



# GBP3005 THRU GBP310

## GLASS PASSIVATED FAST BRIDGE RECTIFIERS

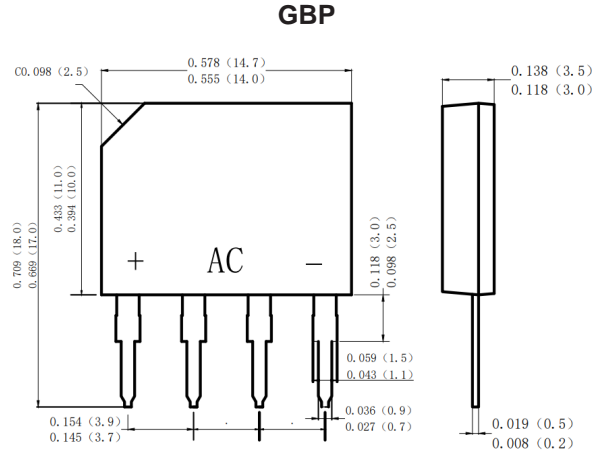
Reverse Voltage - 50 to 1000 Volts    Forward Current - 3.0 Amperes

### FEATURES

Ideal for printed circuit boards  
 Reliable low cost construction technique  
 results in inexpensive product  
 High temperature soldering guaranteed:  
 260°C/10 seconds/0.375" (9.5mm) lead length  
 at 5 lbs.,(2.3kg) tension

### MECHANICAL DATA

**Case:** Molded plastic  
**Lead:** Solder plated  
**Mounting position:** Any



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%

CHARACTERISTICS	SYMBOL	GBP3005	GBP301	GBP302	GBP304	GBP306	GBP308	GBP310	UNIT
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V <sub>RMS</sub>	30	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current @ T <sub>C</sub> =100°C (with heatsink)	I <sub>(AV)</sub>	3.0							A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	I <sub>FSM</sub>	75.0							A
Maximum Forward Voltage at 1.5 A DC	V <sub>F</sub>	0.95							V
Maximum DC Reverse Current @ T <sub>A</sub> =25 °C at Rated DC Blocking Voltage @ T <sub>A</sub> =125 °C	I <sub>R</sub>	500							uA
I <sup>2</sup> t Rating for Fusing (t<8.3ms)	I <sup>2</sup> t	19.2							A <sup>2</sup> s
Typical Junction Capacitance Per Element (Note1)	C <sub>J</sub>	45							pF
Typical Thermal Resistance (Note2)	R <sub>θJC</sub>	4.2							°C/W
Operating Temperature Range	T <sub>J</sub>	-55 to +150							°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150							°C

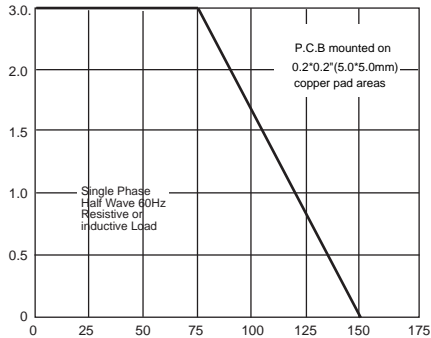
NOTES: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.



## RATINGS AND CHARACTERISTIC CURVES GBP3005 THRU GBP310

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

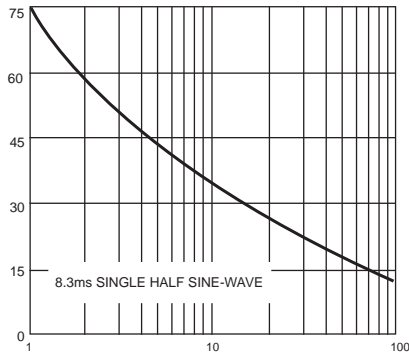
FIG. 1- FORWARD CURRENT DERATING CURVE



LEAD TEMPERATURE, °C

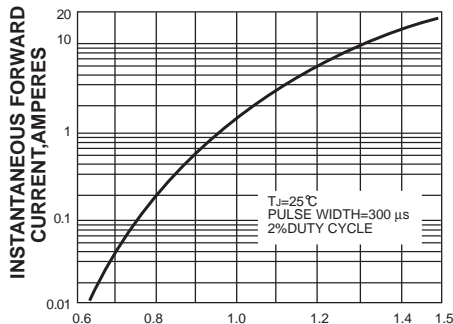
PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



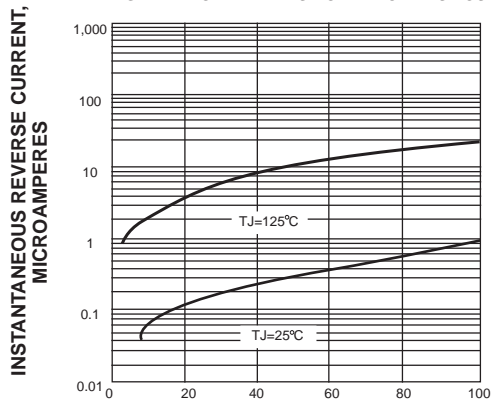
NUMBER OF CYCLES AT 60 Hz

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



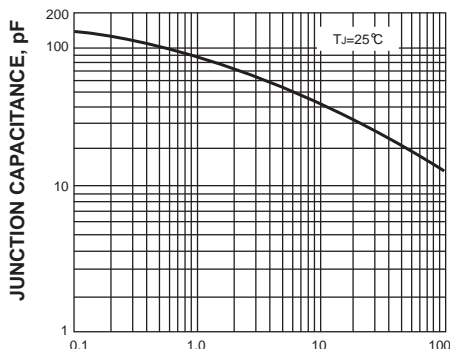
INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



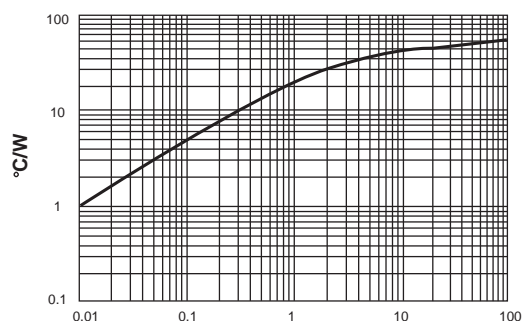
PERCENT OF PEAK REVERSE VOLTAGE, %

FIG. 5-TYPICAL JUNCTION CAPACITANCE



REVERSE VOLTAGE, VOLTS

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



t,PULSE DURATION,sec.