



GlobalPower

TechnologiesGroup

SiC Semiconductors for the World

About Us

Global Power Technologies Group (GPTG) is focused on developing and manufacturing the next generation power electronics technologies based on fundamental wide bandgap semiconductor and amorphous magnetic materials properties for high frequency, high temperature, high voltage, low cost and high efficiency power device products.

Founded in 2007, GPTG was strategically planned and incubated by creating a value chain of SiC solutions that are synergistic to each other and vertically integrated, offering high value solutions from SiC epitaxial material, SiC devices, SiC modules and SiC subsystems to customers at every level that seek high performance, low cost and high volume SiC based products. Under this structure, SiC technology is expected to be fully and economically deployed to meet the market pull by the industry segments which desperately seek power system efficiency improvements.





DISCRETES

SiC Diode Discrete 2 - 3

SiC Diode Bare Die..... 4

MODULES

SiC SBDs Modules.....5

Si MOSFET Modules..... 6

Si SBDs Modules..... 7 - 8

Si Super-Fast Diode Modules..... 9

Si IGBT Modules 10 - 11



Si IGBT PIM Modules..... 12


Hybrid PIM Modules 13 - 14



Hybrid 6-pack Modules with NTC 15

Hybrid (Si IGBTs + SiC Diode) Modules16 - 17

All SiC Power Modules 18 - 19

Package	GPTG Part Number	V_{DC}	I_F @25 °C	I_F @150 °C	$I_{F,SM}$ @25 °C	$V_{F,typ}$ @25 °C	$I_{R,typ}$ @25 °C	$Q_{C,typ}$ @25 °C
		[V]	[A]	[A]	[A]	[V]	[μ A]	[nC]
 <p>(TO-220-2L)</p>	GP2D003A060A	600	10	3	24	1.45	1	7
	GP2D005A060A	600	15	5	40	1.45	2	11
	GP2D006A060A	600	18	6	48	1.45	2	14
	GP2D010A060A	600	30	10	80	1.45	3	23
	GP2D012A060A	600	36	12	96	1.45	4	27
	GP2D003A065A	650	10	3	24	1.45	3	7
	GP2D004A065A	650	15	5	40	1.45	5	11
	GP2D005A065A	650	15	5	40	1.45	5	11
	GP2D006A065A	650	18	6	48	1.45	6	14
	GP2D008A065A	650	30	10	80	1.45	9	23
	GP2D010A065A	650	30	10	80	1.45	9	23
	GP2D012A065A	650	36	12	96	1.45	11	27
	GP2D005A120A	1200	17	6	40	1.6	1	22
	GP2D008A120A	1200	24	9	64	1.6	2	35
	GP2D010A120A	1200	33	12	80	1.6	2	43
	GP2D015A120A	1200	50	19	120	1.6	3	65
	GP2D020A120A	1200	65	24	160	1.6	4	86
	GP2D0P5A330A	3300	3	.5	4	1.8	1	6
	 <p>(TO-247-2L)</p>	GP2D010A060B	600	30	10	80	1.45	6
GP2D020A060B		600	58	20	160	1.45	6	45
GP2D024A060B		600	68	23	192	1.45	7	55
GP2D030A060B		600	85	29	240	1.45	9	68
GP2D050A060B		600	139	47	400	1.45	15	114
GP2D020A065B		650	58	20	160	1.45	18	45
GP2D008A120B		1200	33	9	80	1.6	2	43
GP2D010A120B		1200	33	12	80	1.6	2	43
GP2D015A120B		1200	50	19	120	1.6	3	65
GP2D020A120B		1200	65	24	160	1.6	4	86
GP2D030A120B		1200	94	35	240	1.6	5	129
GP2D050A120B		1200	157	58	400	1.6	8	216
GP2D005A170B		1700	21	8	40	1.55	1	29
GP2D010A170B		1700	40	15	80	1.55	2	58
GP2D020A170B		1700	77	29	160	1.55	3	117

 (TO-263-2L)	GP2D006A060D	600	18	6	48	1.45	2	14
	GP2D010A060D	600	30	10	80	1.45	3	23
	GP2D012A060D	600	36	12	96	1.45	4	27
	GP2D012A065D	650	36	12	96	1.45	4	27
	GP2D020A065D	650	58	20	160	1.45	18	45

Package	GPTG Part Number	V _{DC}	I _F @25 °C	I _F @150 °C	I _{F,SM} @25 °C	V _{F,typ} @25 °C	I _{R,typ} @25 °C	Q _{C,typ} @25 °C
		[V]	[A]	[A]	[A]	[V]	[μA]	[nC]
 (TO-252-2L)	GP2D003A060C	600	10	3	24	1.45	1	7
	GP2D005A060C	600	15	5	40	1.45	2	11
	GP2D006A060C	600	18	6	48	1.45	2	14
	GP2D003A065C	650	10	3	24	1.45	3	7
	GP2D005A065C	650	15	5	40	1.45	5	11
	GP2D006A065C	650	18	6	48	1.45	6	14
	GP2D010A065C	650	30	10	80	1.45	9	23
	GP2D012A065C	650	36	12	96	1.45	4	27
	GP2D005A120C	1200	17	6	40	1.6	1	22
	GP2D008A120C	1200	24	9	64	1.6	2	35
	GP2D010A120C	1200	33	12	80	1.6	2	43
 (TO-247-3L) *	GP2D020A060U	600	30*	10	80*	1.45*	3*	23*
	GP2D024A060U	600	36	12	96	1.45	4	27
	GP2D020A065U	600	30*	10	80*	1.45*	6*	23*
	GP2D010A120U	1200	17*	5	40*	1.6*	2*	22*
	GP2D016A120U	1200	24	9	64	1.6	2	35
	GP2D020A120U	1200	33*	12	80*	1.6*	2*	43*
	GP2D030A120U	1200	50*	15	120*	1.6*	3*	65*
	GP2D040A120U	1200	65*	20	160*	1.6*	4*	86*
	GP2D060A120U	1200	94*	30	240*	1.6*	5*	129*

* Characteristics per leg

Features

- High surge current capable
- Zero reverse recovery current
- High bandwidth
- Fast, temperature-independent switching

Benefits

- Unipolar rectifier
- Zero switching loss
- Higher efficiency
- Smaller heat sink
- Parallel devices with thermal stability


Applications


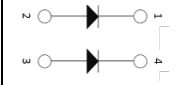
- Motor drives
- Switch mode power supplies
- Power factor correction

✓ Contact Global Power Technologies Group for other packages.

GPTG Part Number	V _{DC} [V]	I _F @25 °C	I _F @150 °C	I _{F,SM} @25 °C	V _{F,typ} @25 °C	I _{R,typ} @25 °C	Q _{C,typ} @25 °C
	[V]	[A]	[A]	[A]	[V]	[μA]	[nC]
GP2D003A060X	600	10	3	24	1.45	1	7
GP2D005A060X	600	15	5	40	1.45	2	11
GP2D006A060X	600	18	6	48	1.45	2	14
GP2D010A060X	600	30	10	80	1.45	3	23
GP2D012A060X	600	36	12	96	1.45	4	27
GP2D020A060X	600	58	20	160	1.45	6	45
GP2D030A060X	600	85	29	240	1.45	9	68
GP2D003A065X	650	10	3	24	1.45	3	7
GP2D005A065X	650	15	5	40	1.45	5	11
GP2D006A065X	650	18	6	48	1.45	6	14
GP2D010A065X	650	30	10	80	1.45	9	23
GP2D012A065X	650	36	12	96	1.45	11	27
GP2D020A065X	650	58	20	160	1.45	18	45
GP2D030A065X	650	85	29	240	1.45	27	68
GP2D005A120X	1200	17	6	40	1.6	1	22
GP2D008A120X	1200	24	9	64	1.6	2	35
GP2D010A120X	1200	33	12	80	1.6	2	43
GP2D015A120X	1200	50	19	120	1.6	3	65
GP2D020A120X	1200	65	24	160	1.6	4	86
GP2D030A120X	1200	94	35	240	1.6	5	129
GP2D005A170X	1700	21	8	40	1.55	1	29
GP2D010A170X	1700	40	15	80	1.55	2	58
GP2D020A170X	1700	77	29	160	1.55	3	117
GP2D0P5A330X	3300	3	1	4	1.8	1	6

MODULES & HYBRIDS

SOT-227 Si MOSFET Modules	Part Number	Drain-to-Source Voltage	Pulsed Drain Current	Drain-to-Source ON_resistance @ Vgs=10V	Total Gate Charge @Vgs=10V
		V_{DS} [V]	I_D [A]	R_{ds_ON} [m Ω]	Q_G [nC]
	GSNX320A010S1-E0	100	320	2.1	220
	GSNX360A015S1-E0	150	360	3.2	372
	GSNX450A010S1-E0	100	450	1.5	330
	GSNX500A006S1-E0	60	500	1.2	879

  Part Number	V_{RRM}	$I_{F,AV}$ $d=0.5^*$ Total	T_C	$I_{F,SM}$	V_F @25°C	$I_{F,AVM}$ $d=0.5^*$ Per Diode	T_J	$R_{th,JC}$
	[V]	[A]	[°C]	[A]	[V]	[A]	[°C]	[°C/W]
GSXD030A004S1-D3	45	60	125	500	0.70	30	150	1.2
GSXD030A006S1-D3	60	60	125	500	0.75	30	150	1.2
GSXD030A008S1-D3	80	60	125	500	0.84	30	150	1.2
GSXD030A010S1-D3	100	60	125	500	0.84	30	150	1.2
GSXD050A004S1-D3	45	100	125	750	0.70	50	150	0.8
GSXD050A006S1-D3	60	100	125	750	0.75	50	150	0.8
GSXD050A008S1-D3	80	100	125	750	0.84	50	150	0.8
GSXD050A010S1-D3	100	100	125	750	0.84	50	150	0.8
GSXD050A012S1-D3	120	100	125	750	0.88	50	150	0.8
GSXD050A015S1-D3	150	100	125	750	0.88	50	150	0.8
GSXD050A018S1-D3	180	100	125	750	0.92	50	150	0.8
GSXD050A020S1-D3	200	100	125	750	0.92	50	150	0.8
GSXD060A004S1-D3	45	120	125	800	0.70	60	150	0.8
GSXD060A006S1-D3	60	120	125	800	0.75	60	150	0.8
GSXD060A008S1-D3	80	120	125	800	0.84	60	150	0.8
GSXD060A010S1-D3	100	120	125	800	0.84	60	150	0.8
GSXD060A012S1-D3	120	120	125	800	0.88	60	150	0.8
GSXD060A015S1-D3	150	120	125	800	0.88	60	150	0.8
GSXD060A018S1-D3	180	120	125	800	0.92	60	150	0.8
GSXD060A020S1-D3	200	120	125	800	0.92	60	150	0.8
GSXD080A004S1-D3	45	160	125	900	0.70	80	150	0.6
GSXD080A006S1-D3	60	160	125	900	0.75	80	150	0.6
GSXD080A008S1-D3	80	160	125	900	0.84	80	150	0.6
GSXD080A010S1-D3	100	160	125	900	0.84	80	150	0.6
GSXD080A012S1-D3	120	160	125	900	0.88	80	150	0.6
GSXD080A015S1-D3	150	160	125	900	0.88	80	150	0.6
GSXD080A018S1-D3	180	160	125	900	0.92	80	150	0.6
GSXD080A020S1-D3	200	160	125	900	0.92	80	150	0.6

* Duty cycle

Part Number	V_{RRM}	$I_{F,AV}$ d=0.5 Total	T_C	$I_{F,SM}$	V_F @25°C	$I_{F,AVM}$ d=0.5 Per Diode	T_J	$R_{th,JC}$
	[V]	[A]	[°C]	[A]	[V]	[A]	[°C]	[°C/W]
GSXD100A004S1-D3	45	200	125	1400	0.70	100	150	0.4
GSXD100A006S1-D3	60	200	125	1400	0.75	100	150	0.4
GSXD100A008S1-D3	80	200	125	1400	0.84	100	150	0.4
GSXD100A010S1-D3	100	200	125	1400	0.84	100	150	0.4
GSXD100A012S1-D3	120	200	125	1400	0.88	100	150	0.4
GSXD100A015S1-D3	150	200	125	1400	0.88	100	150	0.4
GSXD100A018S1-D3	180	200	125	1400	0.92	100	150	0.4
GSXD100A020S1-D3	200	200	125	1400	0.92	100	150	0.4
GSXD120A004S1-D3	45	240	125	1500	0.70	120	150	0.38
GSXD120A006S1-D3	60	240	125	1500	0.75	120	150	0.38
GSXD120A008S1-D3	80	240	125	1500	0.84	120	150	0.38
GSXD120A010S1-D3	100	240	125	1500	0.84	120	150	0.38
GSXD120A012S1-D3	120	240	125	1500	0.88	120	150	0.38
GSXD120A015S1-D3	150	240	125	1500	0.88	120	150	0.38
GSXD120A018S1-D3	180	240	125	1500	0.92	120	150	0.38
GSXD120A020S1-D3	200	240	125	1500	0.92	120	150	0.38
GSXD160A008S1-D3	80	320	125	2000	0.84	160	150	0.3
GSXD160A010S1-D3	100	320	125	2000	0.84	160	150	0.3
GSXD160A012S1-D3	120	320	125	2000	0.88	160	150	0.3
GSXD160A015S1-D3	150	320	125	2000	0.88	160	150	0.3
GSXD160A018S1-D3	180	320	125	2000	0.92	160	150	0.3
GSXD160A020S1-D3	200	320	125	2000	0.92	160	150	0.3

Features



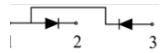
- High surge capability
- Electrically isolated base plate
- High junction temperature operation

Advantages

- Robust interconnection with top-side solder joint

Applications

- Supplies for DC power equipment
- Rectifier for induction heating
- Welding equipment
- High temperature and rectifiers

Part Number	V_{RRM}	$I_{F(AV)}$ d=0.5 Total	T_C	I_{FSM}	V_F @25°C	I_{FAVM} d=0.5 Per Diode	t_{rr}	T_J	R_{thJC}	
	[V]	[A]	[°C]	[A]	[V]	[A]	[°C]	[°C/W]	[V]	
 GSXF030A020S1-D3	200	60	125	400	1.00	30	60	150	1.2	
GSXF030A040S1-D3	400	60	125	400	1.20	30	60	150	1.2	
GSXF030A060S1-D3	600	60	125	400	1.50	30	60	150	1.2	
GSXF030A100S1-D3	1000	60	125	400	2.35	30	85	150	1.2	
GSXF030A120S1-D3	1200	60	125	400	2.35	30	85	150	1.2	
GSXF060A020S1-D3	200	120	125	900	1.00	60	75	150	0.8	
GSXF060A040S1-D3	400	120	125	900	1.30	60	75	150	0.8	
GSXF060A060S1-D3	600	120	125	900	1.50	60	90	150	0.8	
GSXF060A100S1-D3	1000	120	125	900	2.35	60	90	150	0.8	
GSXF060A120S1-D3	1200	120	125	900	2.35	60	90	150	0.8	
GSXF100A020S1-D3	200	200	125	1600	1.00	100	75	150	0.4	
GSXF100A040S1-D3	400	200	125	1600	1.30	100	90	150	0.4	
GSXF100A060S1-D3	600	200	125	1600	1.50	100	90	150	0.4	
GSXF100A100S1-D3	1000	200	125	1600	2.35	100	125	150	0.4	
GSXF100A120S1-D3	1200	200	125	1600	2.35	100	125	150	0.4	
GSXF120A020S1-D3	200	240	125	2100	1.00	120	100	150	0.38	
GSXF120A040S1-D3	400	240	125	2100	1.30	120	100	150	0.38	
GSXF120A060S1-D3	600	240	125	2100	1.50	120	105	150	0.38	
GSXF120A100S1-D3	1000	240	125	2100	2.35	120	135	150	0.38	
GSXF120A120S1-D3	1200	240	125	2100	2.35	120	135	150	0.38	
  1700V Si Diode Module										
GSXD300A170S2D5	1700	300	125	600	1.90	300	540	150	0.192	

Features

- High surge capability
- Isolation type package
- Electrically isolation base plate
- High junction temperature operation


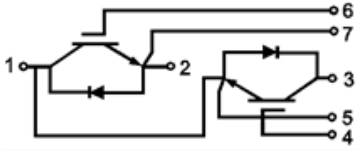

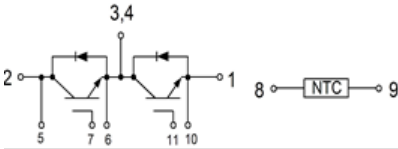
Advantages

- Robust interconnection with top-side solder joint

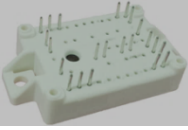
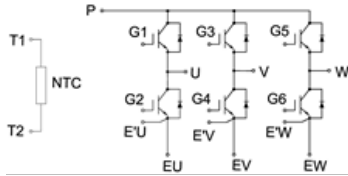
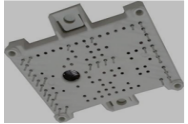
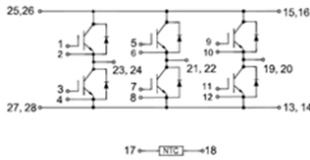
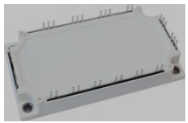
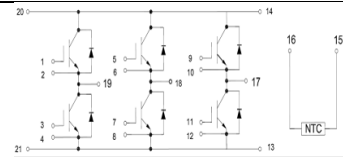

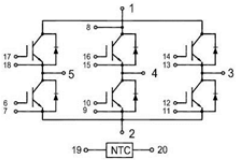
Applications

- Supplies for DC power equipment
- Rectifier for induction heating
- Welding equipment
- High temperature and rectifiers


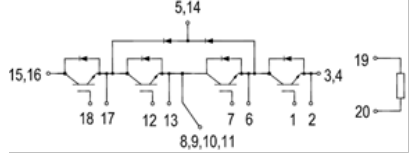
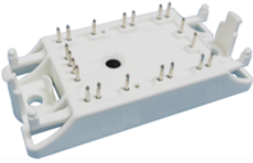
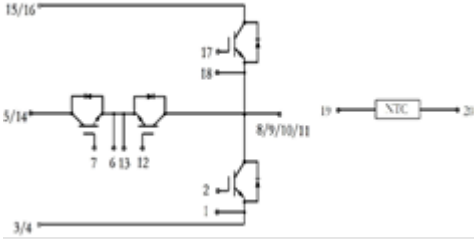

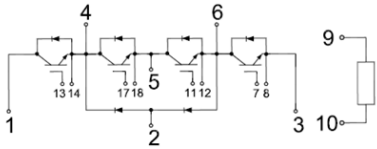
Half Bridge Si IGBT Modules

34 mm /62 mm Half Bridge Modules		Ic [A]	600 [V]	1200 [V]
		50	GSID050A060S2B1	GSID050A120S2B1
		75	GSID075A060S2B1	GSID075A120S2B1
		100	GSID100A060S2B1	GSID100A120S2B1
		200	GSID200A060S2B1	
		100	GSID100A060S3B1	GSID100A120S3B1
		150	GSID150A060S3B1	GSID150A120S3B1
		200	GSID200A060S3B1	GSID200A120S3B1
		300	GSID300A060S3B1	
		400	GSID400A060S3B1	
		150		GSID150A120S4B1
225		GSID225A120S4B1		
450	GSID450A065S4B1	GSID450A120S4B1		
600	GSID600A065S4B1	GSID600A120S4B1		

6-Pack Si IGBT Modules

EasyPack Compatible 6-Pack Modules		Ic [A]	600 [V]	1200 [V]
		15	GSID015A060B2C1	GSID015A120B2C1
		25		GSID025A120B2C1
		30	GSID030A060B2C1	
		35	GSID035A060B2C1	GSID035A120B2C1
		50	GSID050A060B2C1	
		50		GSID050A120B3C1
		75	GSID075A060B3C1	GSID075A120B3C1
		100	GSID100A060B3C1	
		50	GSID050A060T1C1	GSID050A120T1C1
		75	GSID075A060T1C1	GSID075A120T1C1
75	GSID075A065T1C1			
100	GSID100A060T1C1			
150	GSID150A060T1C1			
		50	GSID050A060T2C1	GSID050A120T2C1
		75	GSID075A060T2C1	GSID075A120T2C1
		100	GSID100A060T2C1	GSID100A120T2C1
		150	GSID150A060T2C1	GSID150A120T2C1
		100		GSID100A120S5C1
		150		GSID150A120S5C1
		200		GSID200A120S5C1
		300		GSID300A120S5C1

Three-Level Si IGBT Modules

Three-Level IGBT Modules		Ic [A]	600 [V]	1200 [V]
		75	GSID075A060B1A4	
		80		GSID080A120B1A5
		150		GSID150A120S6A4

Features

- High speed field-stop trench IGBTs
- 100% RBSOA tested
- Low collector to emitter saturation voltage
- Short circuit withstanding time (10 μs min.)

Advantages


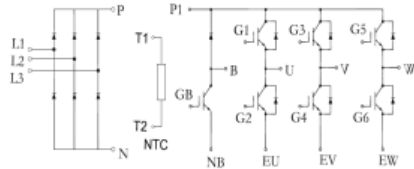
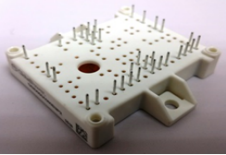
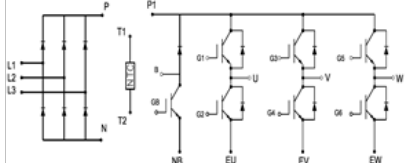

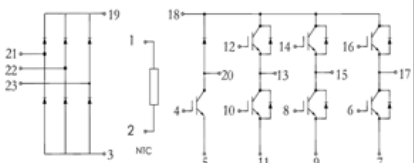

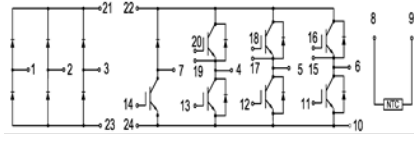

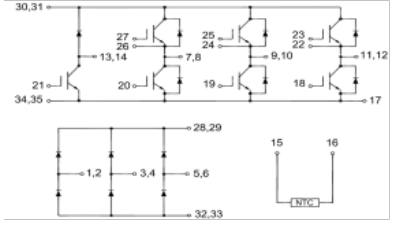
- Outstanding power conversion efficiency at high switching frequency operation
- Low loss and low EMI noise
- Very rugged and easy mount
- Direct mounting to heatsink

Applications

- Welding machine
- Cutting machine
- Induction heating
- Ultrasonic device
- UPS
- Solar inverter
- Charging station

Si IGBT PIM Modules

(Built-in Converter, Break and 6-Pack IGBTs)

EasyPIM Compatible with NTC, Solder pins		Ic [A]	600 [V]	1200 [V]
		10	GSID010A060B2P2	GHIS010A120B2P2
		15	GSID015A060B2P2	GHIS015A120B2P2
		20	GSID020A060B2P2	
		30	GSID030A060B2P2	
EasyPIM2 Compatible with NTC, Solder pins		25		GSID025A120B3P2
		35		GSID035A120B3P2
		50	GSID050A060B3P2	GSID050A120B3P2
Flow0 Compatible PIM with NTC, Solder pins		10	GSID010A060B1P2	GSID010A120B1P2
		15	GSID015A060B1P2	GSID015A120B1P2
		20	GSID020A060B1P2	
		30	GSID030A060B1P2	
Econo2 Compatible PIM with NTC, Solder pins		10	GSID010A060T1P2	GSID010A120T1P2
		15	GSID015A060T1P2	GSID015A120T1P2
		20	GSID020A060T1P2	
		25		GSID025A120T1P2
		35	GSID035A060T1P2	
		40		GSID040A120T1P2
		50	GSID050A060T1P2	GSID050A120T1P2
Econo3 Compatible PIM with NTC, Solder pins		40		GSID040A120T2P2
		50	GSID050A060T2P2	GSID050A120T2P2
		75	GSID075A060T2P2	GSID075A120T2P2
		100	GSID100A060T2P2	GSID100A120T2P2
		150	GSID150A060T2P2	

Features

- Short circuit rated 10μs
- Low saturation voltage:
- Low switching loss
- 100% RBSOA tested (2xlc)
- Low stray inductance
- Compliant with RoHS requirement

Advantages


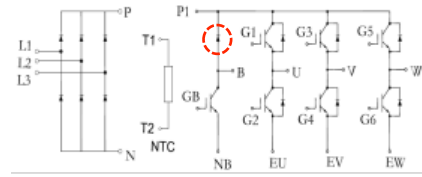
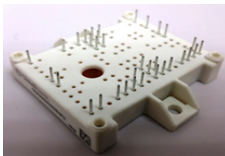
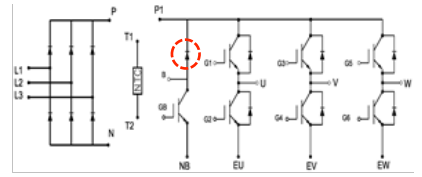

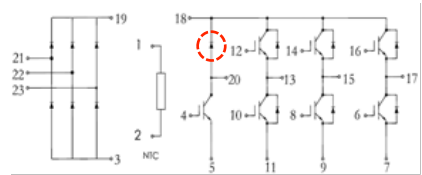
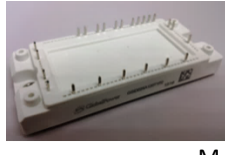
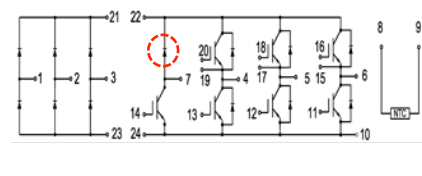

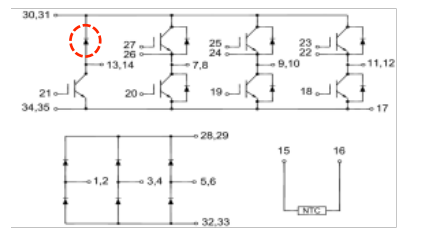
- High power densities
- Fast switching capability
- Low EMI noise

Applications

- Industrial inverters
- Servo applications
- Motor drivers

Hybrid PIM Modules

(Built-in Converter, Fast Break with SiC SBDs and 6-Pack IGBTs)

EasyPIM1B Compatible with NTC, Solder pins		Ic [A]	600 [V]	1200 [V]
 <p>L_B1a</p>		10	GHIS010A060B2P2	GHIS010A120B2P2
		15	GHIS015A060B2P2	GHIS015A120B2P2
		20	GHIS020A060B2P2	
		30	GHIS030A060B2P2	
EasyPIM2B Compatible with NTC, Solder pins		25		GHIS025A120B3P2
 <p>L_B2a</p>		35		GHIS035A120B3P2
		50	GHIS050A060B3P2	GHIS050A120B3P2
FlowPIM0 Compatible PIM with NTC, Solder pins		10	GHIS010A060B1P2	GHIS010A120B1P2
		15	GHIS015A060B1P2	GHIS015A120B1P2
		20	GHIS020A060B1P2	
		30	GHIS030A060B1P2	
EconoPIM2B Compatible with NTC, Solder pins		20	GHIS020A060T1P2	
 <p>M_E2a</p>		25		GHIS025A120T1P2
		35	GHIS035A060T1P2	
		40		GHIS040A120T1P2
		50	GHIS050A060T1P2	GHIS050A120T1P2
EconoPIM3B Compatible with NTC, Solder pins		40		GHIS040A120T2P2
 <p>M_E3a</p>		50	GHIS050A060T2P2	GHIS050A120T2P2
		75	GHIS075A060T2P2	GHIS075A120T2P2
		100	GHIS100A060T2P2	GHIS100A120T2P2
		150	GHIS150A060T2P2	

Features

- Short circuit rated 10μs
- Low saturation voltage:
- Low switching loss
- 100% RBSOA teste

Advantages


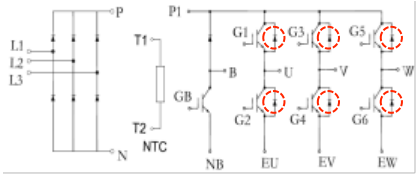
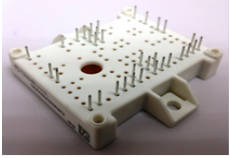
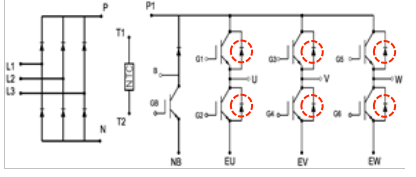

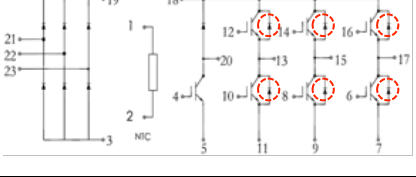



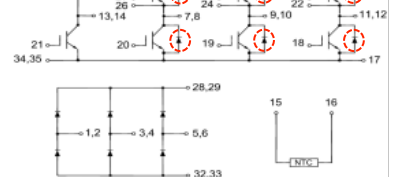
- High power densities
- Fast switching capability with SiC boost diode
- Low EMI noise

Applications

- Industrial inverters
- Servo applications
- Motor drivers
- * Compliant with RoHS requirement

Hybrid PIM Modules

(Built-in Converter, Fast Break with SiC SBDs and 6-Pack IGBTs)

		ic [A]	600 [V]	1200 [V]
EasyPIM1B Compatible with NTC, Solder pins  L_B1a		10	GHIS010B060B2P2	GHIS010B120B2P2
		15	GHIS015B060B2P2	GHIS015B120B2P2
		20	GHIS020B060B2P2	
		30	GHIS030B060B2P2	
EasyPIM2B Compatible with NTC, Solder pins  L_B2a		25		GHIS025B120B3P2
		35		GHIS035B120B3P2
		50	GHIS050B060B3P2	GHIS050B120B3P2
FlowPIM0 Compatible PIM with NTC, Solder pins  		10	GHIS010B060B1P2	GHIS010B120B1P2
		15	GHIS015B060B1P2	GHIS015B120B1P2
		20	GHIS020B060B1P2	
		30	GHIS030B060B1P2	
EconoPIM2B Compatible with NTC, Solder pins  M_E2m		25		GHIS025B120T1P2
		40		GHIS040B120T1P2
		50		GHIS050B120T1P2
 M_E3a		50		GHIS050B120T2P2
		75		GHIS075B120T2P2
		100		GHIS100B120T2P2

Features

- High speed field stop trench IGBT
- Freewheeling diode with zero reverse recovery SiC SBDs
- Low collector to emitter saturation voltage
- Short circuit rated 10 μ s

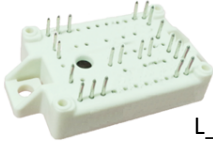
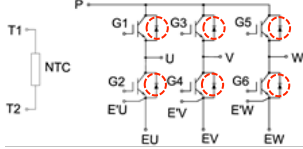

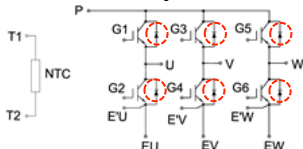

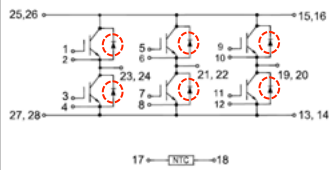

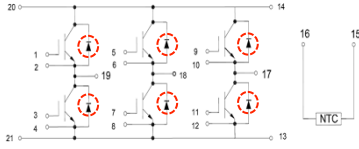
Advantages

- Outstanding power conversion efficiency at high switching frequency operation
- Low loss and low EMI noise
- Very rugged and easy mount
- Direct mounting to heatsink

Applications

- Photovoltaic Inverter
- Aerospace actuators
- Server power supplies
- High voltage AC/DC converter
- Inductive heating /welding machine

Hybrid 6-Pack Modules with NTC

EasyPack1B Compatible with NTC, Solder pins		Ic [A]	600 [V]	1200 [V]
 <p>L_B1e</p>		25		GHIS025A120B2C1
		35		GHIS035A120B2C1
 <p>L_B2c</p>		50		GHIS050A120B3C1
		75		GHIS075A120B3C1
 <p>M_E2b</p>		35		GHIS035A120T1C1
		50		GHIS050A120T1C1
		75		GHIS075A120T1C1
 <p>M_E3b</p>		75		GHIS075A120T2C1
		100		GHIS100A120T2C1
		150		GHIS150A120T2C1

Features

- Short circuit rated 10 μ s
- Low saturation voltage
- Low switching loss
- 100R TBSOA tested (2xlc)
- Low stray inductance
- Compliant with RoHS requirement

Advantages


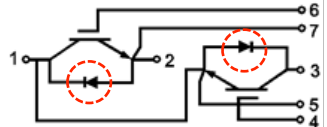
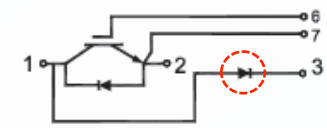
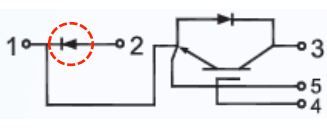

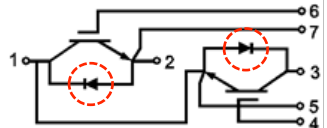
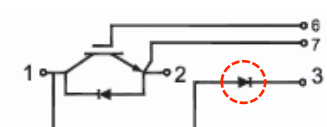
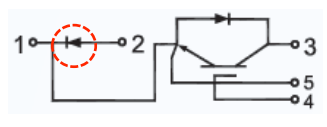
- High power densities
- Fast switching capability with SiC freewheeling diode
- Low EMI noise

Applications

- Industrial inverters
- Servo applications
- Motor drivers

Hybrid (Si IGBT + SiC Diode) Modules

(Half Bridge/Boost/Buck Modules: 34mm/62mm)

34 mm Half Bridge/Boost/Buck		Ic [A]	600 [V]	1200 [V]
		35		GHIS035A120S2B1
		50		GHIS050A120S2B1
		75		GHIS075A120S2B1
		100		GHIS100A120S2B1
		75		GHIS075A120S2A1
		100		GHIS100A120S2A1
		150		GHIS150A120S2A1
		75		GHIS075A120S2A2
		100		GHIS100A120S2A2
		100		GHIS100A120S3B1
		150		GHIS150A120S3B1
		200		GHIS200A120S3B1
		200		GHIS200A120S3A1
		300		GHIS300A120S3A1
		400		GHIS400A120S3A1
		200		GHIS200A120S3A2
		300		GHIS300A120S3A2
		400		GHIS400A120S3A2

Features

- Short Circuit Rated 10μs
- Low saturation voltage
- Low switching loss
- 100% RBSOA Tested (2xl)
- Low Stray Inductance
- Compliant with RoHS Requirement


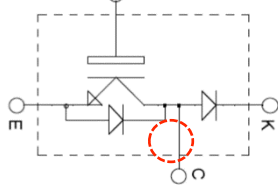

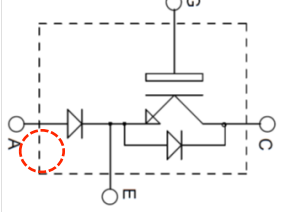
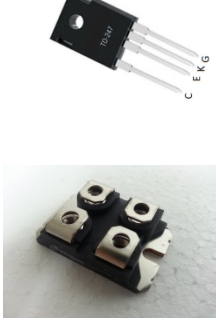
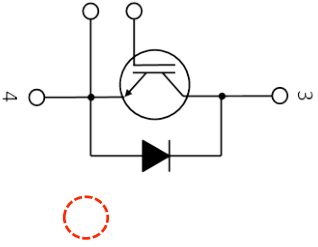
Advantages

- High power densities
- Fast switching capability with SiC freewheeling diode
- Low EMI noise

Applications

- Industrial inverters
- Servo applications
- Motor drivers

Hybrid (Si IGBT + SiC Diode) Modules (Boost/Buck/Copack Modules: TO-247/SOT-227)

		Ic [A]	600 [V]	1200 [V]
			30	
SOT-227 Boost 		40	GHIS040A060S-A1	GHIS040A120S-A1
		60	GHIS060A060S-A1	GHIS060A120S-A1
		80	GHIS080A060S-A1	GHIS080A120S-A1
SOT-227 Buck 		30		GHIS030A120S-A2
		40	GHIS040A060S-A2	GHIS040A120S-A2
		60	GHIS060A060S-A2	GHIS060A120S-A2
		80	GHIS080A060S-A2	GHIS080A120S-A2
TO-247-4L/SOT-227 Copack 		25		GHIS025A120A1-E1
		60		GHIS060A120S1-E1
		80		GHIS080A120S1-E1
		100		GHIS100A120S1-E1

Features

- Short circuit rated 10 μ s
- Low saturation voltage
- Low switching loss
- 100% RBSOA tested (2xlc)
- Low stray inductance
- Compliant with RoHS requirement

Advantages


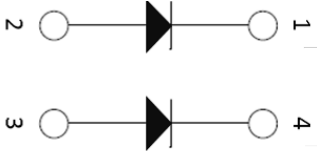

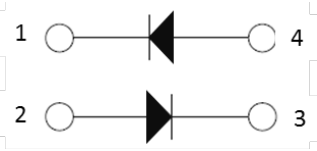

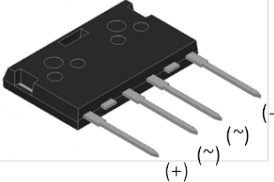
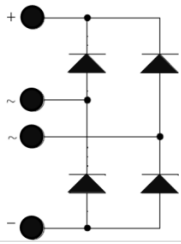
- High power densities
- Fast switching capability for break due to SiC boost diode
- Low EMI noise

Applications

- Industrial inverters
- Servo applications
- Motor drivers

SiC Diode Modules

(Parallel/Anti-Parallel/Rectifier Modules: TO-247 TwinPack/SOT-227)

Types	I_b [A]	600V	1200V/1700V
SOT-227 Parallel SiC SBDs  	10	GHXS010A060S-D3	
	15		GHXS015A120S-D3
	20	GHXS020A060S-D3	
	30	GHXS030A060S-D3	GHXS030A120S-D3
	45		GHXS045A120S-D3
	50	GHXS050A060S-D3	GHXS050A170S-D3
	60		GHXS060A120S-D3
SOT-227 Anti-parallel SiC SBDs  	10	GHXS010A060S-D4	
	15		GHXS015A120S-D4
	20	GHXS020A060S-D4	
	30	GHXS030A060S-D4	GHXS030A120S-D4
	45		GHXS045A120S-D4
	50	GHXS050A060S-D4	
	60		GHXS060A120S-D4
SOT-227 Rectifier Bridge SiC SBDs   	10	GHXS010A060S-D1/D1E	
	15		GHXS015A120S-D1/D1E
	20	GHXS020A060S-D1/D1E	
	30	GHXS030A060S-D1/D1E	GHXS030A120S-D1/D1E
	45		GHXS045A120S-D1/D1E
	10		GHXS010A120A2-D1
	15		GHXS015A120A2-D1
	20		GHXS020A120A2-D1

Features

- **SiC Schottky Diode**
 - Zero reverse recovery
 - Zero forward recovery
 - Temperature Independent switching behavior
 - Positive temperature coefficient on V_f
- Low stray inductance
- High junction temperature operation

Advantages


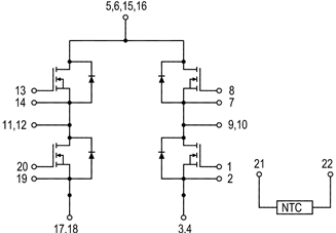

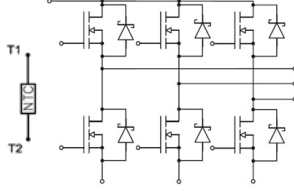

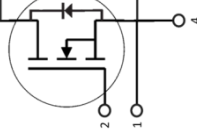


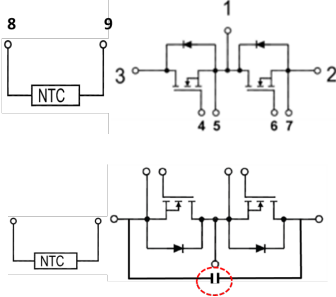
- Outstanding performance at high frequency operation
- Low loss and low EMI noise
- Very rugged and easy mount
- Direct mounting to heatsink (isolated package)
- Low junction to case thermal resistance
- Easy paralleling due to positive temperature coefficient of V_f
- RoHS Compliant

Applications

- Supplies for DC power equipment
- Rectifier for induction heating
- Welding equipment
- High temperature and rectifiers

SiC MOSFET Modules

(CoPack/Half-Bridge/Full Bridge/6-Pack Modules: SOT-227/12mm/17mm Package)

		Rds_on [mΩ]	1200 [V]
H-Bridge SiC MOSFET Module with NTC, Solder pins 		80	GCMS080A120B1H1
		40	GCMS040A120B1H1
		20	GCMS020A120B1H1
6-Pack SiC MOSFET module with NTC, Solder pins 		80	GCMS080A120B3C1
		40	GCMS040A120B3C1
		20	GCMS020A120B3C1
Copack 		80	GCMS080A120S1-E1
		40	GCMS040A120S1-E1
		20	GCMS020A120S1-E1
		12.5	GCMS012A120S1-E1
Half Bridge  		10	GCMS010A120S7B1
		7	GCMS007A120S7B1
		4	GCMS004A120S7B1*
		8	GCMS008A120B1B1

* Under development

Features

- High speed switching SiC MOSFETs
- Freewheeling diode with zero reverse recovery SiC SBDs
- Low $R_{DS(ON)}$
- Simple to drive
- Kelvin reference for stable gate driving
- High junction temperature operation
- Positive temperature coefficient for easy to parallel mounting
- Compliant with RoHS Requirement

Advantages

- Outstanding power conversion efficiency at high switching frequency operation
- Low switching loss and low EMI noise
- Very rugged and easy to mount
- Direct mounting to heatsink (isolated package)
- Low junction to case thermal resistance
- Easy paralleling due to positive temperature coefficient of V_f

Applications

- Photovoltaic Inverter
- Aerospace actuators
- Server power supplies
- High voltage AC/DC converter
- Motor drivers

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