20Amp Silicon Carbide Schottky Barrier Rectifier 1200 Volts

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)

Benefits

- Temperature-Independent Performance
- Low Switching Loss
- Low Heat Dissipation Requirements

Applications

- Switching Power Supply
- Power Factor Correction
- Motor Drive, Traction
- Charging Pile

Maximum Ratings

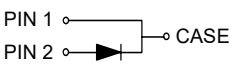
- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance: 1.1°C/W Junction to Case

MCC Part Number	Device Marking
SIC20120B	SIC20120B

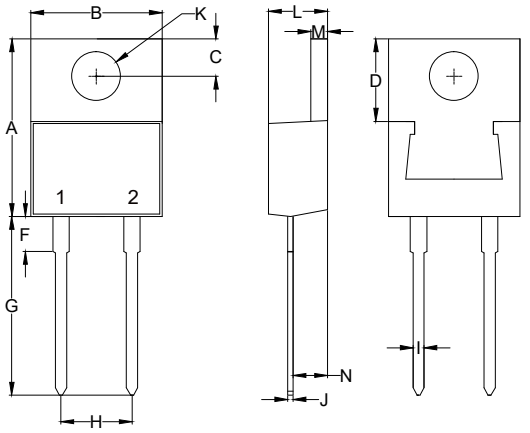
Peak Repetitive Reverse Voltage	V_{RRM}	1200V	
Surge Peak Reverse Voltage	V_{RSM}	1200V	
DC Reverse Voltage	V_{DC}	1200V	
Average Forward Current	I_F	20A	T_J=150°C
Peak Forward Surge Current	I_{FSM}	130A	T_C=25°C, t_p=10ms, Half Sine Pulse
Repetitive Peak Forward Current	I_{FRM}	80A	T_C=25°C, t_p=10ms, Half Sine Pulse
Power Dissipation	P_D	136W	T_C=25°C

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

Internal Structure



TO-220AC



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.560	0.625	14.22	15.88	
B	0.380	0.420	9.65	10.67	
C	0.100	0.135	2.54	3.43	
D	0.230	0.270	5.84	6.86	
F	-----	0.250	-----	6.35	
G	0.500	0.580	12.70	14.73	
H	0.190	0.210	4.83	5.33	
I	0.020	0.045	0.51	1.14	
J	0.012	0.025	0.30	0.64	
K	0.139	0.161	3.53	4.09	Φ
L	0.140	0.190	3.56	4.83	
M	0.045	0.055	1.14	1.40	
N	0.080	0.115	2.03	2.92	

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Typ.	Max.	Units
Forward Voltage	V_F	I_F=20A, T_J=25°C	1.45	1.8	V
		I_F=20A, T_J=175°C	2.1	2.7	V
Reverse Leakage Current	I_R	V_R=1200V, T_J=25°C	5	50	μA
		V_R=1200V, T_J=175°C	50	300	μA
Total Capacitive Charge	Q_C	V_R=800V	109		nC
Total capacitance	C	V_R=0V, f=1MHz	1490		pF
		V_R=400V, f=1MHz	108		pF
		V_R=800V, f=1MHz	78		pF
Capacitance Stored Energy	E_C	V_R=800V	31.5		μJ

Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

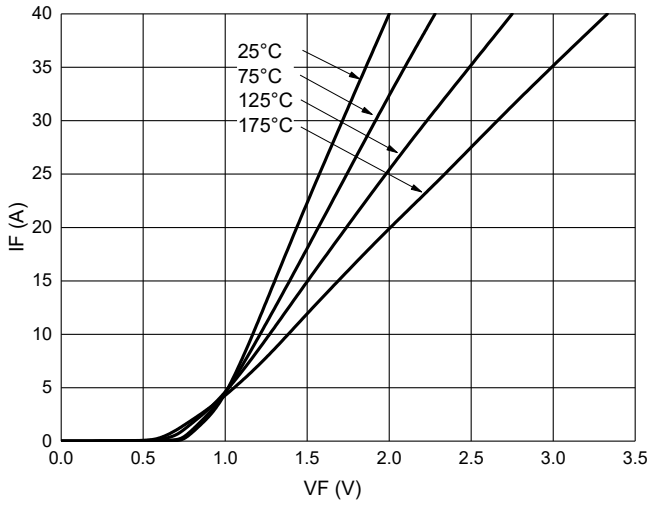
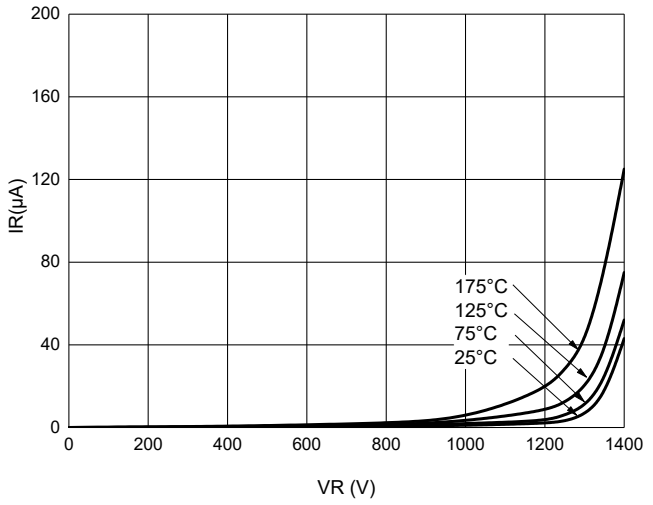


Fig. 2 - Typical Reverse Leakage Characteristics



Curve Characteristics

Fig. 3 - Capacitance vs Reverse Voltage

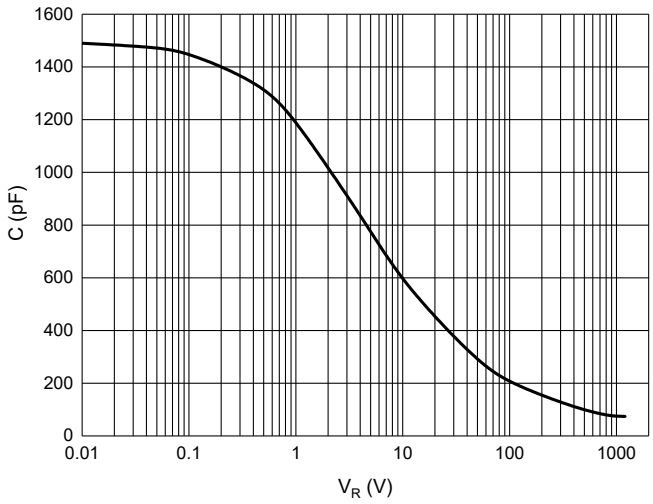


Fig. 4 - Capacitive Charge vs Reverse Voltage

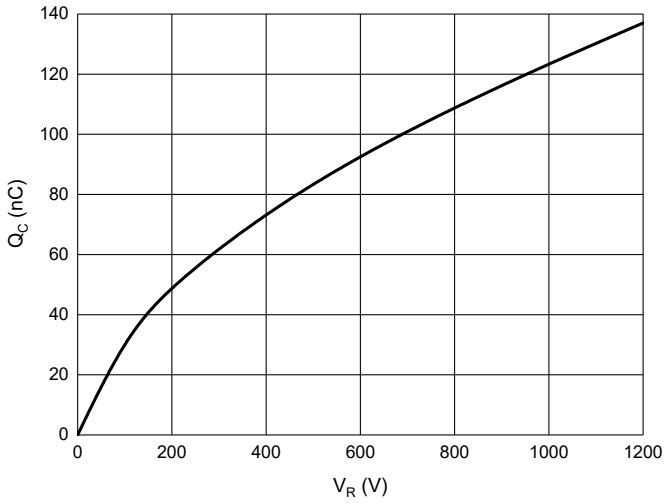


Fig. 5 - Capacitance Stored Energy

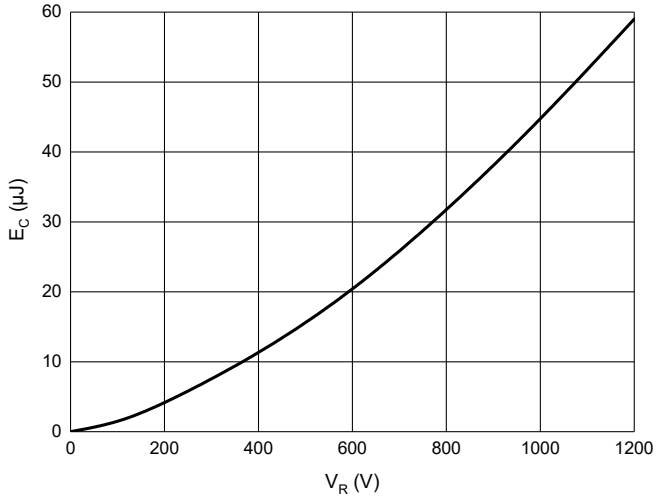


Fig. 6 - Power Derating

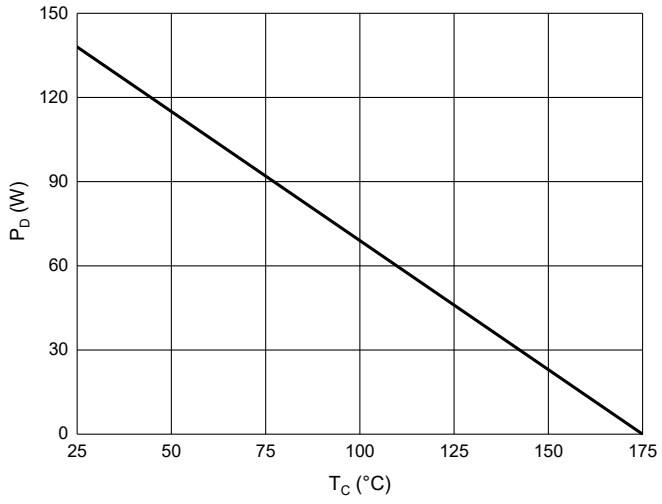
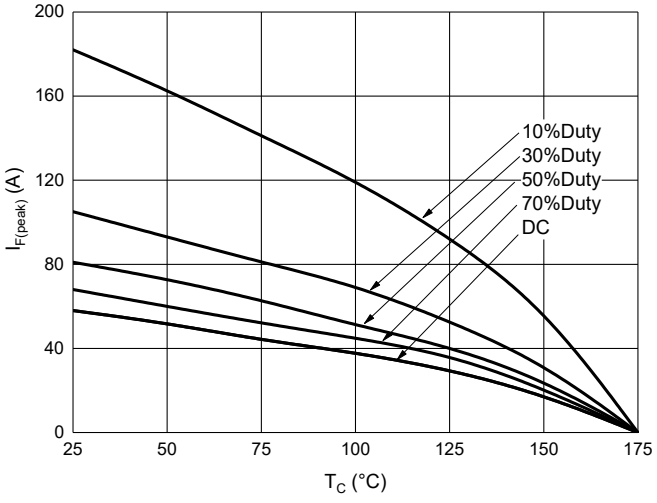


Fig. 7 - Current Derating



Ordering Information

Device	Packing
Part Number-BP	Bulk:50pcs/Tube,1Kpcs/Box,5Kpcs/Carton

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

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Micro Commercial Components (MCC):

SIC20120B-BP