



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
		GBJ 50005	GBJ 5001	GBJ 5002	GBJ 5004	GBJ 5006	GBJ 5008	GBJ 5010	
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	V <sub>RWM</sub>								
DC Blocking Voltage	V <sub>R</sub>								
RMS Reverse Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Average Rectified Forward Current @ T <sub>C</sub> =100°C	I <sub>F(AV)</sub>	50							A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	I <sub>FSM</sub>	400							A
Non-Repetitive Peak Surge Current @ 1ms Square Wave		800							
I <sup>2</sup> t Rating for Fusing @ 1ms≤t≤8.3ms	I <sup>2</sup> t	664							A <sup>2</sup> s
Dielectric strength @Terminals to Case, AC 1 Minute	V <sub>dis</sub>	2.5							KV

## Marking Code

Part Number	Marking Code
GBJ50005	GBJ50005
GBJ5001	GBJ5001
GBJ5002	GBJ5002
GBJ5004	GBJ5004
GBJ5006	GBJ5006
GBJ5008	GBJ5008
GBJ5010	GBJ5010

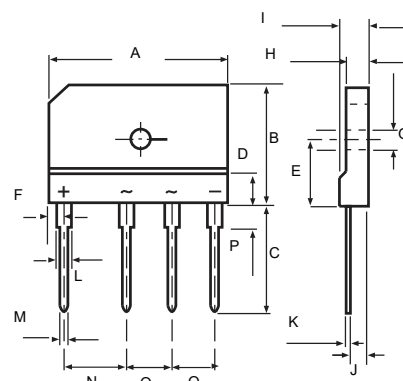
## Internal Structure

Simplified Outline	Graphic Symbol
<p>XXXXXX: Marking Code</p>	

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

# 50 Amp Bridge Rectifier 50 to 1000 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		0.8		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Without Heatsink		22		°C/W

Note:

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

## Mechanical Data

Recommended Mounting Torque: 5in·lbs(#6 Screw)

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	$V_F$	$I_F=25A; T_J=25^{\circ}C$			1.0	V
Reverse Current	$I_R$	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=125^{\circ}C$			5 200	$\mu A$
Junction Capacitance	$C_J$	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		190		pF

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

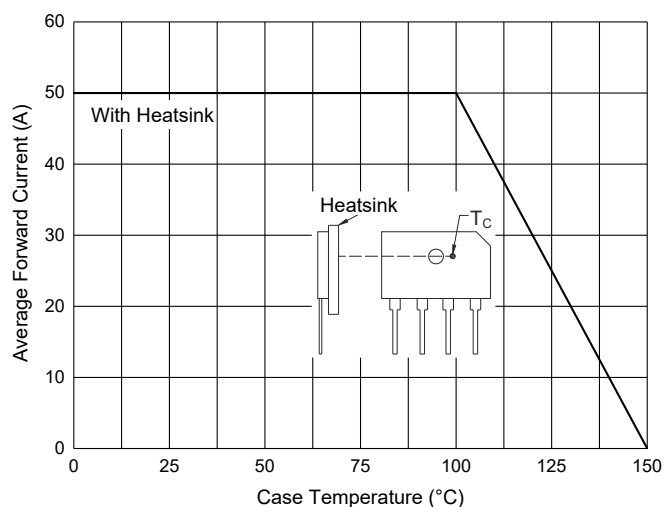


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

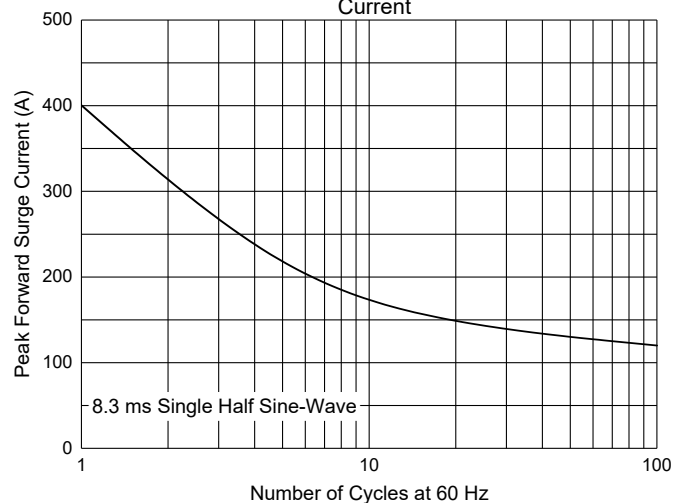


Fig. 3 - Typical Forward Characteristics

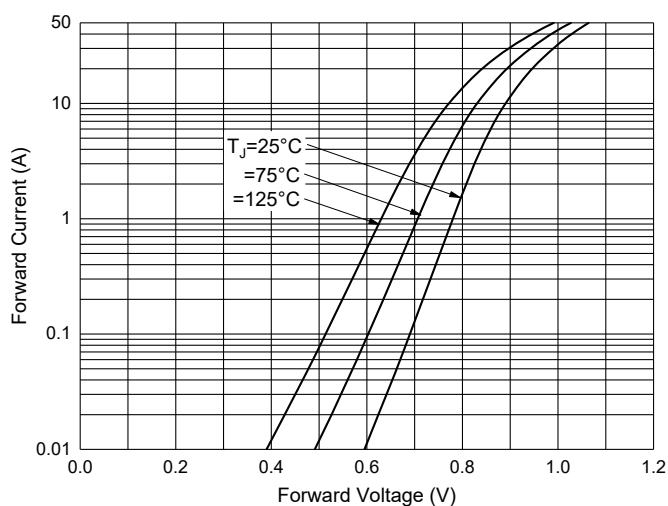


Fig. 4 - Typical Reverse Leakage Characteristics

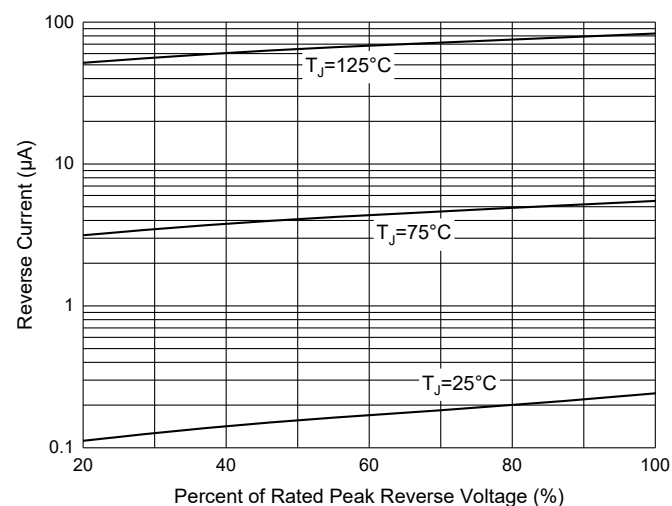
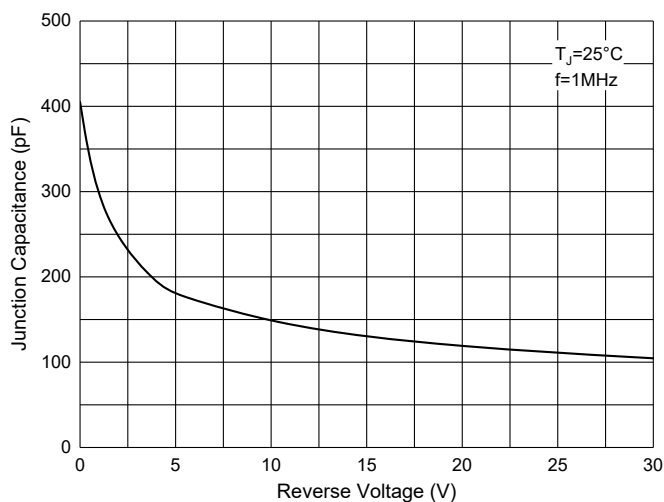


Fig. 5 - Typical Capacitance Characteristics



## Ordering Information

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

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

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