Features

- Zero Reverse Recovery Current
- Positive Temperature Coefficient
- High-Speed Switching
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)

20 Amp Silicon Carbide Schottky Barrier Rectifier 1200 Volts

Benefits

- Temperature-Independent Performance
- Essentially No Switching Loss
- Higher Efficiency
- Reduced EMI
- Reduction of Heat Sink Requirements

Applications

- Switching Power Supply
- Power Factor Correction
- Solar Inverter

Maximum Ratings

- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance: 1.65°C/W Junction to Case

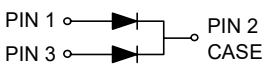
MCC Part Number	Device Marking
SIC20120PTA	SIC20120PTA

Peak Repetitive Reverse Voltage	V_{RRM}	1200V	
Surge Peak Reverse Voltage	V_{RSM}	1200V	
DC Reverse Voltage	V_{DC}	1200V	
Average Forward Current	I_F	10A* / 20A**	T_J=155°C
Peak Forward Surge Current	I_{FSM}	90A* / 180A**	T_C=25°C, t_p=10ms, Half Sine Pulse
Repetitive Peak Forward Current	I_{FRM}	35A* / 70A**	T_C=25°C, t_p=10ms, Half Sine Pulse
Power Dissipation	P_D	120W* / 240W**	T_C=25°C

Note :1. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

2.*Per leg, ** Per Device

Internal Structure



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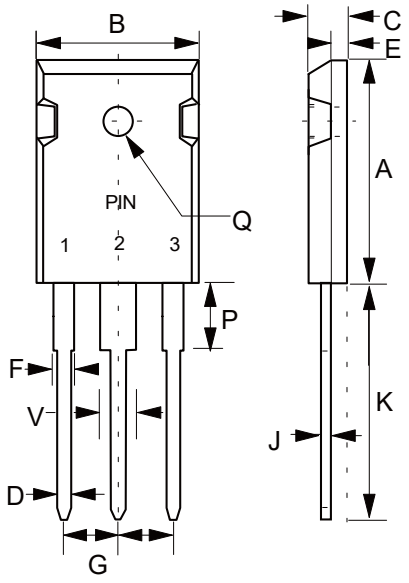


DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.787	0.866	20.00	22.00	
B	0.598	0.638	15.20	16.20	
C	0.185	0.208	4.70	5.30	
D	0.035	0.059	0.90	1.50	
E	0.059	0.094	1.50	2.40	
F	0.067	0.091	1.70	2.30	
J	0.019	0.031	0.48	0.80	
K	0.748	0.833	19.00	21.15	
P	0.122	0.189	3.10	4.80	
Q	0.118	0.150	3.00	3.80	Φ
V	0.106	0.134	2.70	3.40	
G	0.197	0.224	5.00	5.70	

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Typ.	Max.	Units
Forward Voltage	V_F	I_F=10A, T_j=25°C	1.5	1.8	V
		I_F=10A, T_j=175°C	2.2	3.0	V
Reverse Leakage Current	I_R	V_R=1200V, T_j=25°C	2	80	μA
		V_R=1200V, T_j=175°C	35		μA
Total Capacitive Charge	Q_C	V_R=800V, T_j=25°C	60		nC
Total capacitance	C	V_R=0V, T_j=25°C , f=1MHz	750		pF
		V_R=400V, T_j=25°C , f=1MHz	55		pF
		V_R=800V, T_j=25°C , f=1MHz	45		pF
Capacitance Stored Energy	E_C	V_R=800V	16		μJ

Curve Characteristics(Per leg)

Fig. 1 - Typical Instantaneous Forward Characteristics

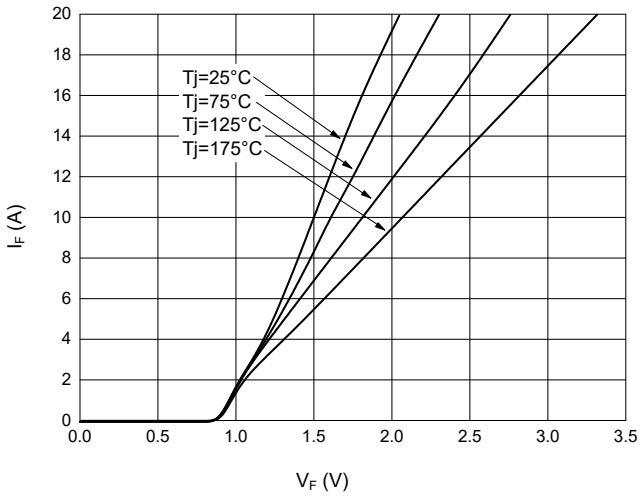
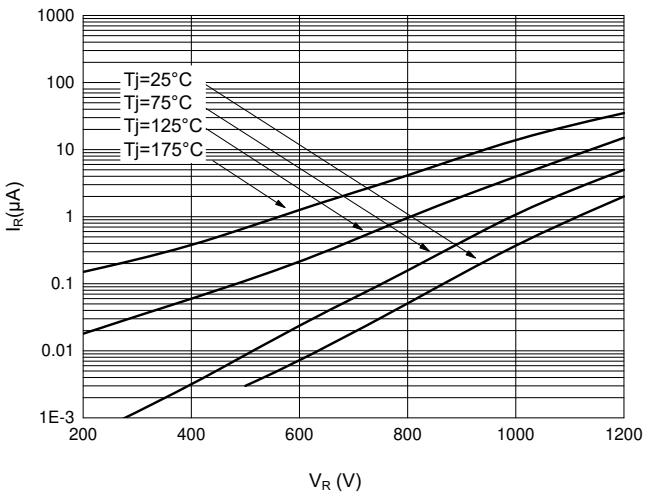


Fig. 2 - Typical Reverse Leakage Characteristics



Curve Characteristics

Fig. 3 - Capacitance vs Reverse Voltage

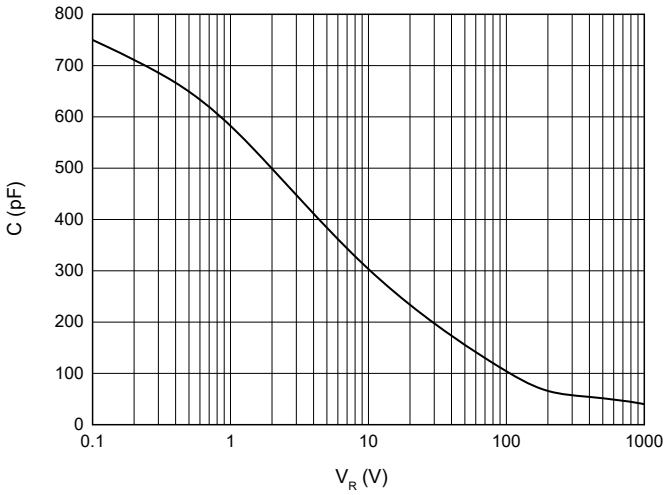


Fig. 4 - Capacitive Charge vs Reverse Voltage

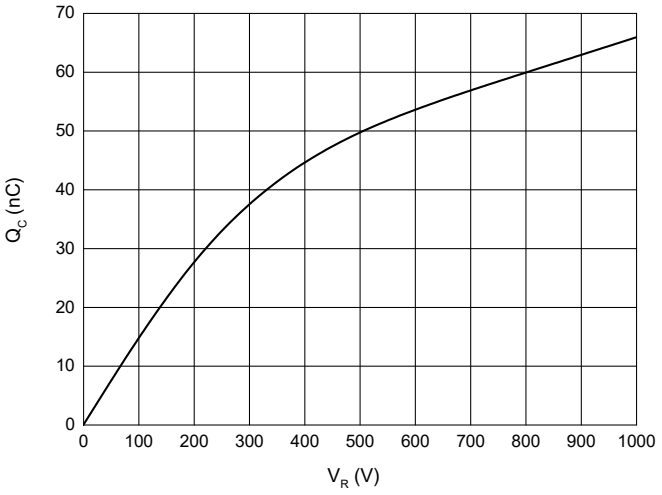


Fig. 5 - Capacitance Stored Energy

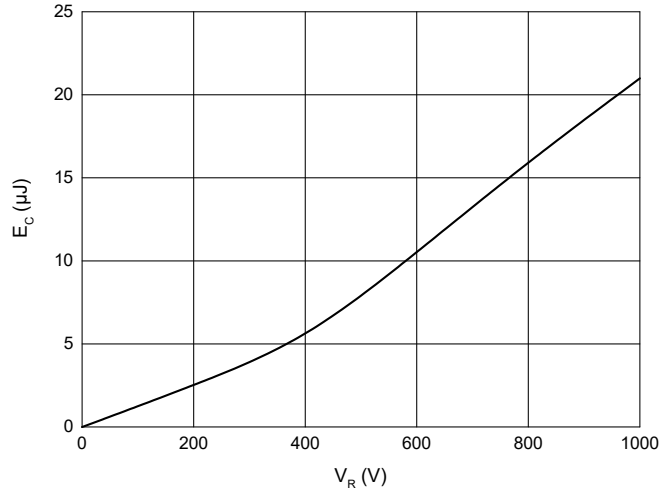


Fig. 6 - Power Derating

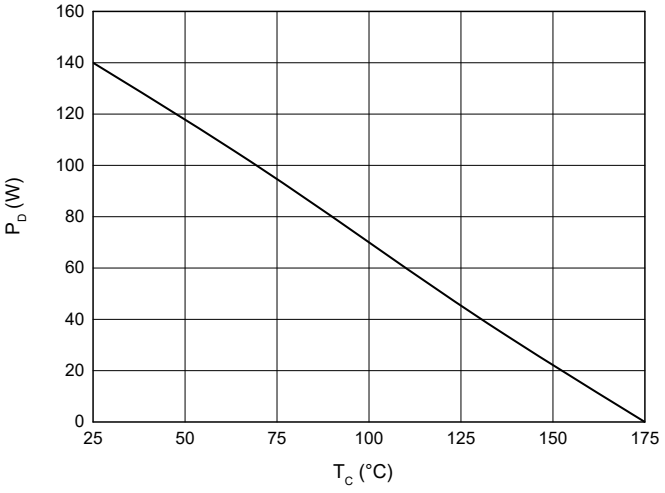


Fig. 7 - Current Derating

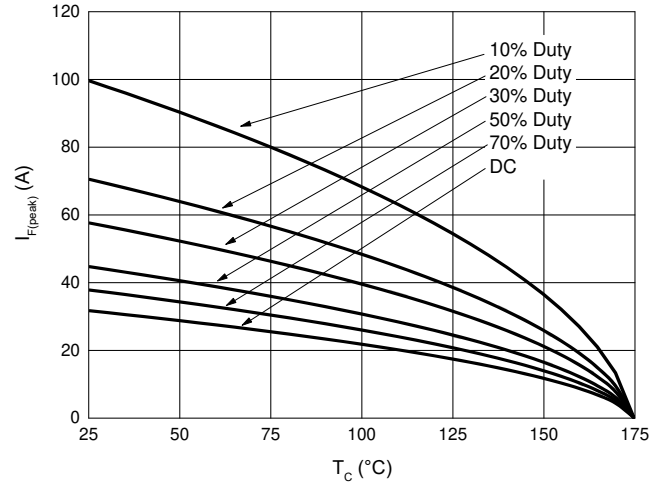
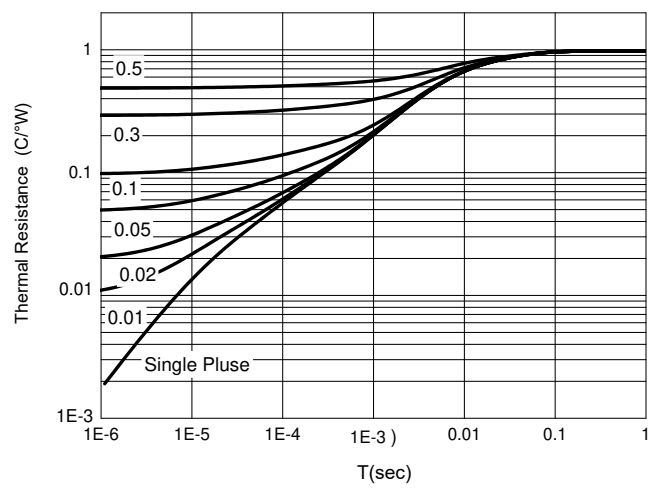


Fig. 8 - Transient Thermal Impedance



Ordering Information

Device	Packing
Part Number-BP	Tube:30pcs/Tube, 360pcs/Box,1.8K/Ctn;

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-BP-HF