

SiC Schottky Diodes

New Silicon Carbide Diode portfolio for high-power

Nexperia introduces its class-leading Silicon Carbide (SiC) Schottky Diodes various automotive and industrial applications. The merged PiN Schottky (MPS) structure of these devices provides additional advantages over similar competing SiC diodes, including outstanding robustness against surge currents. This eliminates the need for additional protection circuitry, thereby significantly reducing system complexity and enabling hardware designers to achieve higher efficiency with smaller form factors in rugged high-power applications.

Key features

- › Zero forward and reverse recovery
- › Temperature independent switching performance
- › Fast and smooth switching performance
- › High I_{FSM} capability
- › Low leakage current
- › Easy to parallel / positive temperature coefficient
- › Outstanding figure-of-merit ($Q_c \times V_F$)
- › Thermal stability up to 175 °C junction temperature
- › AEC-Q101 qualification

Key benefits

- › High power density
- › Reduced system cost
- › System miniaturization
- › High temperature operation
- › Reduced EMI
- › Increased ruggedness and reliability

Key applications

- › Consumer and industrial power supplies / PFC
- › DC-DC-converter
- › High frequency AC-DC converter
- › Battery charging systems
- › Base station power supply (5G)
- › Photovoltaic power converter
- › Traction inverter
- › On board charger

Product range

Type name	Package	V_R [max]	I_F max	I_{FSM} max	P_{tot} max
PSC1065H	 DPAK (TO-252-2)	650	10	440	58
PSC1065H-Q					
PSC0665K	 TO-220-2	650	6	300	37
PSC1065K			10	440	65
PSC1665J	 D2PAK (TO-263-2)	650	16	650	90
PSC2065J			20	780	98
PSC1665L	 TO-247-2	650	16	650	95
PSC2065L			20	780	115

PSC 10 65 H-Q

NEXPERIA Silicon Carbide

Continuous forward current:

06 = 6 A
 10 = 10 A
 16 = 16 A
 20 = 20 A

Max. reverse voltage:

65 = 650 V
 120 = 1200 V

Qualification scheme:
 Standard
 Q Automotive

Package indicator:

H TO-252-2 (DPAK R2P)
 J TO-263-2 (D2PAK R2P)
 K TO-220-2
 L TO-247-2

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