

Features

- Zero Reverse Recovery Current
- Positive Temperature Coefficient
- High-Speed Switching
- Moisture Sensitivity Level 1
- 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

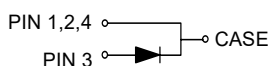
- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance: 1.35°C/W Junction to Case

MCC Part Number	Device Marking
SICB1060P	SICB1060P

Peak Repetitive Reverse Voltage	V_{RRM}	650V	
Surge Peak Reverse Voltage	V_{RSM}	650V	
DC Reverse Voltage	V_{DC}	650V	
Average Forward Current	I_F	10A	$T_J=155^\circ\text{C}$
Peak Forward Surge Current	I_{FSM}	49A	$T_C=25^\circ\text{C}$, $t_p=10\text{ms}$, Half Sine Pulse
Power Dissipation	P_D	111W	$T_C=25^\circ\text{C}$

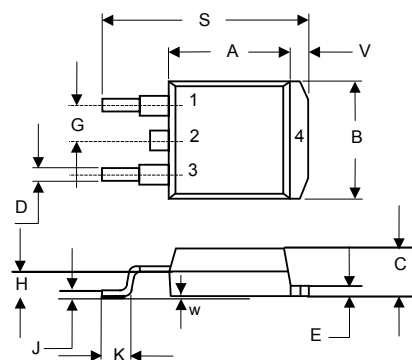
Note:1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7a.

Internal Structure:



10Amp Silicon Carbide Schottky Barrier Rectifier 650 Volts

D²-PAK



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.331	0.370	8.40	9.40	
B	0.378	0.417	9.60	10.60	
C	0.165	0.189	4.20	4.80	
D	0.027	0.037	0.68	0.94	
E	0.045	0.055	1.14	1.40	
G	0.010		2.54		TYP.
H	0.096	0.134	2.43	3.40	
J	0.011	0.025	0.28	0.64	
K	0.071	0.131	1.80	3.32	
S	0.575	0.625	14.60	15.87	
V	0.042	0.058	1.07	1.47	
W	0.000	0.010	0.00	0.25	

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Typ.	Max.	Units
Forward Voltage	V_F	$I_F=10A, T_J=25^{\circ}C$	1.39	1.6	V
		$I_F=10A, T_J=175^{\circ}C$	1.65		V
Reverse Leakage Current	I_R	$V_R=650V, T_J=25^{\circ}C$	12.8	44	μA
		$V_R=650V, T_J=175^{\circ}C$	424		μA
Total Capacitive Charge	Q_C	$V_R=400V$	24.8		nC
Total capacitance	C	$V_R=0V, f=1MHz$	452		pF
		$V_R=200V, f=1MHz$	48		pF
		$V_R=400V, f=1MHz$	36		pF
Capacitance Stored Energy	E_C	$V_R=400V$	2.92		μJ

Curve Characteristics

Fig. 1 - Typical Forward Characteristics

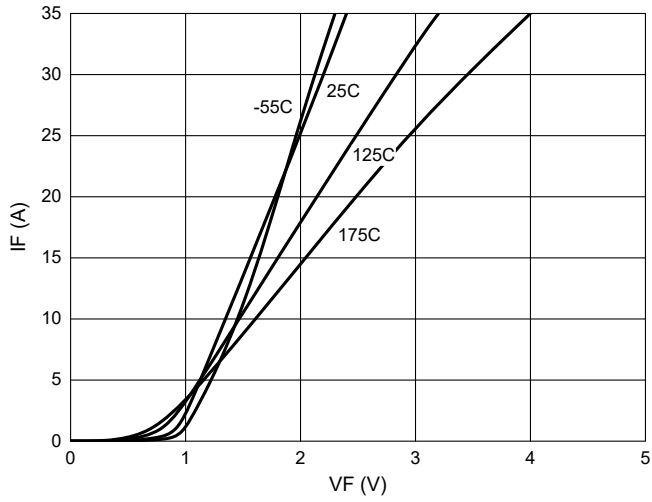


Fig. 2 - Typical Reverse Leakage Characteristics

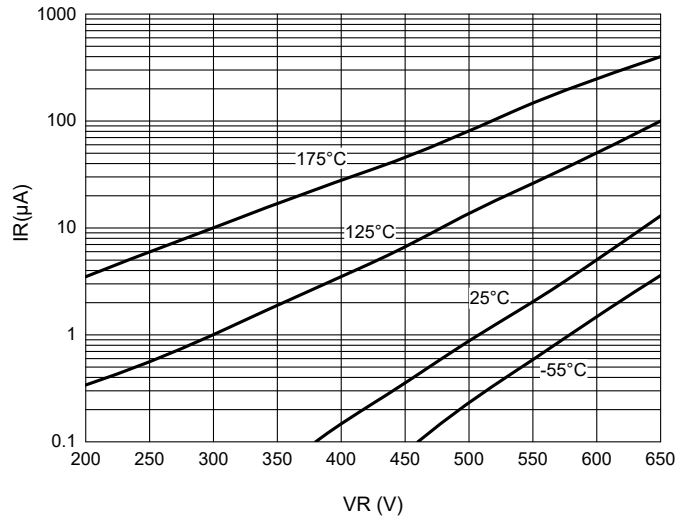


Fig. 3 - Capacitance vs Reverse Voltage

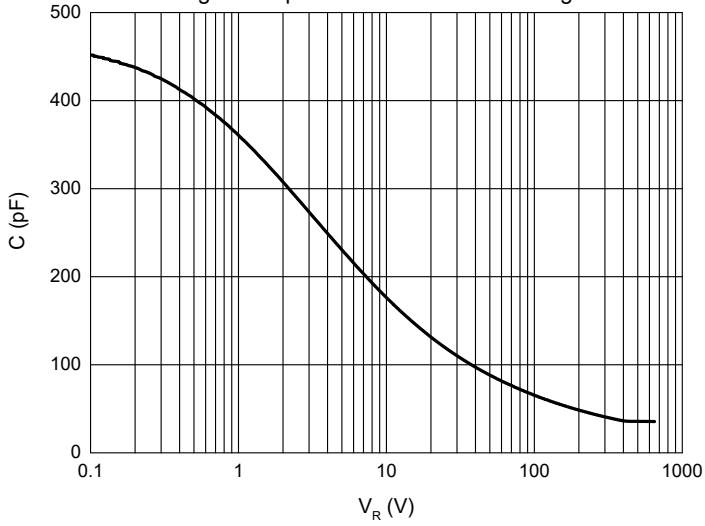


Fig. 4 - Typical Power Derating

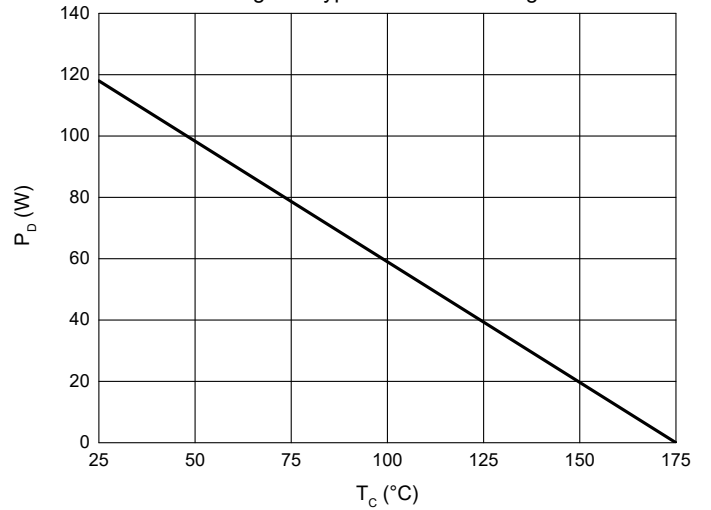
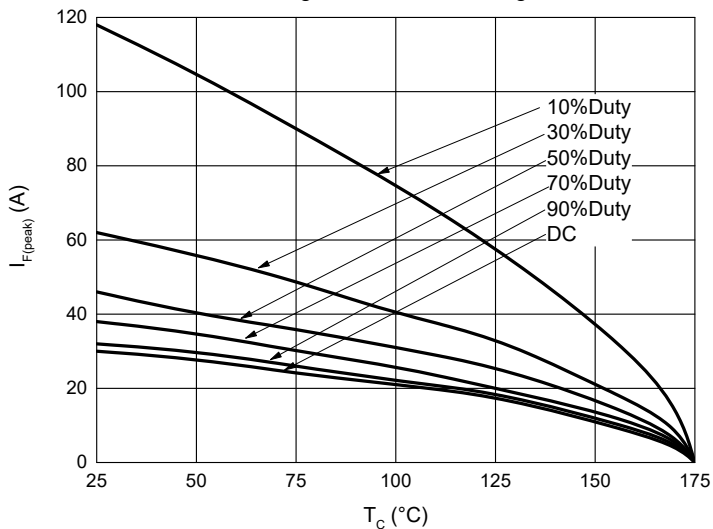


Fig. 5 - Current Derating



Ordering Information

Device	Packing
SICB1060P-TP	Tape&Reel: 800pcs/Reel

Note : Adding "-HF" Suffix for Halogen Free, eg. Part Number-TP-HF

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