



E502650

## Features

- Halogen Free Available Upon Request By Adding Suffix "-HF"
- 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
Peak Repetitive Reverse Voltage	$V_{RRM}$	1600	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{RMS}$	1120	V
Average Rectified Forward Current @ $T_C=95^\circ\text{C}$ (With Heatsink)	$I_{F(AV)}$	50	A
Average Rectified Forward Current @ $T_A=25^\circ\text{C}$ (Without Heatsink)		5.2	
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 @ $1\text{ms} \leq t \leq 8.3\text{ms}$	$I^2t$	1037.5	$\text{A}^2\text{s}$
Dielectric strength @ Terminals to Case, AC 1 Minute	$V_{dis}$	2.5	KV

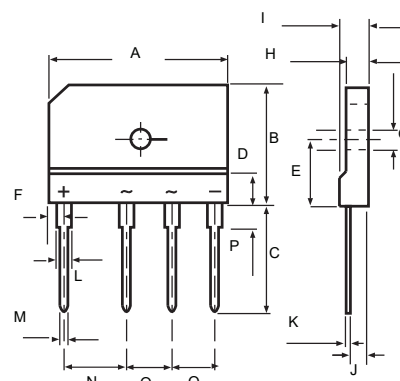
## Internal Structure

Simplified Outline	Graphic Symbol

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

# 50 Amp Bridge Rectifiers 1600 Volts

GBJ



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	1.170	1.190	29.70	30.30	
B	0.780	0.800	19.70	20.30	
C	0.670	0.710	17.00	18.00	
D	0.190	0.190	4.70	4.90	
E	0.430	0.440	10.80	11.20	
F	0.090	0.110	2.30	2.70	
G	0.120	0.130	3.10	3.40	
H	0.130	0.150	3.40	3.80	
I	0.170	0.190	4.40	4.80	
J	0.100	0.110	2.50	2.90	
K	0.020	0.030	0.60	0.80	
L	0.080	0.090	2.00	2.40	
M	0.040	0.040	0.90	1.10	
N	0.390	0.400	9.80	10.20	
O	0.290	0.300	7.30	7.70	
P	0.150	0.170	3.80	4.20	

## 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
$R_{th(J-C)}$	Thermal Resistance from Junction to Case	Note 1		1		°C/W
$R_{th(J-A)}$	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: 5 in·lbs

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	$V_F$	$I_F=25A; T_J=25^{\circ}C$			1.1	V
Reverse Current	$I_R$	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=125^{\circ}C$			5 1000	$\mu A$
Junction Capacitance	$C_J$	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		160		pF

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

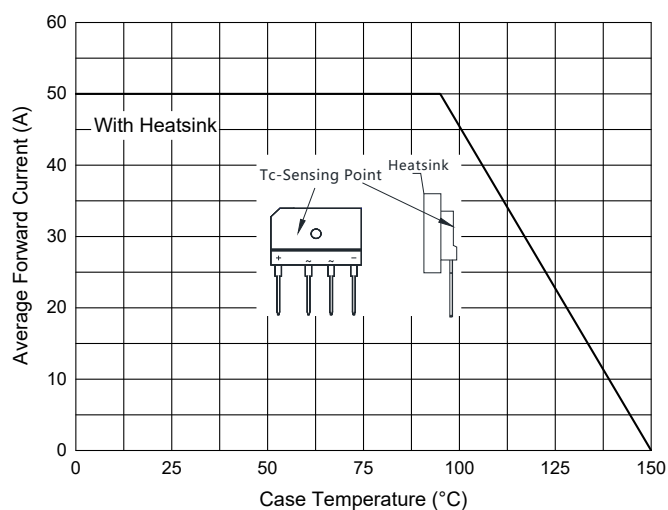


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

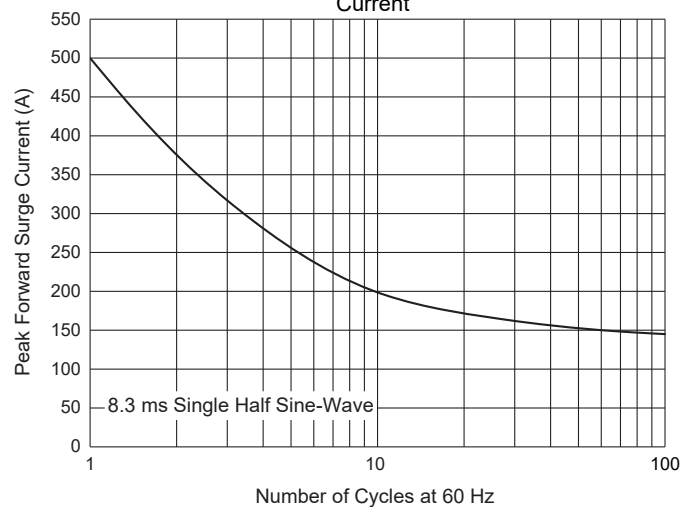


Fig. 3 - Typical Forward Characteristics

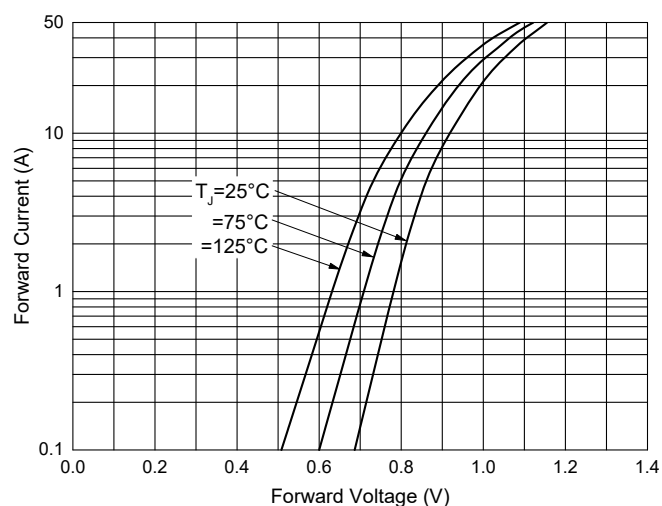


Fig. 4 - Typical Reverse Leakage Characteristics

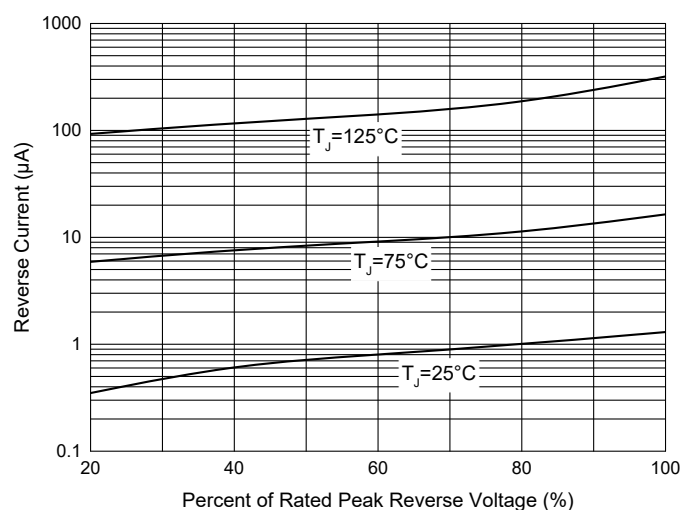
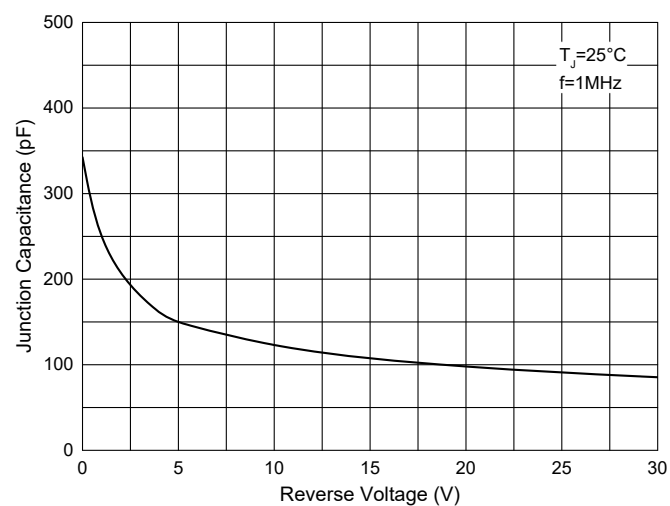


Fig. 5 - Typical Capacitance Characteristics



## Ordering Information

Device	Packing
GBJ5016-BP	Bulk:15pcs/Tube,750pcs/Box,1500pcs/Carton

Note : Adding "-HF" Suffix For Halogen Free, eg. GBJ5016-BP-HF

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