

SiC

Silicon Carbide Diode

5th Generation thinQ!TM

650V SiC Schottky Diode

IDW32G65C5B

Final Datasheet

Rev. 2.0, 2015-04-13

5th Generation thinQ!TM SiC Schottky Diode

IDW32G65C5B

1 Description

ThinQ!TM Generation 5 represents Infineon leading edge technology for the SiC Schottky Barrier diodes. A combination with a new, more compact design and thin-wafer technology results in a new family of products showing improved efficiency over all load conditions, resulting from both the improved thermal characteristics and a lower figure of merit ($Q_c \times V_f$).

The new thinQ!TM Generation 5 has been designed to complement our 650V CoolMOSTM families; this ensures meeting the most stringent application requirements in this voltage range.

Features

- Revolutionary semiconductor material - Silicon Carbide
- Benchmark switching behavior
- No reverse recovery/ No forward recovery
- Temperature independent switching behavior
- High surge current capability
- Pb-free lead plating; RoHS compliant
- Qualified according to JEDEC¹⁾ for target applications
- Breakdown voltage tested at 35 mA^{2) 3)}
- Optimized for high temperature operation

Benefits

- System efficiency improvement over Si diodes
- System cost / size savings due to reduced cooling requirements
- Enabling higher frequency / increased power density solutions
- Higher system reliability due to lower operating temperatures
- Reduced EMI

Applications

- Switch mode power supply
- Power factor correction
- Solar inverter
- Uninterruptible power supply

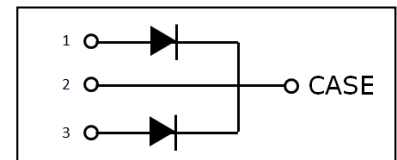
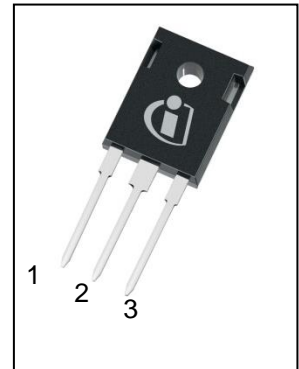


Table 1 Key Performance Parameters ⁴⁾

Parameter	Value	Unit
V_{DC}	650	V
$Q_C; V_R=400V$	2 x 23	nC
$E_C; V_R=400V$	2 x 5.4	μJ
$I_F @ T_C < 120^\circ C$	2 x 16	A

Table 2 Pin Definition

Pin 1	Pin 2	Pin 3
A	C	A

Type / ordering Code	Package	Marking	Related links
IDW32G65C5B	PG-TO247-3	D3265B5	www.infineon.com/sic

1) J-STD20 and JESD22

2) All devices tested under avalanche conditions for a time periode of 10ms

3) Per Leg

4) Per Device