	E502650

50 Amp Bridge Rectifier 1000 to 1200 Volts

Features

- Glass Passivated Chip Junction
- High Surge Forward Current Capability
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note 1)("P" Suffix Designates RoHS Compliant. See Ordering Information)

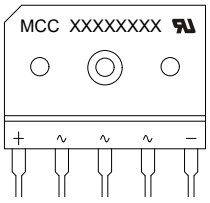
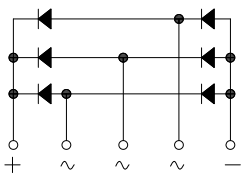
Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value		Unit
		SGBJ5010	SGBJ5012	
Peak Repetitive Reverse Voltage	V_{RRM}	1000	1200	V
Working Peak Reverse Voltage	V_{RWM}			
DC Blocking Voltage	V_R			
RMS Reverse Voltage	V_{RMS}	700	840	V
Average Rectified Forward Current @ T_C=100°C (With Heatsink)	$I_{F(AV)}$	50		A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	I_{FSM}	500		A
Non-Repetitive Peak Surge Current @ 1ms Square Wave		1000		
I^2t Rating for Fusing @1ms≤t≤8.3ms	I^2t	1037.5		A^2s
Dielectric strength @Terminals to Case, AC 1 Minute	V_{dis}	2.5		KV

Marking Code

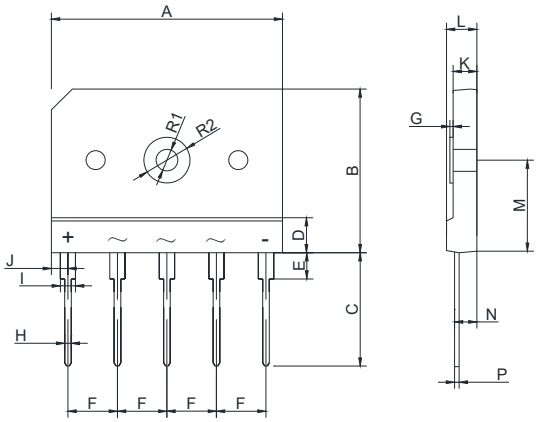
Part Number	Marking Code
SGBJ5010	SGBJ5010
SGBJ5012	SGBJ5012

Internal Structure

Simplified Outline	Graphic Symbol
 XXXXXXXX: Marking Code	

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

SGBJ



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	1.366	1.390	34.70	35.30	
B	0.972	0.996	24.70	25.30	
C	0.669	0.693	17.00	17.60	
D	0.220	0.244	5.60	6.20	
E	0.150	0.173	3.80	4.40	
F	0.283	0.307	7.20	7.80	
G	0.016	0.024	0.40	0.60	
H	0.035	0.043	0.90	1.10	
I	0.087	0.094	2.20	2.40	
J	0.087	0.102	2.20	2.60	
K	0.134	0.150	3.40	3.80	
L	0.173	0.189	4.40	4.80	
M	0.547	0.571	13.90	14.50	
N	0.124	0.144	3.15	3.65	
P	0.026	0.030	0.65	0.75	
R1	0.106	0.146	2.70	3.70	
R2	0.264	0.287	6.70	7.30	

Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_J	Operating Junction Temperature Range		-55		150	°C
T_{stg}	Storage Temperature Range		-55		150	°C
$Rth_{(J-C)}$	Thermal Resistance from Junction to Case	Note 1		0.5		°C/W
$Rth_{(J-A)}$	Thermal Resistance from Junction to Ambient	Without Heatsink		18		°C/W

Note:
1.Device mounted on 75mm x 45mm x 5.5mm Aluminum Plate Heatsink.

Mechanical Data

Recommended Mounting Torque: 5kg·cm

Electrical Characteristics @ 25°C Unless Otherwise Specified(Per Diode)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	V_F	I_F=25A;T_J=25°C			1.1	V
Reverse Current	I_R	at Rated V_R;T_J=25°C at Rated V_R;T_J=125°C			5 500	μA
Junction Capacitance	C_J	V_R=4V;f=1MHz;T_J=25°C		240		pF

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

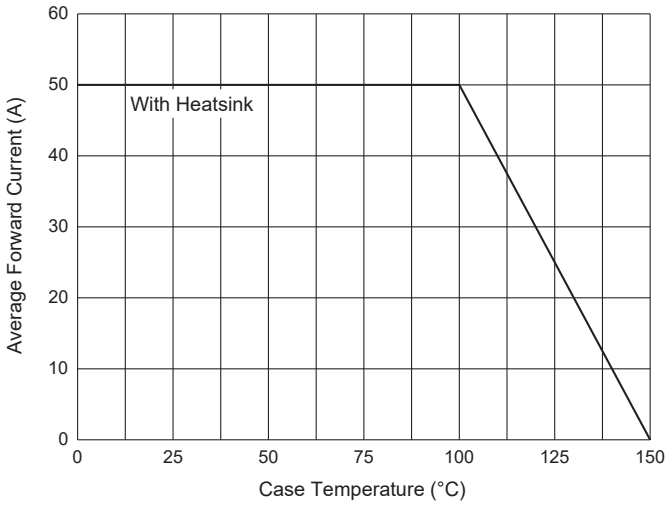


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current(Per Diode)

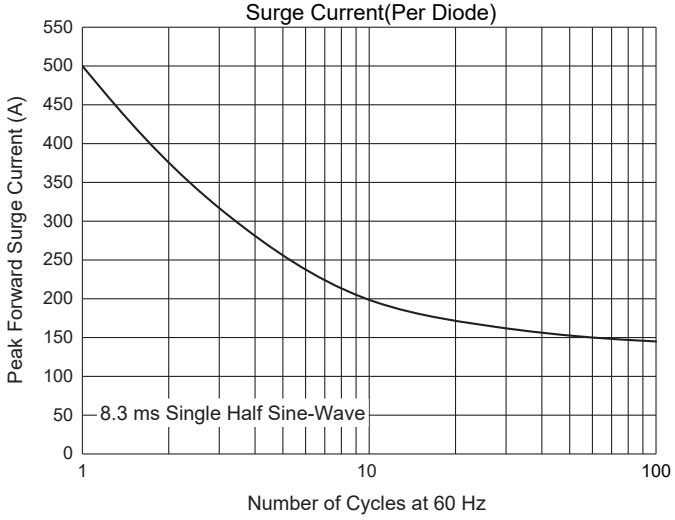


Fig. 3 - Typical Forward Characteristics (Per Diode)

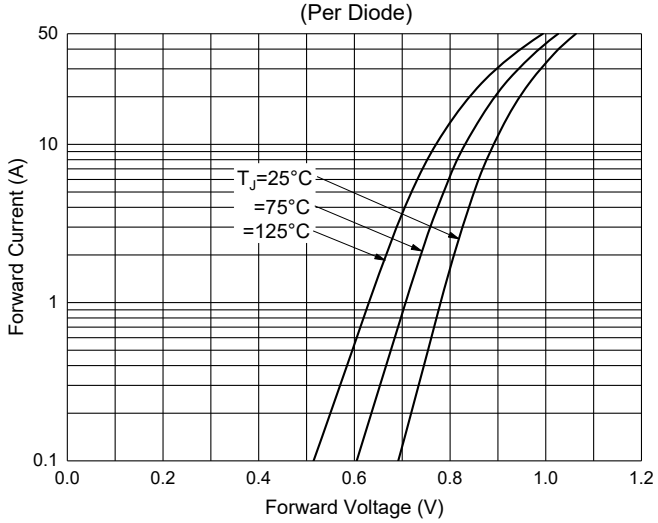


Fig. 4 - Typical Reverse Leakage Characteristics (Per Diode)

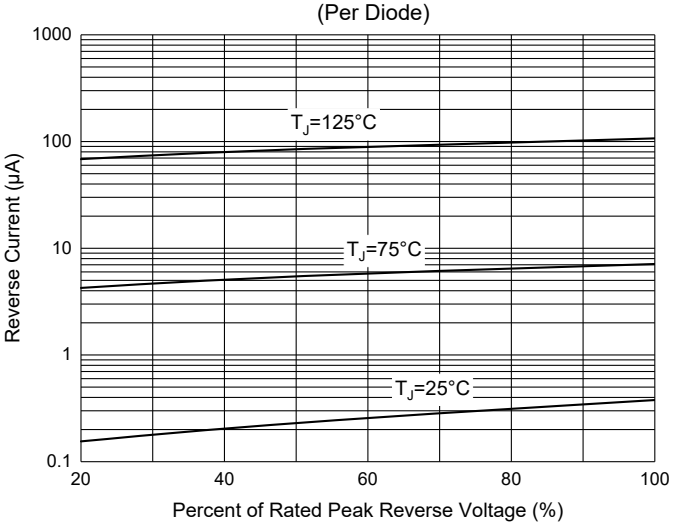
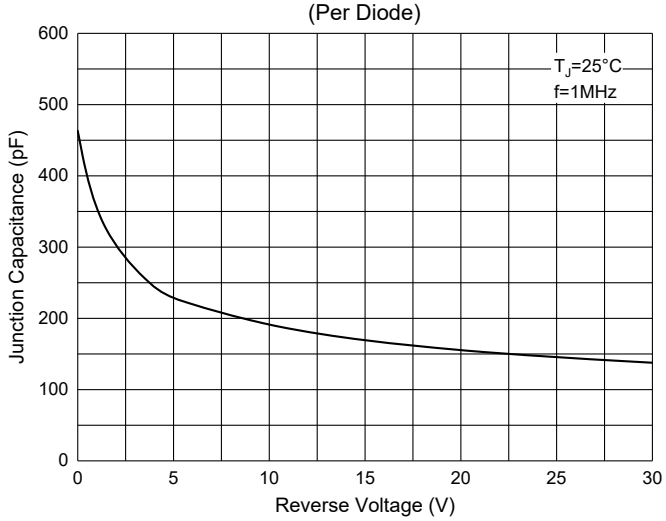


Fig. 5 - Typical Capacitance Characteristics (Per Diode)



Ordering Information

Device	Packing
Part Number-BP	Bulk:10pcs/Tube,1000pcs/Carton