

TECHNICAL DATA
DATA SHEET 5561, Rev. B

HERMETIC SILICON CARBIDE RECTIFIER IN SMD-0.2 Patented Rugged Ceramic High Strength Package

DESCRIPTION: A Common Cathode 1200-VOLT, 3 AMP POWER SILICON CARBIDE RECTIFIER IN A HERMETIC High Strength SMD 0.2 PACKAGE

FEATURES:

- Patented rugged package design (enhanced temperature/power cycling capability over standard SMD-0.2 package)
- No recovery time or reverse recovery losses
- No temperature influence on switching behavior

MAXIMUM RATINGS

ALL RATINGS ARE @ $T_C = 25\text{ }^\circ\text{C}$ UNLESS OTHERWISE SPECIFIED.

RATING	SYMBOL	MAX.	UNITS
PEAK INVERSE VOLTAGE	PIV	1200	Volts
MAXIMUM DC OUTPUT CURRENT (With $T_C = 135\text{ }^\circ\text{C}$) both legs in parallel	I_o	3	Amps
MAXIMUM FORWARD SURGE CURRENT, each leg ($t = 8.3\text{ms}$, Sine), $T_C = 25\text{ }^\circ\text{C}$	I_{FSM}	13	Amps
MAXIMUM POWER DISSIPATION, $T_C = 25\text{ }^\circ\text{C}$	P_d	18.7	W
MAXIMUM THERMAL RESISTANCE, Junction to Case, each leg	$R_{\theta JC}$	8	$^\circ\text{C/W}$
MAXIMUM OPERATING AND STORAGE TEMPERATURE RANGE	T_{op} , T_{stg}	-55 to +175	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS EACH LEG

CHARACTERISTIC	TYP	MAX.	UNITS
MAXIMUM FORWARD VOLTAGE DROP ($I_f = 2\text{A}$) V_f $T_J = 25\text{ }^\circ\text{C}$ $T_J = 175\text{ }^\circ\text{C}$	1.4 1.9	1.8 3.0	Volts
MAXIMUM REVERSE CURRENT (1200V PIV) I_r $T_J = 25\text{ }^\circ\text{C}$ $T_J = 175\text{ }^\circ\text{C}$	10 40	50 150	μA
TOTAL CAPACITIVE CHARGE ($V_R = 1200\text{V}$, $I_F = 2\text{A}$, $di/dt = 200\text{A}/\mu\text{s}$, $T_J = 25\text{ }^\circ\text{C}$) Q_C	15	---	nC
TOTAL JUNCTION CAPACITANCE ($V_f = 400\text{V}$, $f = 1\text{MHz}$) C_T	11	---	pF

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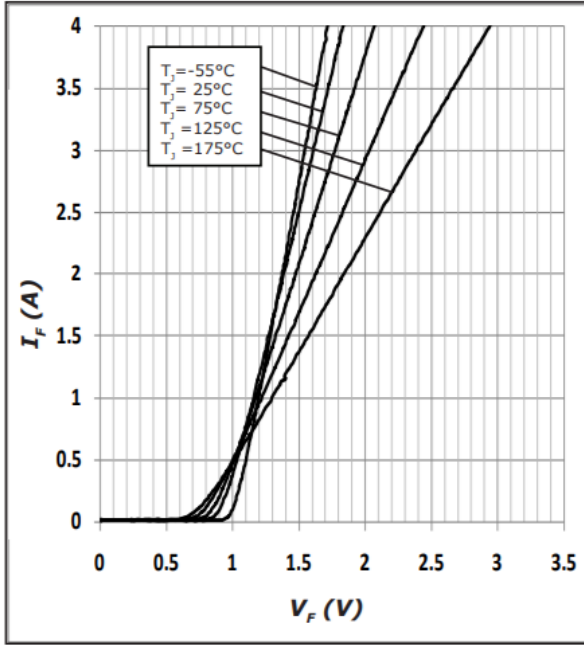


Figure 1. Forward Characteristics

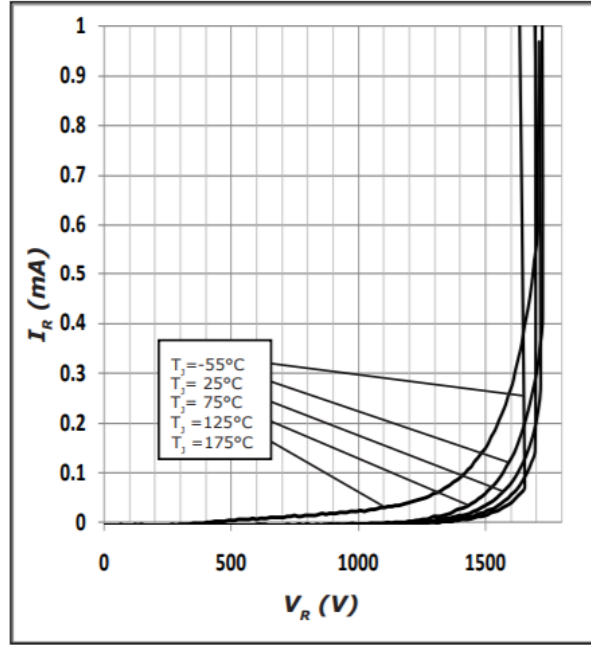
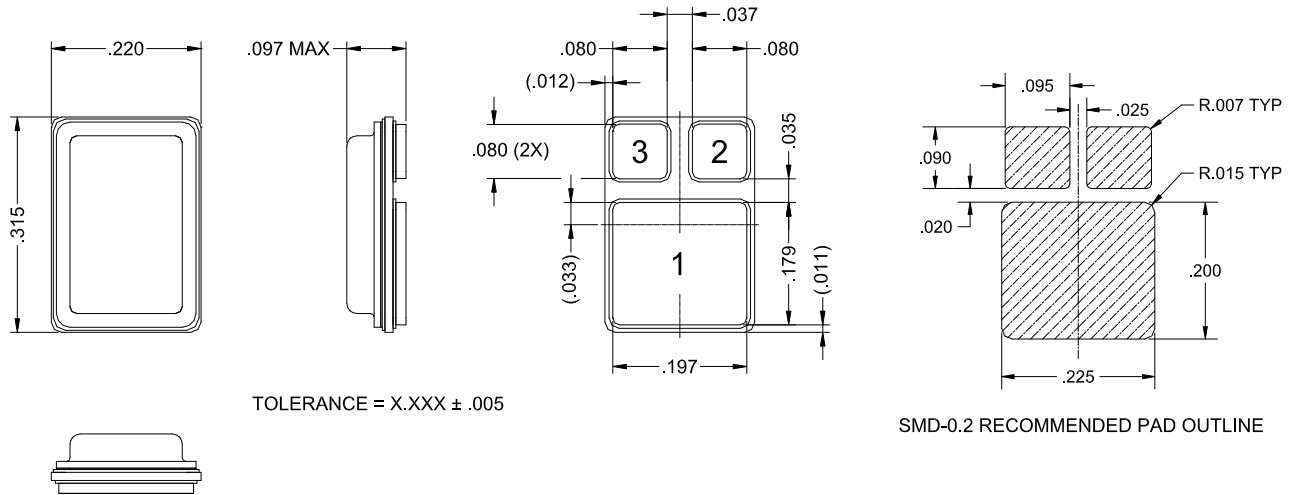


Figure 2. Reverse Characteristics

Mechanical Dimensions: in Inches



SMD-0.2 High Strength

PINOUT TABLE

DEVICE TYPE	PIN 1	PIN 2	PIN 3
COMMON CATHODE	ANODE 1	CATHODE	ANODE 2

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PART ORDERING INFORMATION

SHD671182P XX X

Part Number

Screening Level (blank is no screening):

Suffix	Screened in Accordance with:
blank	No screening level
SS	MIL-PRF-19500, S Level

QCI (blank is no QCI):

Suffix	Inspection
blank	No QCI
Q	MIL-PRF-19500 QCI

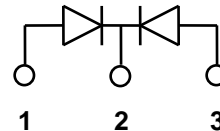
Application Note: Customers should be aware that at the current stage of technical development of SiC, the reverse avalanche capabilities of the device are limited.

Customer designs will need to accommodate these limitations and avoid exposure of the device to this and other potentially damaging conditions in their applications.

ORDERING INFORMATION

PART NUMBER	LID CONNECTION
SHD671182P	Floating
SHD671182PJ1	PIN 1
SHD671182PJ2	PIN 2
SHD671182PJ3	PIN 3

Common Cathode



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