SEMICONDUCTOR

SC2065PT

SILICON CARBIDE SCHOTTKY DIODE
Reverse Voltage - 650 Volts
Forward Current - 20.0Amperes

DESCRIPTION

SiC Schottky Diode has no switching loss, provides improved system efficiency against Si diodes by utilizing new semiconductor material-Silicon Carbide, enables higher operating frequency, and helps increasing power density and reduction of system size /cost. Its high reliability ensures robust operation during surge or over-voltage conditions.

FEATURES

- Max Junction Temperature 175°C
- High Surge Current Capacity
- Positive Temperature Coefficient
- Ease of Paralleling
- No Reverse Recovery/No Forward Recovery

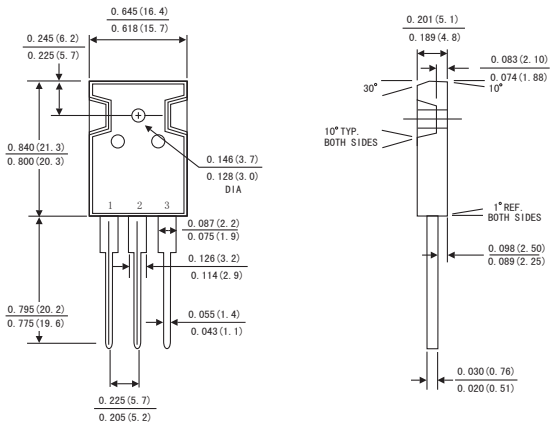
MECHANICAL DATA

- Case: JEDEC TO-247AB
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked
- Mounting Torque: 10 in-lbs maximum

TYPICAL APPLICATIONS

- General Purpose
- SMPS, Solar inverter, UPS
- Power Switching Circuits

TO-247AB



Dimensions in inches and (millimeters)

MAXIMUM RATINGS

(Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	SC2065PT	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	650	V
Continuous Rectified Forward Current	I_F	20	A
Repetitive Forward Surge Current(NOTE 1)	$I_{F,RM}$	80	A
Operating junction temperature range	T_J	-55 to+175	°C
Storage temperature range	T_{stg}	-55 to+175	°C

Notes: 1.Half-Sine Pulse, tp=8.3ms

RATINGS AND CHARACTERISTIC OF SC2065PT

ELECTRICAL CHARACTERISTCS（T_A=2°C Unless otherwise noted）

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instaneous forward voltage	I_F=20A	T_A=25℃	V_F	1. 5	1. 8	V
		T_A=175℃		1. 7	2. 0	
Reverse current	V_R=650V	T_A=25℃	I_R	–	10	μA
		T_A=125℃		–	40	
		T_A=175℃		–	100	
Typical junction capacitance	V_R=0. 1V, f=100kHz		C_j	1140	–	pF
	V_R=10V, f=100kHz			380	–	
	V_R=40V, f=100kHz			210	–	

THERMAL CHARACTERISTCS（T_A=25℃ Unless otherwise noted）

Parameter	Symbol	SC2065PT	Unit
Typical thermal resistance 2)	$R_{\theta JC}$	0. 5	℃/W

2.Thermal resistance from junction to case

RATINGS AND CHARACTERISTIC OF SC2065PT

FIG.1-FORWARD CURRENT DERATING CURVE

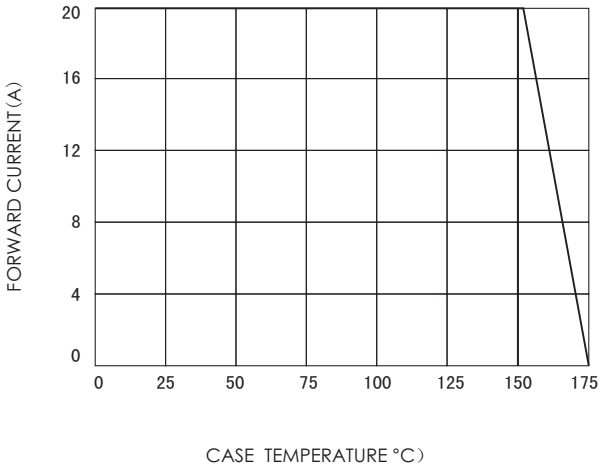


FIG.3-TYPICAL JUNCTION CAPACITANCE

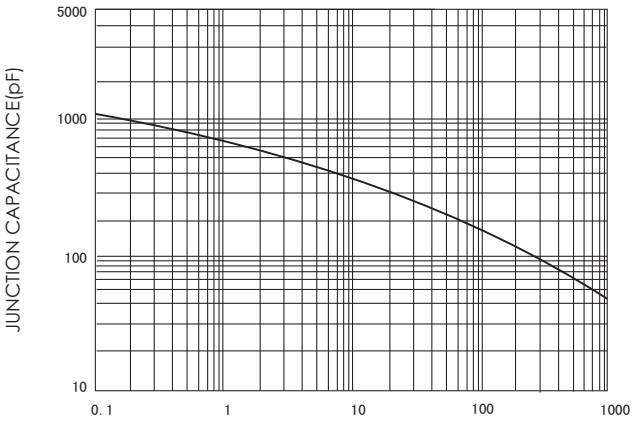


FIG.2-FORWARD CURRENT DERATING CURVE(PER DIODE)

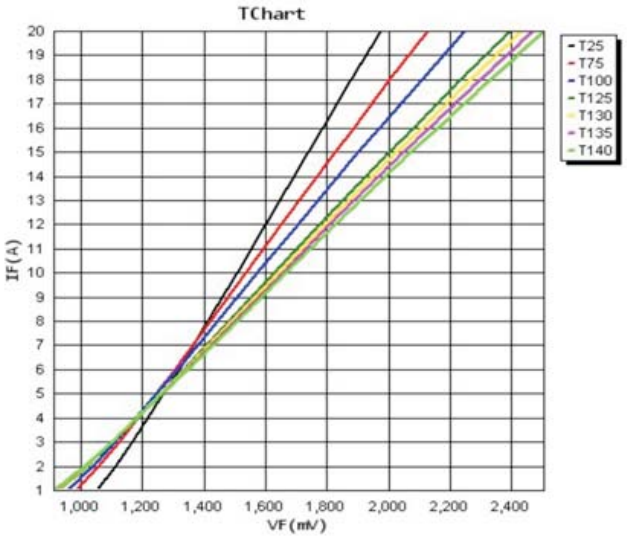


FIG.4-REVERSE CHARACTERISTICS(PER DIODE)