog products available in a variety of hermetically sealed metal package styles
- > Available for screening: hybrid amplifiers, hybrid mixers, switches, diodes
- > MACOM has an extensive "in-house" environmental screening capability
- > US Screening Lab to perform specific environmental test requirements
- > Working to expand our partner network
- > Custom environmental screening plans available for hermetically-sealed, packaged products (MIL-PRF-19500, MIL-PRF-38534, MIL-DTL- 28837B, MIL-STD-202, etc.)

Please contact your local sales representative to discuss any environmental screening options.

General Purpose Gain Block Hybrid Amplifiers

Part Number	Min Frequency (MHz)	Max Frequency (MHz)	Gain (dB)	OIP3 (dBm)	Package
SMPA511	10	500	12.7	40	SMT
EA54	5	250	27	16	TO-5
A75-2	5	250	21	19	TO-8
CA181	10	250	16.5	35	Connectorized-SMA
SMA181	10	250	16.5	35	SMT
A181	10	250	16.5	35	TO-8
CA79	5	300	14	38	Connectorized-SMA
A79	5	300	14	38	TO-8
SMA79	5	300	14	38	SMT
A56	5	400	26	27	TO-8
EA2	5	400	13.5	21	TO-5
SMA87	10	400	14	33	SMT
A87	10	400	14	33	TO-8
CA87	10	400	14	33	Connectorized-SMA
AMC-151-SMA	5	500	12	36	Connectorized-SMA
SMRA89	5	500	26.5	35	SMT
SMA74-2	5	500	26	10	SMT
A5	5	500	14.8	22	TO-8
EA54-2	5	500	29.5	20	TO-5
A74-2	5	500	26	10	TO-8
A72	5	500	15	26	TO-8
SMA72	5	500	15	26	SMT
A77	5	500	16.5	30	TO-8
A88	5	500	18.7	30	TO-8
SMA77	5	500	16.5	30	SMT
SMA88	5	500	18.7	30	SMT
RA89	5	500	26.5	35	TO-8
A5-5	5	500	15.5	21	TO-8
A54	5	500	15.5	21	TO-8
CA77	5	500	16.5	30	Connectorized-SMA
CRA89	5	500	26.5	35	Connectorized-SMA
AMC-146-SMA	10	500	21	35	Connectorized-SMA
MAAM-007502-SPA512	10	500	18	40	SMT-TO-8
PA511	10	500	12.7	40	TO-8
A57	10	500	14.7	28	TO-8
SMA57	10	500	14.7	28	SMT
SMA513	10	500	20	30	SMT
A55	10	500	14.7	24	TO-8
RA89-1	10	500	30	36	TO-8
SMRA89-1	10	500	30	36	SMT
PA512	10	500	18	40	TO-8
CRA89-1	10	500	30	36	Connectorized-SMA
A513	10	500	20	30	TO-8
MAAM-007502-CPA512	10	500	18	40	Connectorized-SMA
MAAM-008200-000A83	10	500	30	10	TO-8
SMA77-1	5	600	16	30	SMT
A77-1	5	600	16	30	TO-8
CA77-1	5	600	16	30	Connectorized-SMA
A5-6	6	600	15.5	21	TO-8

General Purpose Gain Block Hybrid Amplifiers (continued)

Part Number	Min Frequency (MHz)	Max Frequency (MHz)	Gain (dB)	OIP3 (dBm)	Package
SMA5-6	6	600	16	21	SMT
A59-1	10	700	10.5	36	TO-8
SMA59-1	10	700	10.5	36	SMT
A89	50	800	22	30	TO-8
SMA89	100	800	22	30	SMT
AMC-184-SMA	5	1000	20	20	Connectorized-SMA
A11-2	5	1000	16	10	TO-8
AMC-145-SMA	10	1000	10.7	32	Connectorized-SMA
CA17	10	1000	12	27	Connectorized-SMA
CA1021	10	1000	26	26	Connectorized-SMA
CRA69	10	1000	25	34	Connectorized-SMA
CRA66	10	1000	37	30	Connectorized-SMA
CA66-1	10	1000	27.5	28	Connectorized-SMA
SMA1021	10	1000	26	26	SMT
RA66	10	1000	37	30	TO-8
SMRA69	10	1000	25	34	SMT
SMA17	10	1000	12	27	SMT
A17	10	1000	12	27	TO-8
A66-1	10	1000	27.5	28	TO-8
SMA66-1	10	1000	27.5	28	SMT
RA69	10	1000	25	34	TO-8
A19-1	10	1000	11.5	35	TO-8
SMA19-110	10	1000	11.5	35	SMT
CA19-1	10	1000	11.5	35	Connectorized-SMA
A1021	10	1000	26	26	TO-8
SMRA66	10	1000	37	30	SMT
AMC-155-SMA	300	1000	12.3	30	Connectorized-SMA
CA66	10	1200	23.5	28	Connectorized-SMA
CA64	10	1200	26	20	Connectorized-SMA
SMA66	10	1200	23.5	28	SMT
SMA64	10	1200	26	20	SMT
A64	10	1200	26	20	TO-8
A66	10	1200	23.5	28	TO-8
CA24	5	1500	10	21	TO-8
A24	5	1500	20	21	TO-8
SMA24	5	1500	20	21	SMT
A27	5	1500	8.5	28	TO-8
SMA27	5	1500	8.5	28	SMT
SMA28	10	1500	11	29	SMT
CA26	10	1500	20.5	27	Connectorized-SMA
SMA29-1	10	1500	9	32	SMT
A26	10	1500	20.5	27	TO-8
A28	10	1500	11	29	TO-8
A29-1	10	1500	9	32	TO-8
SMA26	10	1500	20.5	27	SMT
CA28	10	1500	11	29	Connectorized-SMA
CA29-1	10	1500	9	32	Connectorized-SMA

General Purpose Gain Block Hybrid Amplifiers (continued)

Part Number	Min Frequency (MHz)	Max Frequency (MHz)	Gain (dB)	OIP3 (dBm)	Package
A38	10	2000	9.5	30	TO-8
CA38	10	2000	9.5	30	Connectorized-SMA
SMA39	10	2000	7.5	34	SMT
SMA35	10	2000	10	21	SMT
A39	10	2000	7.5	34	TO-8
SMA38	10	2000	9.5	30	SMT
SMPA511	10	500	12.7	40	SMT
SMA37	10	2000	10	28	SMT
A37	10	2000	10	28	TO-8
A35	10	2000	10	21	TO-8
CA35	10	2000	10	21	Connectorized-SMA
CRA36	100	2000	24	22	Connectorized-SMA
SMA36	100	2000	16.5	23	SMT
RA36	100	2000	24	22	TO-8
A34	100	2000	16	18	TO-8
A36	100	2000	16.5	23	TO-8
SMRA36	100	2000	24	22	SMT
SMA34	100	2000	16	18	SMT
SMPA2010	200	2000	10	33	SMT
CA36-1	100	2300	16.2	23	Connectorized-SMA
A36-1	100	2300	16.2	23	TO-8
SMA36-1	100	2300	16.2	23	SMT
A33-1	2	2400	9	19	TO-8
SMA33-1	2	2400	9	19	SMT
CA33-1	2	2400	9	19	Connectorized-SMA
CA3010	0	2500	9.5	35	Connectorized-SMA
MAAM-007947-CA3602	100	2600	15	30	Connectorized-SMA
A36-2	100	2600	15	30	TO-8
SMA36-2	100	2600	15	30	SMT
PA38-2	200	2600	8.5	33	TO-8
SMPA38-2	200	2600	8.5	33	SMT
A43	100	3200	11.5	21	TO-8
SMA43	100	3200	11.5	21	SMT
CPA48	1000	4000	16	34	Connectorized-SMA
RA46	0	4000	25.5	30	TO-8
SMPA48	1000	4000	16	34	SMT
PA48	1000	4000	16	34	TO-8
SMRA46	1000	4000	25.5	30	SMT
SMRA62	2000	6000	16	28	SMT
RA62	2000	6000	16	28	TO-8
AM42-0039	5900	7100	33	45	CR-15
AM42-0007	14000	14500	22	41	R380/CR15
AM42-0002	14000	14500	22	39	R380/CR15

Low Noise Hybrid Amplifiers

Part Number	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
AMC-162-SMA	10	100	12.5	1.5	30	Connectorized-SMA
AMS-162-PIN	10	100	12.5	1.5	30	SF-1
AM-162-PIN	10	100	12.5	1.1	32	TO-8
A101	5	100	17	3	36	TO-8
SMA101	5	100	17	3	36	SMT
MAAM-007844-OCA801	10	200	27.3	2	28	Connectorized-SMA
A80-1	10	200	27.3	2	28	TO-8
SMA80-1	10	200	27.3	2	28	SMT
A82-1	20	250	19	2.8	26	TO-8
SMA82-1	20	250	19	2.8	26	SMT
CA82	20	250	25	2.8	31	Connectorized-SMA
SMA82	20	250	25	2.8	31	SMT
SMA81-1	20	250	25	2.5	27	SMT
SMA81	20	250	24.5	2.6	28	SMT0-8
A81-1	20	250	25	2.5	27	TO-8
A70-3	20	250	8	2.8	40	TO-8
A82	20	250	25	2.8	31	TO-8
A81	20	250	25.5	3	28	TO-8
SMA70-1	10	250	8	1.8	28	SMT
CA83-1	10	250	35.5	2.5	9	Connectorized-SMA
SMA70	10	250	8	1.6	24	SMT
A70-1	10	250	8	1.8	28	TO-8
CA231	10	250	26	1.7	22	Connectorized-SMA
A231	10	250	26	1.7	22	TO-8
A70	10	250	8	1.6	24	TO-8
SMA83-1	10	250	35.5	2.5	9	SMT
SMA231	10	250	26	1.7	22	SMT
CA70-2	10	250	8	2.2	38	Connectorized-SMA
A70-2	10	250	8	2.2	38	TO-8
A83-1	10	250	35.5	2.5	9	TO-8
A74-1	5	250	31	4.5	21	TO-8
SMA70-3	15	300	8	2.8	40	SMT0-8
SMA87-2	10	300	16	2.9	24	SMT
A87-2	10	300	16	2.9	24	TO-8
SMA70-2	10	300	8	2.2	38	SMT0-8
CA78	5	300	14	3.5	35	Connectorized-SMA
A78	5	300	14	3.5	35	TO-8
SMA78	5	300	14	3.5	35	SMT
PAW1027	35	350	38.5	3.7	43	SOT115J
CA87-1	10	400	16	3.4	31	Connectorized-SMA
SMA411	10	400	15.8	3	24	SMT
SMA87-1	10	400	16	3.4	31	SMT
A87-1	10	400	16	3.4	31	TO-8
A411	10	400	15.8	3	24	TO-8
MAAM-008199-000A51	10	400	15	2.7	10	TO-8
EA1	5	400	14	4.3	13	TO-5
CA81-2	20	500	24.5	3	28	Connectorized-SMA

Low Noise Hybrid Amplifiers (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
SMA81-2	20	500	24.5	3	28	SMT
A80	20	500	29	2.3	27	TO-8
A81-2	20	500	24.5	3	28	TO-8
A81-3	20	500	17	4	20	TO-8
CA511	10	500	17	3.4	33	Connectorized-SMA
CA531	10	500	31.7	2	14	Connectorized-SMA
CA180	10	500	16.5	3.4	33	Connectorized-SMA
SMA75-3	10	500	20.5	1.7	16	SMT
A75-3	10	500	20.5	1.7	16	TO-8
A531	10	500	31.7	2	14	TO-8
A180	10	500	16.5	3.4	33	TO-8
A511	10	500	17	3.4	33	TO-8
SMA180	10	500	16.5	3.4	33	SMT
MAAM-007272-SMA514	5	500	28	4	32	SMT0-8
CA180	10	500	16.5	3.4	33	Connectorized-SMA
MAAM-007272-OCA515	5	500	27.5	3.5	33	Connectorized-SMA
CA74	5	500	30	3	20	Connectorized-SMA
AMC-147-SMA	5	500	17	3.4	33	Connectorized-SMA
AMC-143-SMA	5	500	15.8	2.5	20	Connectorized-SMA
AM-131-PIN	5	500	11.5	4	34	TO-8
AMC-123-SMA	5	500	10	5.5	30	Connectorized-SMA
MAAM-007272-SMA515	5	500	27.5	3.5	33	SMT0-8
A515	5	500	27.5	3.5	33	TO-8
CA75	5	500	21	2.1	21	Connectorized-SMA
CA76	5	500	28	3	28	Connectorized-SMA
A76	5	500	28	3	28	TO-8
SMA59	5	500	11.5	4.3	36	SMT
SMA75	5	500	21	2.1	21	SMT
SMA74	5	500	30	3	20	SMT
SMA58	5	500	11.5	4	34	SMT
EA53-2	5	500	19	3.6	24	TO-5
A74	5	500	30	3	20	TO-8
SMA73	5	500	32	3.5	15	SMT
A58	5	500	11.5	4	34	TO-8
SMA1	5	500	16	2.4	11	SMT
A1	5	500	16	2.4	11	TO-8
A73	5	500	32	3.5	15	TO-8
A75	5	500	21	2.1	21	TO-8
SMA76	5	500	28	3	28	SMT
SMA76-1	5	500	27.5	3	26	SMT
A59	5	500	11.5	4.3	36	TO-8
A76-1	5	500	27.5	3	26	TO-8
A514	5	500	28	4	32	TO-8
MAAM-007272-OCA514	5	500	28	4	32	Connectorized-SMA
SMA80	10	550	29	2.3	27	SMT0-8

Low Noise Hybrid Amplifiers (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
SMA67-1	10	600	15	3.7	30	SMT
CA67-1	10	600	15	3.7	30	Connectorized-SMA
A67-1	10	600	15	3.7	30	TO-8
A611	5	700	15	3.2	24	TO-8
SMA611	5	700	15	3.2	24	SMT
A67	10	800	14	4	30	TO-8
SMA67	10	800	14	4	30	SMT
CA66-3	10	1000	26	3	13	Connectorized-SMA
SMA66-3	10	1000	26	3	13	SMT
SMA1031	10	1000	28.5	2.7	22	SMT
A12	10	1000	16	2.8	22	TO-8
A66-3	10	1000	26	3	13	TO-8
A1031	10	1000	28.5	2.7	22	TO-8
A18-1	10	1000	14.7	3.8	30	TO-8
CA18-1	10	1000	14.7	3.8	30	Connectorized-SMA
SMA12	10	1000	16	2.8	22	SMT
SMA18-1	10	1000	14.7	3.8	30	SM
AMC-176-SMA	5	1000	13.2	4	27	Connectorized-SMA
A11	5	1000	14.7	3.1	10	TO-8
SMA11-2	5	1000	16	2.5	10	SMT
A63	5	1000	16	3	15	TO-8
AMC-182-SMA	5	1000	28.2	3.5	20	Connectorized-SMA
SMA63	5	1000	16	3	15	SMT
CA1212	100	1200	14	1.8	29	Connectorized-SMA
A1212	100	1200	14	1.8	29	TO-8
SMA1212	100	1200	14	1.8	29	SMT
MAAM-008198-SMA162	10	1200	13	3.5	18	SMT-TO-8
SMA1211	10	1200	14	2.8	20	SMT
CA12	10	1200	14	2.8	20	Connectorized-SMA
A1211	10	1200	14	2.8	20	TO-8
MAAM-008198-OCA162	10	1200	13	3.5	18	Connectorized-SMA
CA28-2	10	1500	14	3.5	24	Connectorized-SMA
A28-2	10	1500	14	3.5	24	TO-8
SMA28-2	10	1500	14	3.5	24	SMT
A25-1	2	1500	13.5	3	22	TO-8
PA38	200	2000	10	4	34	TO-8
CPA38	200	2000	10	4	34	Connectorized-SMA
SMPA38	200	2000	10	4	34	SMT
CA32	100	2000	13	2.1	32	Connectorized-SMA
SMA32	100	2000	13	2.1	32	SMT
SMA32-1	100	2000	11.5	2.5	25	SMT
A32-1	100	2000	11.5	2.5	25	TO-8
A32	100	2000	13	2.1	32	TO-8
CA32-1	100	2000	11.5	2.5	25	Connectorized-SMA
A31-1	10	2000	11.5	3.5	9	TO-8

Low Noise Hybrid Amplifiers (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Noise Figure (mA)	OIP3 (dBm)	Package
MAAM-007501-0A2002	20	2700	11.5	2.5	40	TO-8
MAAM-007501-CA2002	20	2700	11.5	2.5	40	Connectorized-SMA
MAAM-007501-SA2002	20	2700	11.5	2.5	40	SMT-8
SMA45	1000	4000	17.5	4	29	SMT
CA45	1000	4000	17.5	4	29	Connectorized-SMA
SMA66-3	10	1000	26	3	13	SMT
A45-1	1000	4000	17.5	4	26	TO-8
SMA4012	1000	4000	18	3.5	26	SMT
A4012	1000	4000	18	3.5	26	TO-8
A4011	1000	4000	15.5	2	29	TO-8
SMA45-1	1000	4000	17.5	4	26	SMT
A45	1000	4000	17.5	4	29	TO-8
SMA4011	1000	4000	15.5	2	29	SMT
A61	2000	6000	7.5	3.2	25	TO-8
A6011	2000	6000	14.8	1.5	30	TO-8
SMA61	C2000	6000	7.5	3.2	25	SMT
CA6011	2000	6000	14.8	1.5	30	Connectorized-SMA
SMA6011	1500	6000	14.8	1.5	30	SMT-8

Mixers

Part Number	Min Freq RF/RO (MHz)	Max Freq RF/RO (MHz)	Min Freq IF (MHz)	Max Freq (MHz)	Package
M6D-50	0.05	200	0	200	Relay Header
MAC-50-PIN	0.2	200	0	200	TO-5
MDS-222-PIN	0.2	200	0.2	200	SF-1
SM6D	0.05	200	0	200	SMT
M6E-50	5	500	0	500	Relay Header
M9BC	0.5	500	0	500	Relay Header
MAC-51-PIN	5	500	0	500	TO-5
MD-108-PIN	5	500	0	500	RH-3
MD-161-PIN	1	500	0	500	FP-2
MDS-223-PIN	10	500	10	500	SF-1
SM6V	0.4	500	0	500	SMT
MIH	180	620	0	200	SMA
M6EH	5	750	0	500	Relay Header
SM6EH	5	750	0	500	SMT
M2E	10	1000	0	600	TO-8
M2EC	10	1000	0	600	SMA
SM2E	10	1000	0	600	SMT
M2AC	10	1500	0	800	SMA
M4A	10	1500	0	1000	Flatpack-SMT
M9H	10	1500	0	600	TO-8
M9HC	10	1500	0	600	SMA
MD-148-PIN	10	1500	10	1500	FP-2
MD-149-PIN	10	1500	10	1500	FP-2
MD-149-PIN	102	1500	102	1500	FPO2

Mixers (continued)

Part Number	Min Freq RF/RO (MHz)	Max Freq RF/RO (MHz)	Min Freq IF (MHz)	Max Freq (MHz)	Package
MD-160-PIN	1	1500	1	1000	RH-3
MDS-148-PIN	10	1500	10	1500	SF-1
MDS-149-PIN	10	1500	10	1500	SF-1
MDS-158-PIN	5	1500	—	—	SF-1
SM4A	10	1500	0	1000	SMT
SM4B	10	1500	0	1000	SMT
M2B	10	1600	0	800	TO-8
M2BC	10	1600	0	800	SMA
M2TC	10	2400	1	1000	SMA
SM4G	800	2400	0	1500	SMT
MD-123-PIN	10	3000	10	3000	FP-2
M4TH	1	3400	1	2000	Flatpack-SMT
M8T	1	3400	1	2000	TO-8
M8TC	1	3400	1	2000	SMA
M8TH	1	3400	1	2000	TO-8
M8THC	1	3400	1	2000	SMA
SM4T	1	3400	1	2000	SMT
SM4T17	1	3400	1	2000	SMT
SM4TH	1	3400	1	2000	SMT
M2G	800	3500	0	1500	TO-8
M2GC	800	3500	0	1500	SMA
MD-169-PIN	1	3500	1	3500	FP-2
MD-189-PIN	1	3500	1	3500	FP-2
MDC-169-SMA	1	3500	1	3500	C-7
MDS-169-PIN	1	3500	5	1500	SF-1
MDS-189-PIN	1	3500	1	3500	SF-1
MD-179-PIN	1	4000	5	1500	FP-2
MDC-179-SMA	1	4000	5	1500	C-7
M8H-3	3700	4200	0	2000	TO-8
SM5T	50	5000	50	3000	SMT
SM5T17	50	5000	50	3000	SMT
SM5TH	50	5000	50	3000	SMT
M63C	2500	5500	0	1500	SMA
MZ6310C	250	5500	0	1500	SMA
M8H-7	2400	6000	0	2000	TO-8
M8HC-7	2400	6000	0	2000	SMA
MDC-162-SMA	1000	7000	10	2000	C-2
MY63	2500	7000	0	15000	Versapac
MY63C	2500	7000	0	15000	SMA
M63H	2500	7500	0	1500	Minpac
M63HC	2500	7500	0	1500	SMA
MY63H	2500	7500	0	1500	Versapac
MY63HC	2500	7500	0	1500	SMA
M76H	4500	8500	0	2000	Minpac
M76HC	4500	8500	0	2000	SMA
MY76H	4500	8500	0	2000	Versapac
MY76HC	4500	8500	0	2000	SMA
M76	4500	9500	0	2000	Minpac
M76C	4500	9500	0	2000	SMA
MY76	4500	9500	0	2000	Versapac
MY76C	4500	9500	0	2000	SMA

Mixers (continued)

Part Number	Min Freq RF/RO (MHz)	Max Freq RF/RO (MHz)	Min Freq IF (MHz)	Max Freq (MHz)	Package
MY84	1800	10000	0	1000	Versapac
MY84C	1800	10000	0	1000	SMA
M77C	8000	12500	0	2500	SMA
MY77	8000	12500	0	2500	Versapac
M14A	6000	14000	0	2000	SMA
MY77C	8000	12500	0	2500	SMA
M67C	9000	15000	0	2500	SMA
M50A	2000	18000	2000	18000	Minpac
M50AC	2000	18000	2000	18000	SMA
M74	7000	18000	0	3000	Minpac
M74C	7000	18000	0	3000	SMA
M8H-3	3700	4200	0	2000	TO-8
SM5T	50	5000	50	3000	SMT
SM5T17	50	5000	50	3000	SMT
SM5TH	50	5000	50	3000	SMT
M63C	2500	5500	0	1500	SMA
MZ6310C	250	5500	0	1500	SMA
M8H-7	2400	6000	0	2000	TO-8
M8HC-7	2400	6000	0	2000	SMA
MDC-162-SMA	1000	7000	10	2000	C-2
MY63	2500	7000	0	15000	Versapac
MY63C	2500	7000	0	15000	SMA
M63H	2500	7500	0	1500	Minpac
M63HC	2500	7500	0	1500	SMA
MY63H	2500	7500	0	1500	Versapac
MY63HC	2500	7500	0	1500	SMA
M76H	4500	8500	0	2000	Minpac
M76HC	4500	8500	0	2000	SMA
MY76H	4500	8500	0	2000	Versapac
MY76HC	4500	8500	0	2000	SMA
M76	4500	9500	0	2000	Minpac
M76C	4500	9500	0	2000	SMA
MY76	4500	9500	0	2000	Versapac
MY76C	4500	9500	0	2000	SMA
MY84	1800	10000	0	1000	Versapac
MY84C	1800	10000	0	1000	SMA
M77C	8000	12500	0	2500	SMA
MY77	8000	12500	0	2500	Versapac
M14A	6000	14000	0	2000	SMA
MY77C	8000	12500	0	2500	SMA
M67C	9000	15000	0	2500	SMA
M50A	2000	18000	2000	18000	Minpac
M50AC	2000	18000	2000	18000	SMA
M74	7000	18000	0	3000	Minpac
M74C	7000	18000	0	3000	SMA
M79C	5000	18000	0	3000	SMA
M79H	5000	18000	0	3000	Minpac
M79HC	5000	18000	0	3000	SMA
M80C	4000	18000	0	3000	SMA
M83	1000	18000	30	5000	Minpac

Mixers (continued)

Part Number	Min Freq RF/RO (MHz)	Max Freq RF/RO (MHz)	Min Freq IF (MHz)	Max Freq (MHz)	Package
M83C	1000	18000	30	5000	SMA
M85	2000	18000	0	1000	Minpac
M85C	2000	18000	0	1000	SMA
M86C	3500	18000	0	3000	SMA
M88C	2000	18000	1000	8000	SMA
M88H	2000	18000	2000	8000	Minpac
M88HC	2000	18000	2000	8000	SMA
M89C	1000	18000	1000	8000	SMA
M93C	2000	18000	30	4000	SMA
MY82	2000	18000	30	5000	Versapac
MY82C	2000	18000	30	5000	SMA
MY83H	2	18000	30	5000	Versapac
MY83HC	2	18000	30	5000	SMA
MY85	2000	18000	0	1000	Versapac
MY85C	2000	18000	0	1000	SMA
MY88	2000	18000	1000	8000	Versapac
MY88C	2000	18000	1000	8000	SMA
MY88HC	1000	18000	1000	8000	SMA
MY89	2000	18000	2000	8000	Versapac
MY89C	2000	18000	2000	8000	SMA
MY93	2000	18000	30	4000	Versapac
MY93C	2000	18000	30	4000	SMA
MZ7407	6000	18000	0	3000	Versapac
MZ7407C	6000	18000	0	3000	SMA
MZ7410	6000	18000	0	3000	Versapac
MZ7410C	6000	18000	0	3000	SMA
MZ7420	6000	18000	0	3000	Versapac
MZ7420C	6000	18000	0	3000	SMA
MZ8810C	2000	18000	1000	8000	SMA
MZ8813	2000	18000	1000	8000	Versapac
MZ9310	2000	18000	30	5000	Versapac
MZ9310C	2000	18000	30	5000	SMA
MZ9313	2000	18000	30	5000	Versapac
MZ9313C	2000	18000	30	5000	SMA
M87C	500	19000	30	5000	SMA
MY87	500	19000	30	5000	Versapac
MY87C	500	19000	30	5000	SMA
M51C	2000	24000	1000	15000	SMA
M52C	2000	24000	100	5000	SMA
MY51	2000	24000	1000	15000	Versapac
MY51C	2000	24000	1000	15000	SMA
MY52	2000	24000	100	5000	Versapac
MY52C	2000	24000	100	5000	SMA
M50C	2000	26000	1000	15000	SMA
M53C	2000	26000	100	6000	SMA
MY50	2000	26000	1000	15000	Versapac
MY50A	2000	26000	1000	12000	Versapac
MY50AC	2000	26000	1000	12000	SMA
MY50C	2000	26000	1000	15000	SMA
MZ5010	2000	26000	1	15000	Versapac
MZ5010C	2000	26000	1	15000	SMA

Switches: SPDT

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
SW-313-PIN	50	3000	0.8	52	46	CR-2
SW-226-PIN	0	4000	1	48	46	CR-2
SW-227-PIN	0	4000	1	50	46	CR-2
SW-228-PIN	0	4000	0.7	42	46	CR-2

Power Dividers

Part Number	Min Freq (MHz)	Max Freq (MHz)	Channels (#)	Amplitude Balance (dB)	Phase Balance (°)	Isolation (dB)	Max Input Power (dBm)	Package
M3H-50-PIN	1	100	3	0.2	1	30	30	TO-5
DS-310-PIN	0	300	4	0.2	4	25	30	FP-5
M3V-50-PIN	50	300	3	0.2	2	25	30	TO-5
DS-113-PIN	0	400	2	0.2	1	25	30	FP-2
DSS-113-PIN	0	400	2	0.2	1	25	30	SF-1
DS-318-PIN	5	500	2	0.2	1	18	30	RH-1
DS-109-PIN	10	500	2	0.2	1	25	30	FP-2
DSS-333-PIN	10	500	2	0.2	2	25	30	SF-1
DS-319-PIN	10	500	2	0.2	1	25	30	TO-8
DS-112-PIN	10	500	3	0.2	2	25	30	TO-5
DS-328-PIN	3	700	3	0.3	3	20	30	TO-8
DSS-327-PIN	5	1000	2	0.2	3	20	30	FP-2
DSS-333-PIN	5	1000	2	0.2	3	20	30	FP-2
DS-323-PIN	25	1000	3	0.4	4	24	30	FP-3
DS-324-PIN	25	1000	4	0.3	6	20	30	FP-5
DS-331-PIN	750	1500	2	0.2	6	10	30	TO-8
DS-313-PIN	10	2000	2	0.3	4	23	24	FP-2
DSS-313-PIN	10	2000	2	0.3	4	23	24	SF-1
DS-332-PIN	1000	2000	2	0.2	6	10	30	TO-8

Appendix and Part Number Index

- Package Selection Guide
- Decibels-Volts-Watts Conversion Table
- Wavelength and Frequency
- Part Number Index

Plastic Leadless Packages

PackageApprox	Outline Dimensions (mm)	
1 mm X1-DFN-6LD	1 x 1 x 0.45	
1.2 x 1.5 TDFN-6LD	1.2 x 1.5 x 0.75	
1.5 x 1.2 TDFN-6LD	1.5 x 1.2 x 0.75	
2 mm STDFN-8LD	2 x 2 x 0.55	
2 mm STQFN-12LD	2 x 2 x 0.55	
2 x 2.5 mm STQFN-14LD	2 x 2.5 x 0.55	
3 mm PQFN-12LD/16LD	3 x 3 x 0.9	
3 mm TQFN-12LD/16LD	3 x 3 x 0.75	
3 mm HQFN-16LD	3 x 3 x 1.5	
4 mm PQFN-16LD/20LD/24LD	4 x 4 x 0.9	
4 mm TQFN-16LD/20LD	4 x 4 x 0.75	
4 mm HQFN-8LD/16LD/20LD	4 x 4 x 1.5	
4 x 5 mm PQFN-28LD	4 x 5 x 0.9	
4 x 6 mm PQFN-32LD	4 x 6 x 0.9	
4 x 7 mm PQFN-36LD	4 x 7 x 0.9	
5 mm PQFN-20LD/24LD/28LD/32LD/40LD	5 x 5 x 0.9	
5 mm HQFN-32LD		
5 x 7 mm PQFN-40LD	5 x 7 x 0.9	
5 x 8 mm PQFN-52LD	5 x 8 x 0.9	
6 mm PQFN-28LD/40LD/48LD	6 x 6 x 0.9	
7 mm PQFN-13LD/16LD/32LD/44LD	7 x 7 x 0.9	
7 mm HQFN-16LD/32LD	7 x 7 x 1.5	

Plastic Leaded Packages

SC-79	0.8 x 1.6 x 0.6	
SOD-323	1.3 x 2.5 x 1.1	
SOT-23	2.9 x 2.4 x 1	
SOT-25	2.9 x 2.8 x 1.3	
SOT-26	2.9 x 2.8 x 1.3	

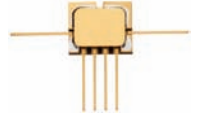
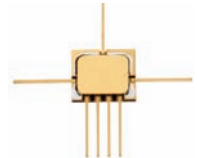
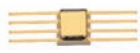
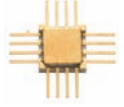
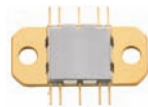
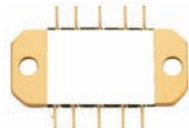
Plastic Leaded Packages

Package	Approx Outline Dimensions (mm)	
SOT-89	4.5 x 4 x 1.5	
SOT-143	2.9 x 2.4 x 1	
SC70 3LD (SOT-323)	2 x 2.1 x 1	
SC70 6LD (SOT-363)	2 x 2.1 x 1	
SOIC-8/SOIC-8EP	4.9 x 6 x 1.6	
SOIC-14	8.7 x 6 x 1.6	
SOIC-16	9.9 x 6 x 1.6	
SOW-16	10.3 x 10.3 x 2.5	
SOW-24	15.4 x 10.3 x 2.5	
TSSOP-16	5 x 6.4 x 1.1	
SSOP-20	7.2 x 7.8 x 1.9	
MSOP-8	3 x 4.9 x 1	
MSOP-8EP	3 x 4.9 x 1	
MSOP-10/MSOP-10EP	3 x 4.9 x 1	
QSOP-16	4.9 x 6 x 1.6	
QSOP-24	8.7 x 6 x 1.6	
QSOP-28	9.9 x 6 x 1.6	

Ceramic/Chip Diode Packages

Package	Approx Outline Dimensions (mm)	
30 Ceramic	3.2 dia. x 5.7	
134 Die	0.4 x 0.4 x 0.2	
186 Ceramic	11.2 x 2.5 x 1.1	
401 Axial Lead	2.3 dia. x 55	
1027 Ceramic	8 dia. x 6.9	
1056 Ceramic	1.9 x 1.9 x 1	
1072 Ceramic	2.4 x 2.4 x 3.4	
1073 Ceramic	12.3 dia. x 10	
1038 Ceramic	8 dia. x 17	
1080 Ceramic	8 dia. x 22.2	
1082 Ceramic	8 dia. x 19.8	
1088 Ceramic	2.4 x 1.3 x 1	
1246 SURMOUNT™	1.2 x 0.5 x 0.2	

Metal/Ceramic Packages

Package	Approx Outline Dimensions (mm)	
CR2-6LD	18.3 x 11.3 x 1.3	
CR2	18.3 x 17.1 x 1.3	
CR3	16.2 x 4.6 x 1.6	
CR4	12.4 x 12.4 x 1.6	
CR5	8.9 x 8.0 x 1.6	
CR6	11.4 x 8.9 x 1.6	
CR12	11.4 x 11.4 x 2.0	
CR13	16.5 x 11.4 x 2.0	
CR15	17.8 x 11.4 x 2	
CR16	9.8 x 8.3 x 1.5	
1000017733	23.5 x 13.8 x 2.8	

Metal/Ceramic Packages

Package	Approx Outline Dimensions (mm)
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MOD2	20.3 x 15 x 6.6
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MOD3	20.3 x 15 x 4.8
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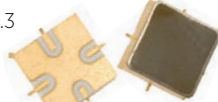
SMA-AMP	23.4 x 27.9 x 13.3
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SMA-MXR	22.9 x 22.9 x 14
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SMT-01	11.4 x 11.4 x 4.3
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SMT-02	10 x 13 x 4
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SMT-88	13.4 x 13.4 x 4.3
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SMT-88F	11.4 x 11.4 x 4.3
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TO-8-01	12.7 dia. x 11
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TO-8-02	12.7 dia. x 9.7
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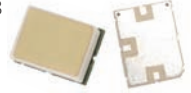
TO-8-03	15.2 dia. x 9.7
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Metal/Ceramic Packages (continued)

Package	Approx Outline Dimensions (mm)
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CSM	12.5 x 9.4 x 4.8
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FP	13 x 9.8 x 3.6
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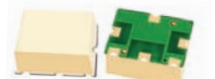
MOD1	14.2 x 13.2 x 4.8
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Passives Packages

Package	Approx Outline Dimensions (mm)
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SM-2	12.5 x 9.4 x 6.4
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SM-4	12.4 x 9.4 x 5.8
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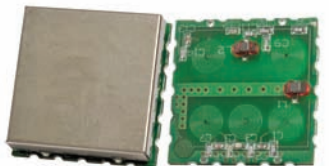
SM-22	3.8 x 3.8 x 3.8
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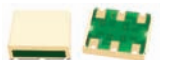
SM-55	7.1 x 6.4 x 3.6
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SM-85	30 x 30 x 9
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SM-89	8 x 6.4 x 0.15
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SM-138	4.2 x 5.3 x 3.9
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SM-152	4.2 x 5.3 x 4.3
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Transistor Packages

Package	Approx Outline Dimensions (mm)
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P-237 Ceramic	20 x 15 x 4
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P-238 Ceramic	34 x 19.6 x 4
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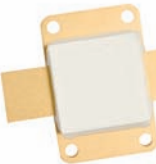
P-239 Ceramic	21 x 1 x 4
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355E-01, Style 1 Ceramic	23 x 21 x 5
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368-03, Style 2 Ceramic	38 x 50 x 9
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PH1214-M Series Ceramic	23 x 10 x 4.5
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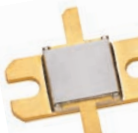
P-8TF	20.8 x 6.4 x 3.5
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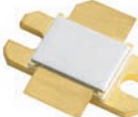
Transistor Packages (continued)

Package	Approx Outline Dimensions (mm)
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P-51H	22.9 x 10.2 x 5.5
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P-94C	22.9 x 10.2 x 5.5
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P-94D	22.9 x 10.2 x 4.2
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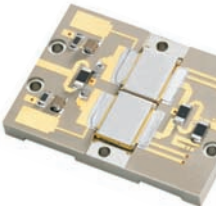
P-94I	22.9 x 10.2 x 4.2
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P-154C	25.4 x 15.2 x 5.1
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Pallet	50.8 x 35.8 x 7
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GaN Packages

Package:
Ceramic Air Cavity (AC)

Approx Outline Dimensions (mm)

AC-200B-2
13.97 x 8.13 x 3.1 mm



AC-200S-2
5.18 x 8.13 x 3.1 mm



AC-360B-2
20.32 x 10.92 x 3.86 mm



AC-360S-2
9.65 x 10.92 x 3.86 mm



AC-400S-2
10.16 x 14.96 x 4.11 mm



AC-780B-2
34.04 x 19.43 x 3.6 mm



AC-780S-2
20.57 x 19.43 x 3.6 mm



AC-780B-4
34.04 x 19.43 x 3.36 mm



AC-780S-4
20.57 x 19.43 x 3.62 mm



AC-1230B-4
41.28 x 19.61 x 4.42 mm



AC-1230S-4
32.26 x 19.61 x 4.42 mm



GaN Packages (continued)

Package:
Plastic

Approx Outline Dimensions (mm)

3 x 6 mm PDFN-14
6.0 x 3.0 x 1.0 mm



SOIC-EP
4.9 x 6.1 x 1.47 mm



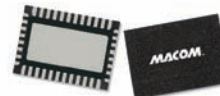
4 mm PQFN-24
4.0 x 4.0 mm



5 x 6 mm PDFN-8
6.0 x 5.0 mm



5 x 7 mm PDFN-40
4.0 x 4.0 mm



TO-272-2
23.62 x 11.18 x 2.59 mm



TO-272-4
23.62 x 14.1 x 2.59 mm



TO-272S-2
17.25 x 11.18 x 2.59 mm



TO-272S-2B
17.25 x 11.18 x 2.59 mm



TO-272S-4
17.25 x 11.18 x 2.59 mm



TO-272S-4I
17.25 x 11.18 x 2.59 mm



Decibels – Volts – Watts Conversion Table



			50-ohm System Terminated								
dBm	V	P ₀	dBm	V	P ₀	dBm	mV	P ₀	dBm	V	P ₀
53	100	200W									
50	70.7	100W	0	0.225	1 mW	-49	0.8		-97	3.2	
49	64	80W	-1	0.2	0.8 mW	-50	0.71	.01 µW	-98	2.9	
48	58	64W	-2	0.18	0.64 mW	-51	0.64		-99	2.51	
47	50	50W	-3	0.16	0.5 mW	-52	0.57		-100	2.25	0.1 pW
46	44.5	40W	-4	0.141	0.4 mW	-53	0.5		-101	2	
45	40	32W	-5	0.125	0.32 mW	-54	0.45		-102	1.8	
44	32.5	25W	-6	0.115	0.25 mW	-55	0.4		-103	1.6	
43	32	20W	-7	0.1	0.2 mW	-56	0.351		-104	1.41	
42	28	16W	-8	0.09	0.16 mW	-57	0.32		-105	1.27	
41	26.2	12.5W	-9	0.08	0.125 mW	-58	0.286		-106	1.18	
40	22.5	10W	-10	0.071	0.1 mW	-59	0.251				
39	20	8W	-11	0.064		-60	0.225	0.001 µW	dBm	nV	
38	18	6.4W	-12	0.058		-61	0.2		-107	1000	
37	16	5W	-13	0.05		-62	0.18		-108	900	
36	14.1	4W	-14	0.045		-63	0.16		-109	800	
35	12.5	3.2W	-15	0.04		-64	0.141		-110	710	0.01 pW
34	11.5	2.5W	-16	0.0355					-111	640	
33	10	2W				dBm	µV		-112	580	
32	9	1.6W	dBm	mV		-65	128		-113	500	
31	8	1.25W	-17	31.5		-66	115		-114	450	
30	7.1	1W	-18	28.5		-67	100		-115	400	
29	6.4	800 mW	-19	25.1		-68	90		-116	355	
28	5.8	640 mW	-20	22.5	.01 mW	-69	80		-117	825	
27	5	500 mW	-21	20		-70	71	0.1 nW	-118	285	
26	4.45	400 mW	-22	17.9		-71	65		-119	251	
25	4	320 mW	-23	15.9		-72	58		-120	225	0.001 pW
24	3.55	250 mW	-24	14.1		-73	50		-121	200	
23	3.2	200 mW	-25	12.8		-74	45		-122	180	
22	2.8	160 mW	-26	11.5		-75	40		-123	160	
21	2.52	125 mW	-27	10		-76	35		-124	141	
20	2.25	100 mW	-28	8.9		-77	32		-125	128	
19	2	80 mW	-29	8		-78	29		-126	117	
18	1.8	64 mW	-30	7.1	.001 mW	-79	25		-127	100	
17	1.6	50 mW	-31	6.25		-80	22.5	0.01 nW	-128	90	
16	1.41	40 mW	-32	5.8		-81	20		-129	80	0.1 fW
15	1.25	32 mW	-33	5		-82	18		-130	71	
14	1.15	25 mW	-34	4.5		-83	16		-131	61	
13	1	20 mW	-35	4		-84	11.1		-132	58	
12	0.9	16 mW	-36	3.5		-85	12.9		-133	50	
11	0.8	12.5 mW	-37	3.2		-86	11.5		-134	45	
10	0.71	10 mW	-38	2.85		-87	10		-135	40	
9	0.64	8 mW	-39	2.5		-88	9		-136	35	
8	0.58	6.4 mW	-40	2.25	1 µW	-89	8		-137	33	
7	0.5	5 mW	-41	2		-90	7.1	0.001 nW	-138	29	
6	0.445	4 mW	-42	1.8		-91	6.1		-139	25	
5	0.4	3.2 mW	-43	1.6		-92	5.75		-140	23	0.01 fW
4	0.355	2.5 mW	-44	1.4		-93	5				
3	0.32	2 mW	-45	1.25		-94	4.5				
2	0.28	1.6 mW	-46	1.18		-95	4				
1	0.252	1.25 mW	-47	1		-96	3.51				
			-48	0.9							

Frequency Band Designations

Previous Frequency Designations	P	L	S	C	X	Ku	K	Ka	
Current Frequency Designations	C	D	E	F	G	H	I	J	K
0.51.02.03.04.06.08.010.012.418.020.026.540.0									
Frequency (GHz)									

Wavelength and Frequency

For all forms of wave, the velocity, wavelength, and frequency are related such that

$$\lambda F \sqrt{\epsilon_r \mu_r} = c$$

- λ = wavelength in meters (m)
- F = frequency in hertz (Hz)
- ϵ_r = relative dielectric constant of propagation medium
- c = velocity of light (300,000,000 m/s)
- μ_r = relative permeability of propagation medium

The dielectric constant (ϵ) is a property of the medium in which the wave propagates. The value of ϵ is defined as 1.000 for a perfect vacuum, and very nearly 1.0 for dry air (typically 1.006). In most practical applications, the value of ϵ in dry air is taken to be 1.000. For mediums other than air or vacuum, however, the velocity of propagation is slower, and the value of ϵ relative to a vacuum is higher. Teflon®, for example, can be made with dielectric constant values (ϵ) from about 2 to 11.

Frequency vs Wavelength

Frequency	Wavelength
1 MHz	300 meters (m)
10 MHz	30 m
100 MHz	3 m
300 MHz	1 m—100 centimeters (cm)
1 GHz	30 cm
10 GHz	3 cm
100 GHz	3 millimeters (mm)
300 GHz	1 mm—10 ⁻³ m
3 x 10 ¹⁴	1 micron—10 ⁻⁶ m

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1N5719.....	35	2032-6371-00 ♦.....	74	910R1 thru 911R9.....	81	A55.....	21, 89
1N5819.....	46	2032-6374-00 ♦.....	74	91100 thru 91199.....	81	A56.....	21, 89
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2020-6600-06 ♦.....	71	2035-6364-00 ♦.....	72	9115R0K-BOO.....	82	A58.....	25, 93
2020-6601-10 ♦.....	72	2035-6366-00 ♦.....	73	9115R0K-BSP-1.....	82	A59.....	25, 93
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MADP-010631-13920T	38	MAFL-008290-CD0ACO	84	MAGX-100027-100COP	12	MAPD-008072-ESSM26	75
MADP-010633-13920T	38	MAFL-009055-CD4254	84	MAGX-100027-300COP	12	MAPD-008108-C202CO	75
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MACOM Technology Solutions Inc.
100 Chelmsford Street
Lowell, Massachusetts 01851

North America
800.366.2266

Europe
+353.21.244.6400

India
+91.80.43537383

China (Shanghai)
+86.21.6042.8200

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