

## 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

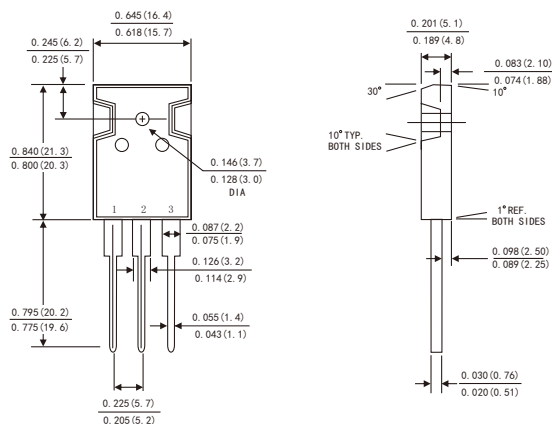
## MAXIMUM RATINGS

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

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	1200	V
Continuous Rectified Forward Current	$I_F$	20	A
Repetitive Forward Surge Current (NOTE 1)	$I_{F, RM}$	180	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,  $t_p=8.3ms$

## TO-247AB



Dimensions in inches and (millimeters)

## RATINGS AND CHARACTERISTIC OF SC20120PT

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instaneous forward voltage	I <sub>F</sub> =20A	T <sub>A</sub> =25°C	V <sub>F</sub>	1.7	1.9	V
		T <sub>A</sub> =125°C		2.3	2.5	
		T <sub>A</sub> =175°C		2.8	3.2	
Reverse current	V <sub>R</sub> =1200V	T <sub>A</sub> =25°C	I <sub>R</sub>	–	10	μA
		T <sub>A</sub> =125°C		–	50	
		T <sub>A</sub> =175°C		–	100	
Typical junction capacitance (Per diode)	V <sub>R</sub> =1V, f=100kHz		C <sub>j</sub>	530	–	pF
	V <sub>R</sub> =4V, f=100kHz			340	–	
	V <sub>R</sub> =40V, f=100kHz			130	–	

### THERMAL CHARACTERISTICS (T<sub>A</sub>=25°C Unless otherwise noted)

Parameter	Symbol	SC10120PT	Unit
Typical thermal resistance <sup>2)</sup>	R <sub>θJC</sub>	0.5	°C/W

2.Thermal resistance from junction to case

# RATINGS AND CHARACTERISTIC OF SC20120PT

FIG.1-FORWARD CURRENT DERATING CURVE

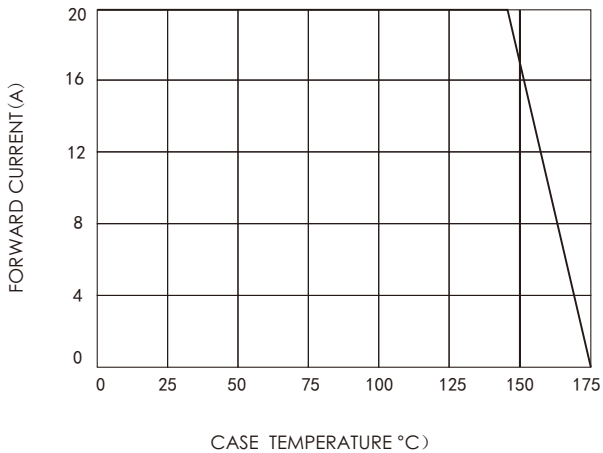


FIG.2-TYPICAL JUNCTION CAPACITANCE

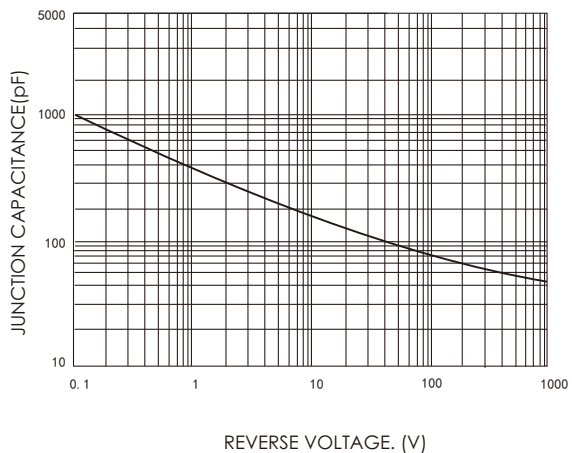


FIG.3-FORWARD CURRENT DERATING CURVE

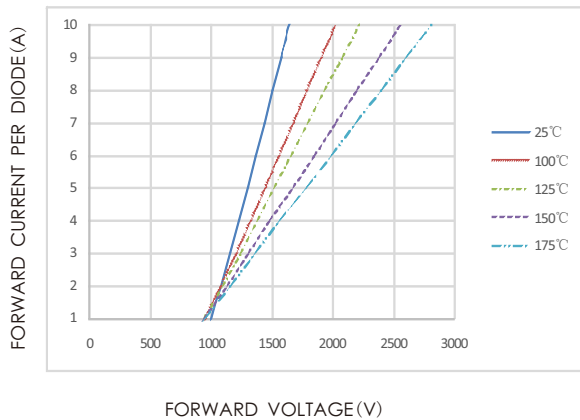


FIG.4-REVERSE CHARACTERISTICS

