Full SiC & Hybrid SiC IGBTs

RoHS

Applications

- PV inverters
- UPS
- High speed motor drives
- Induction heating
- Welding
- Military & Aerospace power converters
- Medical imaging amplifiers
- Electric vehicle
- Boost converters

Product Advantages

- Significant reduction in switching losses
- Increased system efficiency
- High temperature operation
- Higher operating frequency
- Reduced cooling require-ments
- Zero reverse recovery current from diode
- Low parasitic inductance
- Reduced system size / high power density

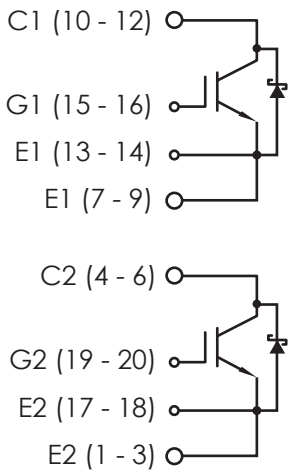
Overview

Large bandgap energy and high field breakdown are two primary characteristics of silicon carbide (SiC) which have been leveraged to create a new generation of power semiconductors with zero reverse recovery charge, significantly lower switching losses and the opportunity for higher temperature operation.

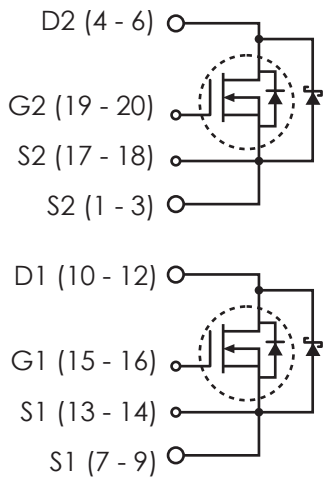
Powerex packages SiC MOSFETs and Schottky barrier diodes from leading suppliers into high performance all SiC modules or with high frequency silicon IGBTs into hybrid Si / SiC modules. The new low profile split dual package features low inductance and either a copper or AlSiC baseplate for high thermal cycling applications.

Package Configuration

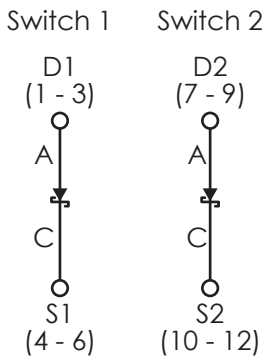
QID1210005, QID1210006

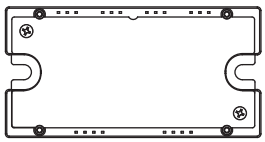


QJD1210010, QJD1210011



QRD1210004, QRD1210005





109.9mm x 56.1mm

Line-up Table

Part Number	Package Configuration	V_{CES} (V)	I_C (A)
Split Dual Hybrid Si / SiC			
QID1210005 - Cu Baseplate	Split Dual	1200	100
QID1210006 - AlSiC Baseplate	Split Dual	1200	100
All SiC			
QJD1210010 - Cu Baseplate	Split Dual MOSFET	1200	100
QJD1210011 - AlSiC Baseplate	Split Dual MOSFET	1200	100
QRD1210004 - Cu Baseplate	Split Dual Superfast SiC Diode	1200	100
QRD1210005 - AlSiC Baseplate	Split Dual Superfast SiC Diode	1200	100

Features

QID1210005, QID1210006

- Low $E_{SW(off)}$
- Aluminum Nitride Isolation
- Discrete Super-Fast Recovery Free-Wheel Silicon Carbide Schottky Diode
- Low Internal Inductance
- 2 Individual Switches per Module
- Isolated Baseplate for Easy Heat Sinking
- Automated Assembly Assures High Reliability
- NFH Silicon IGBTs

QRD1210004, QRD1210005

- Low $E_{SW(off)}$
- Aluminum Nitride Isolation
- Discrete Super-Fast Recovery Free-Wheel Silicon Carbide Schottky Diode
- Low Internal Inductance
- 2 Individual Switches per Module
- Isolated Baseplate for Easy Heat Sinking
- Automated Assembly Assures High Reliability

QJD1210010, QJD1210011

- Junction Temperature: 175°C
- Silicon Carbide Chips
- Low Internal Inductance
- Discrete Super-Fast Recovery Free-Wheel Silicon Carbide Schottky Diode
- High Speed Switching
- Low Switching Losses
- Low Capacitance
- High Power Density
- Isolated Baseplate
- Aluminum Nitride Isolation
- 2 Individual Switches per Module

POWEREX, INC REGISTERED FIRM ISO 9001 A6025

POWEREX, INC REGISTERED FIRM AS9100 A6025

POWEREX

For more information:
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