

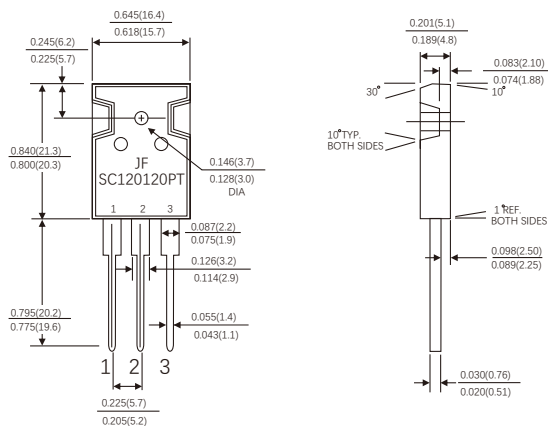
DESCRIPTION

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

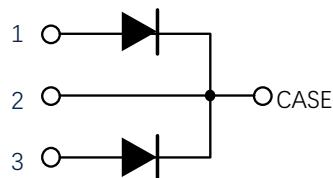
TO-247AB



Dimensions in inches and (millimeters)

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

KEY PERFORMANCE AND PACKAGE PARAMETERS

Type	V _{DC}	I _F	Q _c	T _{j,max}	Package
SC120120PT	1200V	2×60A	312nC	175°C	TO-247AB

MAXIMUM RATINGS

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

Parameters	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	1200	V
Continuous forward current for $R_{\theta JC}$	I_F	60($T_c=147^\circ\text{C}$) 75($T_c=135^\circ\text{C}$) 155($T_c=25^\circ\text{C}$)	A
Non-repetitive forward surge current (Half-Sine Pulse, $t_p=8.3\text{ms}$)	I_{FSM}	300	A
I^2t value	I^2t	373.5	A^2S
Power dissipation for $R_{\theta JC}$	P_{tot}	375	W
Operating junction temperature range	T_j	-55...175	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55...175	$^\circ\text{C}$

THERMAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ Unless otherwise noted)

Parameter	Symbol	Value (leg/device)		Unit
		Typ	Max	
Diode thermal resistance junction-case	$R_{\theta JC}$	0.40/0.20	-	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS (T_J=25°C Unless otherwise noted)

Parameter	Symbol	Conditions	Value(Per leg)			Unit
			min	typ	max	
DC blocking voltage	V _{DC}	T _J =25...175°C	1200	-	-	V
Diode forward voltage	V _F	I _F =60A T _J =25°C	-	1.5	1.7	V
		I _F =60A T _J =175°C	-	2.1	2.7	
Reverse current	I _R	V _R =1200V T _J =25°C	-	-	80	uA
		V _R =1200V T _J =175°C	-	-	500	

DYNAMIC CHARACTERISTICS(at T_J=25°C,unless otherwise specified)

Parameter	Symbol	conditions	Value(Per leg)			Unit
			min	typ	max	
Total capacitive charge	Q _C	V _R =800V		312		nC
Total capacitance	C	V _R =1V,f=1MHz		3414		pF
		V _R =400V,f=1MHz		300		
		V _R =800V,f=1MHz		210		

FIG.1-FORWARD CURRENT DERATING CURVE(per leg)

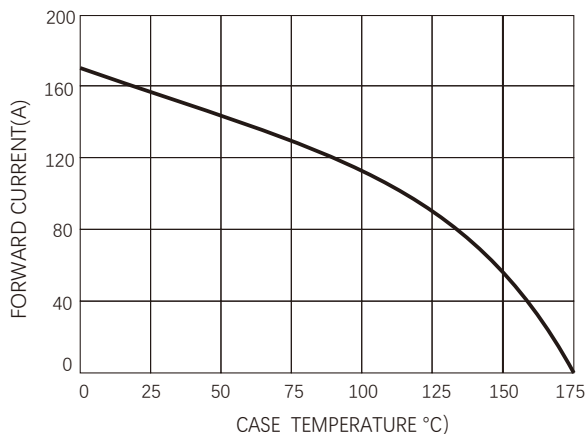


FIG.2-TYPICAL JUNCTION CAPACITANCE(per leg)

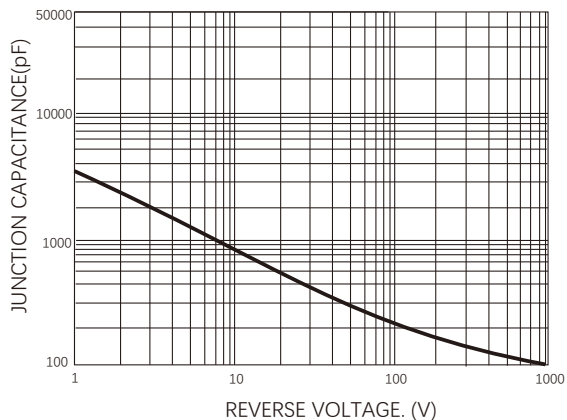


FIG.3-FORWARD CURRENT DERATING CURVE(per leg)

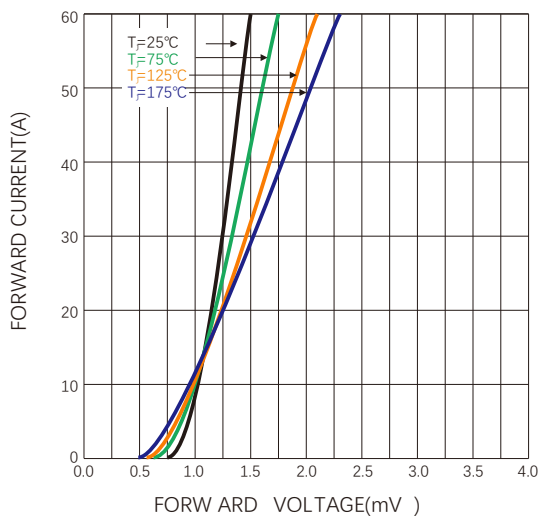
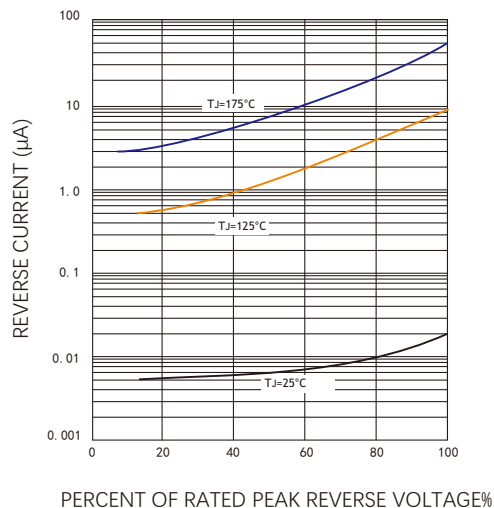


FIG.4-REVERSE CHARACTERISTICS(per leg)



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