



July 2010

GBPC 12, 15, 25, 35 SERIES

Bridge Rectifiers (Glass Passivated)

Features

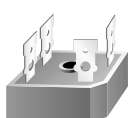
- Integrally molded heatsink provided very low thermal resistance for maximum heat dissipation.
- Surge Overload Ratings from 300 amperes to 400 amperes.
- Isolated voltage from case to lead over 2500 volts.
- UL certified, UL #E326243
- Terminals Finish Material - Silver (solderable per MIL-STD-202, Method 208 for the wire type GBPC-W package)
- Nickel for GBPC package.

Suffix "W"

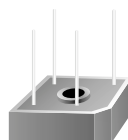
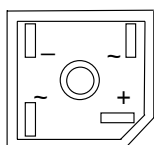
Wire Lead Structure

Suffix "M"

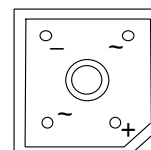
Terminal Location Face to Face



GBPC



GBPC-W



Absolute Maximum Ratings * $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value							Units	
		005	01	02	04	06	08	10		
V _{RRM}	Maximum Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V	
V _{RMS}	Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V	
V _R	DC Reverse Voltage (Rated V _R)	50	100	200	400	600	800	1000	V	
I _{F(AV)}	Average Rectified Forward Current								A	
	@ T _C = 55°C									
	GBPC12									12
	GBPC15									15
I _{FSM}	GBPC25	25	300	A						
	GBPC35	35								
	GBPC12, 25, 25	8.3ms Single Half-Sine-Wave								
	GBPC35	400								
T _{STG}	Storage Temperature Range	-55 to +150							°C	
T _J	Operating Junction Temperature	-55 to +150							°C	

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Thermal Characteristics

Symbol	Parameter	Value	Units
P_D	Power Dissipation	83.3	W
$R_{\theta JC}$	Thermal Resistance, Junction to Case *	1.5	°C/W

* With Heatsink

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_F	Forward Voltage Drop, per bridge @6.0A GBPC12 @7.5A GBPC15 @12.5A GBPC25 @17.5A GBPC35	1.1 (Max.)	V
I_R	Reverse Current, per element @ Rated V_R $T_A = 25^\circ\text{C}$ $T_A = 125^\circ\text{C}$	5.0 (Max.) 500 (Max.)	μA μA
I^2t	Rating for Fusing $t < 8.35\text{ms}$ GBPC12, 15, 25 GBPC35	375 660	A^2Sec A^2Sec
C_T	Total Capacitance, per leg $V_R = 4.0\text{V}$ $f = 1.0\text{MHz}$ GBPC12, 15, 25 GBPC35	180 200	pF pF

Typical Performance Characteristics

Figure 1. Forward Current Derating Curve

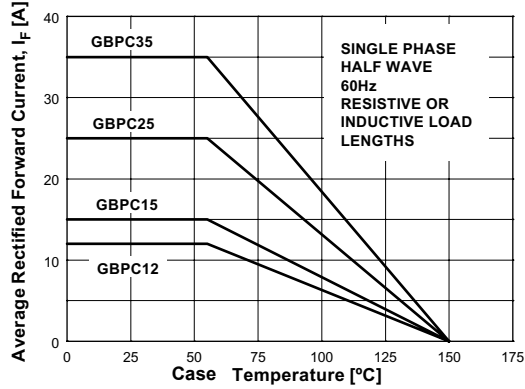


Figure 2. Non-Repetitive Surge Current

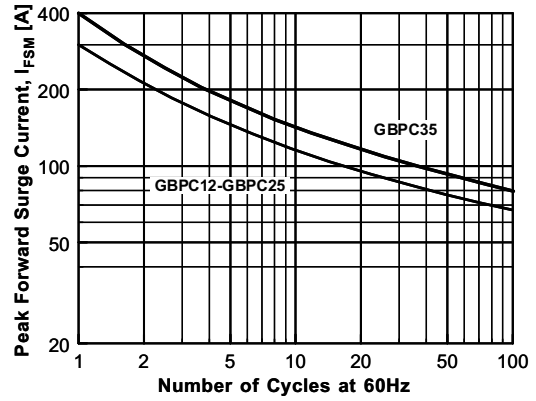


Figure 3. Forward Voltage Characteristics

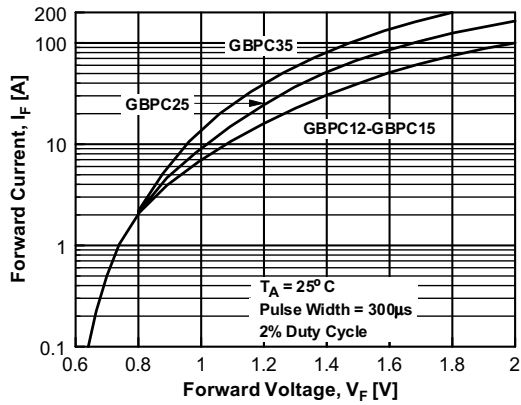
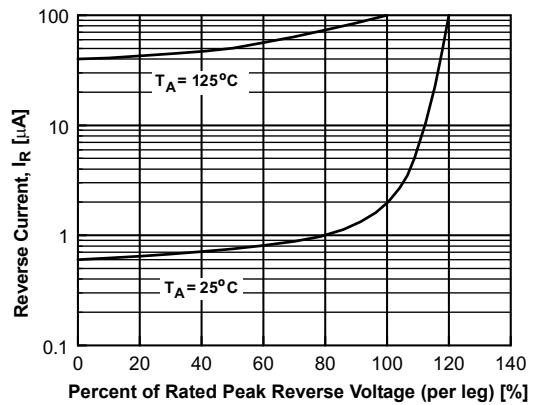


Figure 4. Reverse Current vs Reverse Voltage





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Rev. I49



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