



Silicon Carbide Schottky Diode

Features

Positive temperature coefficient
 Temperature-independent switching
 Maximum working temperature at 175 °C
 Unipolar devices and zero reverse recovery current
 Zero forward recovery voltage
 Essentially no switching losses
 Reduction of heat sink requirements
 AEC-Q101 qualified
 High-frequency operation
 Reduction of EMI

Typical Applications

Typical applications are in power factor correction(PFC), solar inverter, uninterruptible power supply, motor drives, photovoltaic inverter, electric car and charger.

Mechanical Data

Package: TO-220AC

Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free

Terminals: Tin plated leads

Polarity: As marked

Maximum Ratings ($T_c=25$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Device marking code			D106502PQG3
Reverse voltage (repetitive peak) @ $T_j=25^\circ\text{C}$	V_{RRM}	V	650
Reverse voltage (Surge Peak) @ $T_j=25^\circ\text{C}$	V_{RSM}	V	650
Reverse voltage (DC) @ $T_j=25^\circ\text{C}$	V_{DC}	V	650
Continuous forward current @ $T_c=25^\circ\text{C}$	I_F	A	7.6
Continuous forward current @ $T_c=135^\circ\text{C}$			3.6
Continuous forward current @ $T_c=160^\circ\text{C}$			2
Non-repetitive peak forward surge current @ $T_c=25^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Wave	I_{FSM}	A	20
Power Dissipation @ $T_c=25^\circ\text{C}$	P_{TOT}	W	45
Power Dissipation @ $T_c=110^\circ\text{C}$			19



Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Typ.	Max.
Forward voltage drop	V_F	V	$I_F=2A, T_J=25^{\circ}C$	1.5	1.6
			$I_F=2A, T_J=175^{\circ}C$	2.2	-
Reverse leakage current	I_R	μA	$V_R=650V, T_J=25^{\circ}C$	0.1	10
			$V_R=650V, T_J=175^{\circ}C$	1	-
Total capacitive charge	Q_C	nC	V_R		



Outline Dimensions



