FAIRCHILD SEMICONDUCTOR®

GBPC 12, 15, 25, 35 SERIES

Bridege Rectifiers (Glass Passivated)

Features

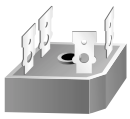
- Integrally molded heatsink provided very low thermal resistance for maximum heat dissipation.
- Surge ovrload rartings from 300 amperes to 400 amperes.
- Isolated voltage from case to lead over 2500 volts.
- UL certified, UL #E96005

Suffix “W”

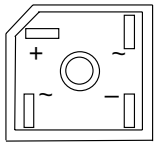
Wire Lead Structure

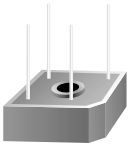
Suffix “M”

Terminal Location Face to Face

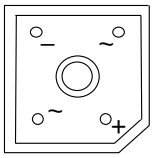


GBPC





GBPC-W



Absolute Maximum Ratings * T_a = 25°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 Recitified Forward Current @ T_A = 55°C GBPC12 GBPC15 GBPC25 GBPC35				12 15 25 35				 A A A A
I_{FSM}	Non-Repetitive Peak Forward Surge Current GBPC12, 25, 25 8.3ms Single Half-Sine-Wave GBPC35				300 400				 A A
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 by impaired.

Thermal Characteristics

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

Electrical Characteristics

T_C = 25°C unless otherwise noted

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

Typical Performance Characteristics

Figure 1. Forward Current Derating Curve

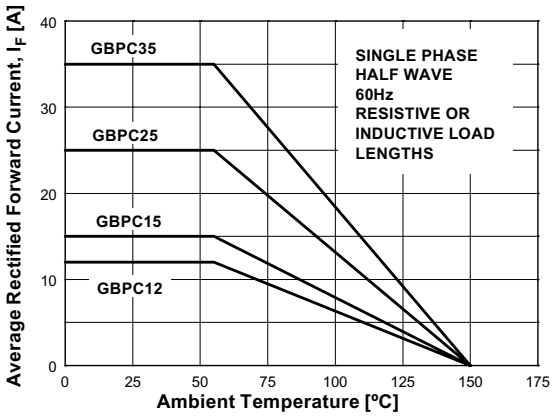


Figure 2. Non-Repetitive Surge Current

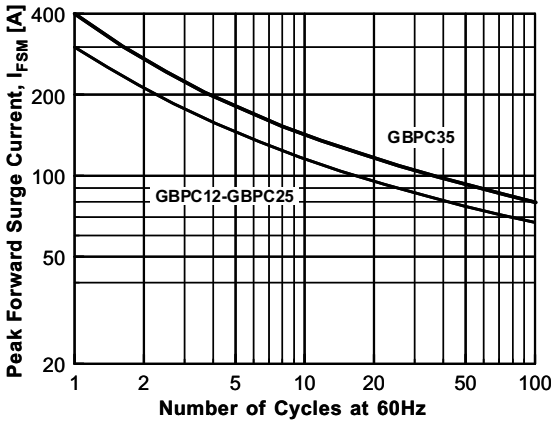


Figure 3. Forward Voltage Characteristics

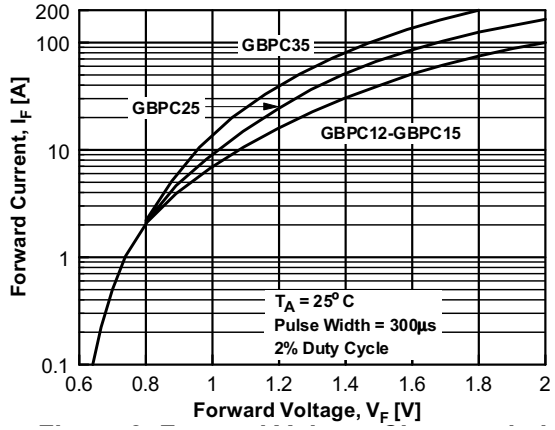
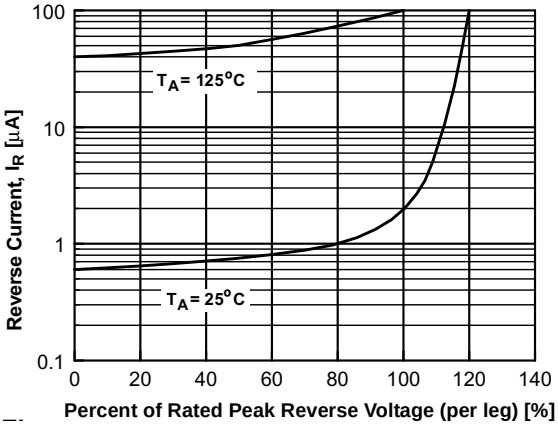


Figure 4. Reverse Current vs Reverse Voltage



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