

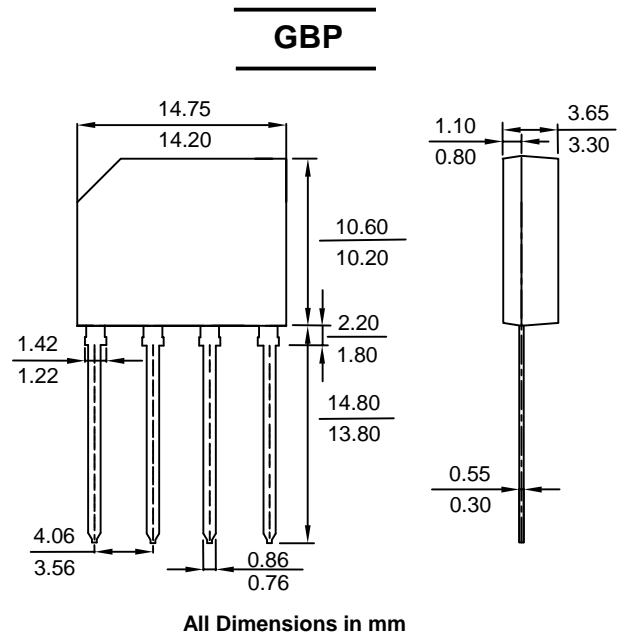
# GBP6005 – GBP610

## Features

- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability
- Ideal for Printed Circuit Boards

## Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Weight: 1.35 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- **Lead Free: For RoHS / Lead Free Version**



## Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

Characteristic	Symbol	GBP 6005	GBP 601	GBP 602	GBP 604	GBP 606	GBP 608	GBP 610	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	$V_{RWM}$								
DC Blocking Voltage	VR								
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current (Note 1)	$I_O$	6.0							A
		@ $T_A = 50^\circ\text{C}$							
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	150							A
Forward Voltage (per element)	VFM	1.1							V
		@ $I_F = 6.0\text{A}$							
Peak Reverse Current	$I_{RM}$	10							$\mu\text{A}$
		@ $T_A = 25^\circ\text{C}$							
		@ $T_A = 100^\circ\text{C}$							
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	40							K/W
Operating and Storage Temperature Range	$T_j, T_{STG}$	-55 to +150							$^\circ\text{C}$

Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case.  
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.  
 3. Thermal resistance junction to ambient mounted on PC board with 12mm<sup>2</sup> copper pad.

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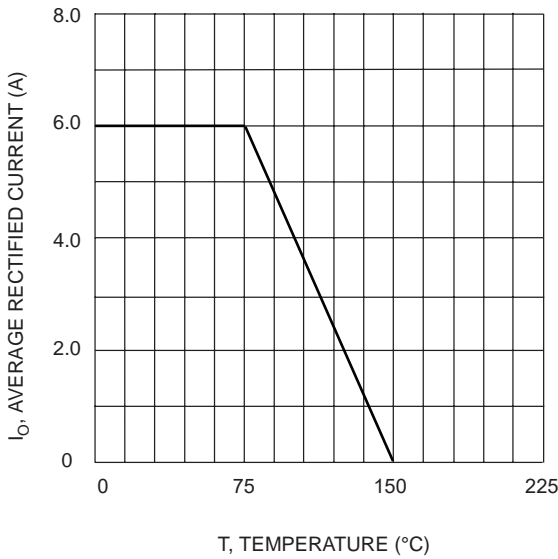


Fig. 1 Forward Current Derating Curve

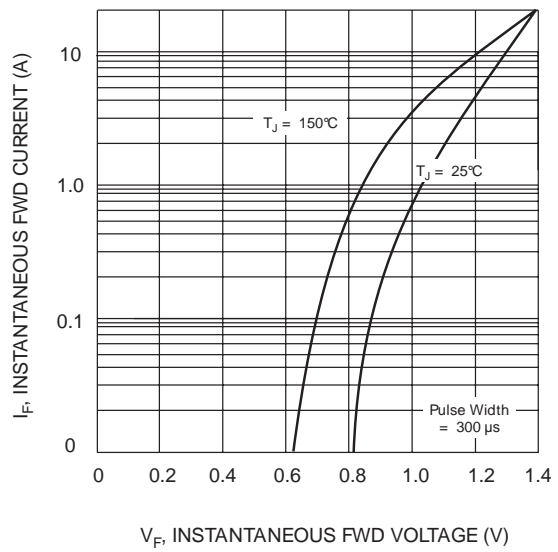


Fig. 2 Typical Fwd Characteristics

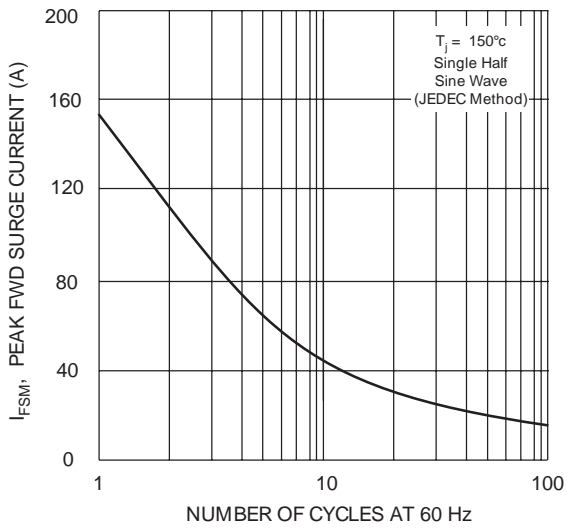


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

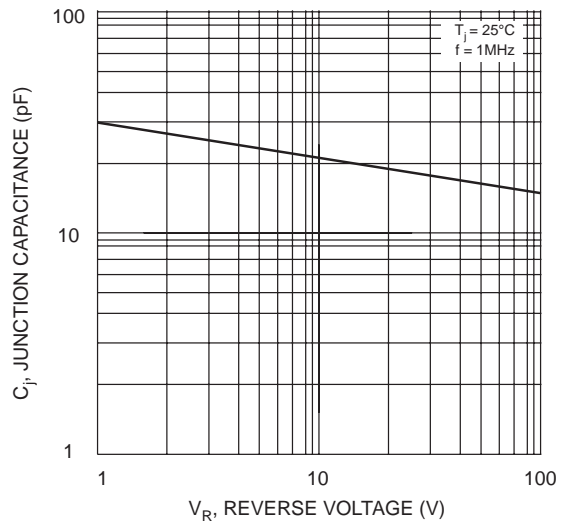


Fig. 4 Typical Junction Capacitance

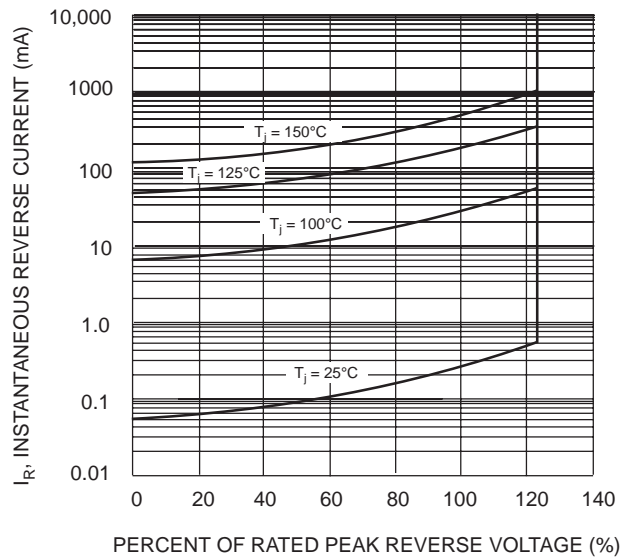


Fig. 5 Typical Reverse Characteristics