

SILICON CARBIDE FOR SOLAR ENERGY

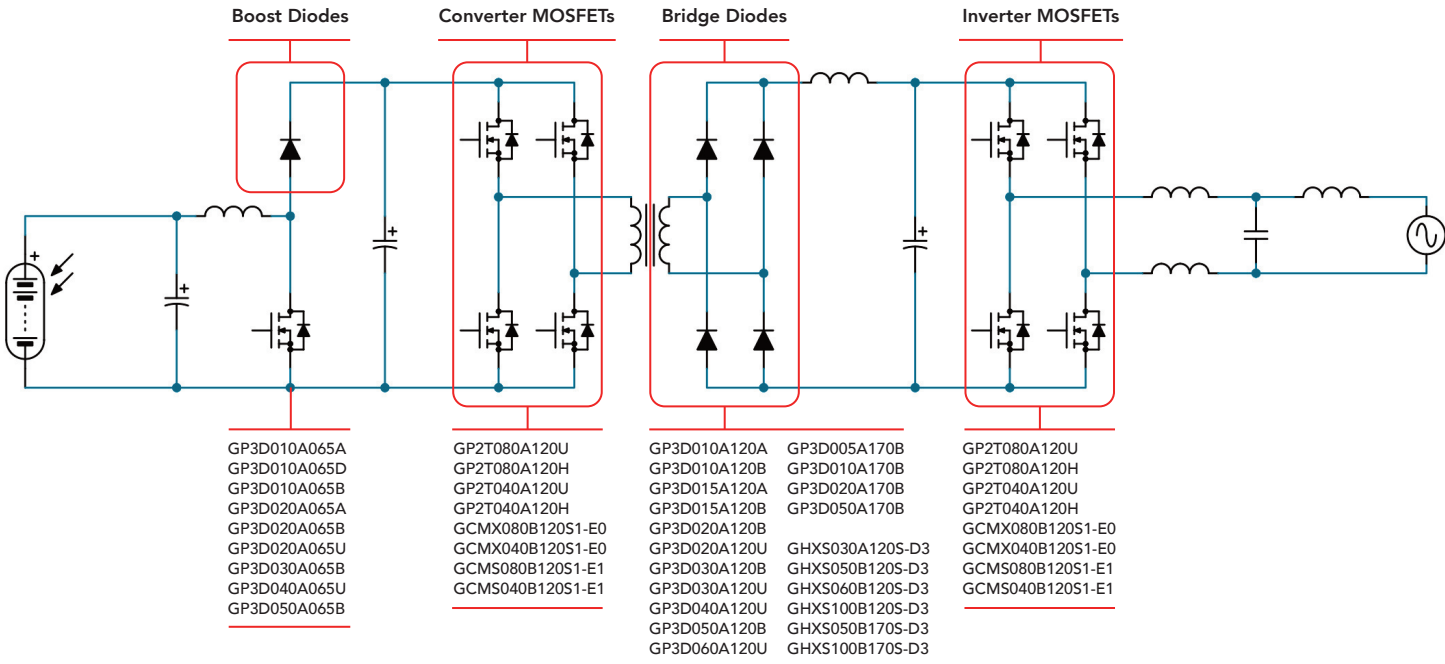
Energy efficiency is at the forefront of Solar technology and making the inverter more efficient decreases the payback period of designs, reduces thermal stresses, and increases lifetime. **SemiQ** has the products that will enable designers achieve higher efficiency, smaller size, and longer reliability.

Silicon Carbide power devices have many application slots within a solar inverter, as can be seen in this schematic.

Benefits of SemiQ SiC in Solar Technology

- ⬢ Higher Efficiency – as high as 98% with SiC
- ⬢ Reduced Heat Loss
- ⬢ More Compact Designs
- ⬢ Better Thermal Stability
- ⬢ Over 20 Million Hours of HTRB/H3TRB Testing

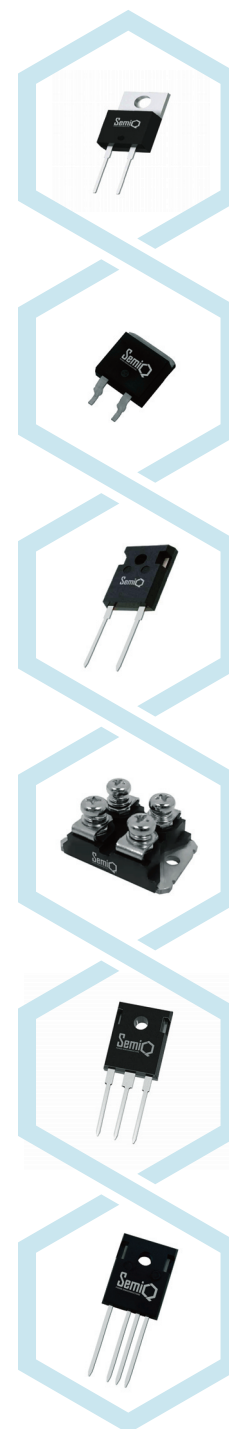
Typical Single Phase Solar Inverter Schematic



SemiQ SiC 1200V and 1700V Product Family

SemiQ Part Number	Voltage	Current Rating Per Diode	Package	Description
650V Discrete Diodes				
GP3D010A065A	650V	10	TO-220-2L	SiC Schottky Diode
GP3D010A065D	650V	10	TO-263-2L	SiC Schottky Diode
GP3D010A065B	650V	10	TO-247-2L	SiC Schottky Diode
GP3D020A065A	650V	20	TO-220-2L	SiC Schottky Diode
GP3D020A065B	650V	20	TO-247-2L	SiC Schottky Diode
GP3D020A065U	650V	2x10	TO-247-3L	SiC Schottky Diode
GP3D030A065B	650V	30	TO-247-2L	SiC Schottky Diode
GP3D040A065U	650V	2x20	TO-247-3L	SiC Schottky Diode
GP3D050A065B	650V	50	TO-247-2L	SiC Schottky Diode
1200V Discrete Diodes				
GP3D010A120A	1200V	10	TO-220-2L	SiC Schottky Diode
GP3D010A120B	1200V	10	TO-247-2L	SiC Schottky Diode
GP3D015A120A	1200V	15	TO-220-2L	SiC Schottky Diode
GP3D015A120B	1200V	15	TO-247-2L	SiC Schottky Diode
GP3D020A120B	1200V	20	TO-247-2L	SiC Schottky Diode
GP3D020A120U	1200V	2X10	TO-247-3L	SiC Schottky Diode
GP3D030A120B	1200V	30	TO-247-2L	SiC Schottky Diode
GP3D030A120U	1200V	2X15	TO-247-3L	SiC Schottky Diode
GP3D040A120U	1200V	2X20	TO-247-3L	SiC Schottky Diode
GP3D050A120B	1200V	50	TO-247-2L	SiC Schottky Diode
GP3D060A120U	1200V	2X30	TO-247-3L	SiC Schottky Diode
1700V Discrete Diodes				
GP3D005A170B	1700V	5	TO-247-2L	SiC Schottky Diode
GP3D010A170B	1700V	10	TO-247-2L	SiC Schottky Diode
GP3D020A170B	1700V	20	TO-247-2L	SiC Schottky Diode
GP3D050A170B	1700V	50	TO-247-2L	SiC Schottky Diode
1200V and 1700V SOT-227 Diode Modules				
GHXS030A120S-D3	1200V	30	SOT-227	Dual SiC Diodes
GHXS050B120S-D3	1200V	50	SOT-227	Dual SiC Diodes
GHXS060B120S-D3	1200V	60	SOT-227	Dual SiC Diodes
GHXS100B120S-D3	1200V	100	SOT-227	Dual SiC Diodes
GHXS050B170S-D3	1700V	50	SOT-227	Dual SiC Diodes
GHXS100B170S-D3	1700V	100	SOT-227	Dual SiC Diodes
SemiQ Part Number	Voltage	RDS-On mΩ	Package	Description
1200V Discrete MOSFETs				
GP2T080A120U	1200V	80	TO-247-3L	SiC MOSFET
GP2T080A120H	1200V	80	TO-247-4L	SiC MOSFET
GP2T040A120U	1200V	40	TO-247-3L	SiC MOSFET
GP2T040A120H	1200V	40	TO-247-4L	SiC MOSFET
1200V SOT-227 MOSFET Modules				
GCMX080B120S1-E0	1200V	80	SOT-227	SiC MOSFET
GCMX040B120S1-E0	1200V	40	SOT-227	SiC MOSFET
GCMS080B120S1-E1	1200V	80	SOT-227	SiC MOSFET w/SiC SBD
GCMS040B120S1-E1	1200V	40	SOT-227	SiC MOSFET w/SiC SBD

For a complete listing of devices from SemiQ, contact us at sales@SemiQ.com



SemiQ is a designer and manufacturer of Silicon Carbide power semiconductors, focused on delivering industry-leading performance of the highest quality and reliability with a fully redundant supply chain. We have a broad product offering fitting many end applications and provide global support from design through production.

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