FAIRCHILD SEMICONDUCTOR™

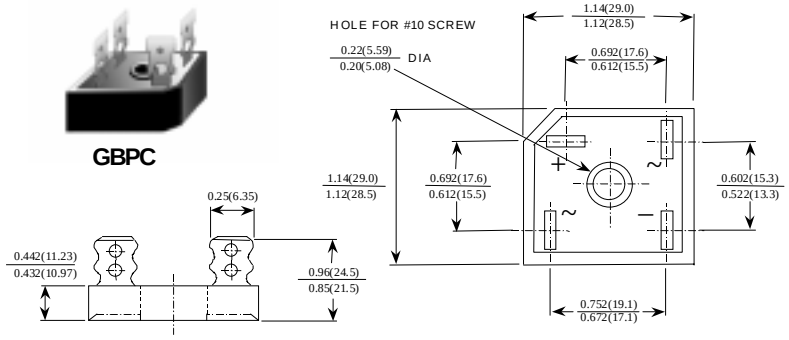
Discrete POWER & Signal Technologies

GBPC 12, 15, 25, 35 SERIES

Features

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

GBPC



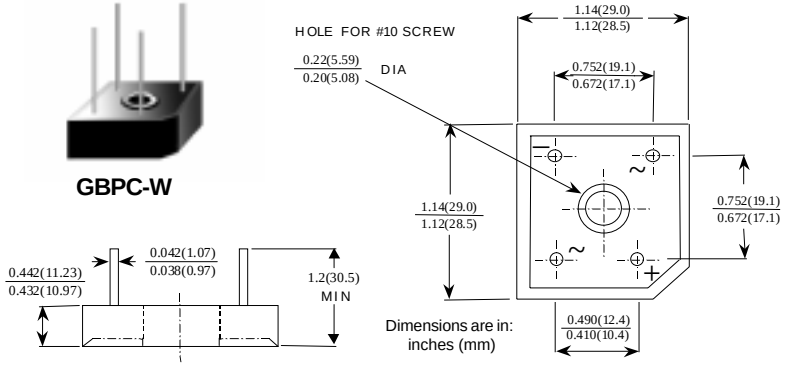
Suffix "W"

Wire Lead Structure

Suffix "M"

Terminal Location Face to Face

GBPC-W



12, 15, 25, 35 Ampere Glass Passivated Bridge Rectifiers

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

Symbol	Parameter		Value	Units
I_O	Average Rectified Current @ T_A = 55°C	GBPC12	12	A
		GBPC15	15	A
		GBPC25	25	A
		GBPC35	35	A
$i_{f(surge)}$	Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	GBPC12, 15, 25	300	A
		GBPC35	400	A
P_D	Total Device Dissipation		83.3	W
	Derate above 25°C		666	mW/°C
$R_{\theta JL}$	Thermal Resistance, Junction to Lead		1.5	°C/W
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.

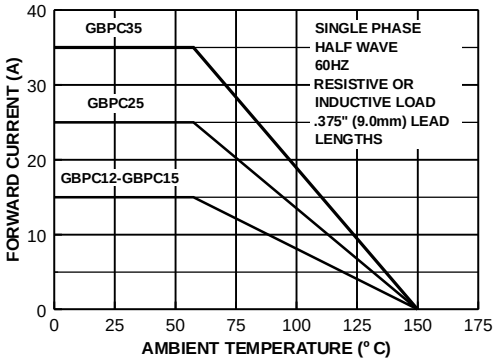
Glass Passivated Bridge Rectifiers
(continued)

Electrical Characteristics
T_A = 25°C unless otherwise noted

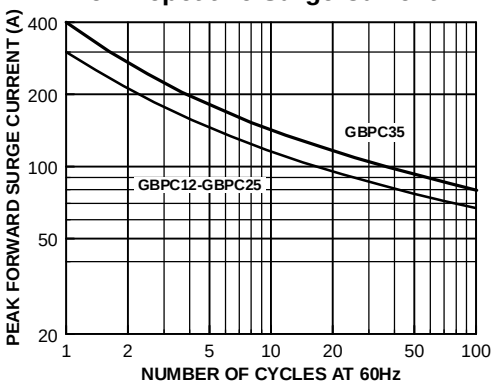
Parameter	Device							Units
	005	01	02	04	06	08	10	
Peak Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
DC Reverse Voltage (Rated V_R)	50	100	200	400	600	800	1000	V
Maximum Reverse Leakage, total bridge @ rated V_R T_A = 25°C				5.0				µA
T_A = 125°C				500				µA
Maximum Forward Voltage Drop, per bridge @ 6.0 A **GBPC12** @ 7.5 A **GBPC15** @ 12.5 A **GBPC25** @ 17.5 A **GBPC35**				1.1				V
I^2t rating for fusing **GBPC12,15,25** t < 8.3 ms **GBPC35**				375				A^2Sec
				660				A^2Sec
Typical Junction Capacitance, per leg V_R = 4.0V, **GBPC12,15,25** f = 1.0 MHz **GBPC35**				180				pF
				200				pF

Typical Characteristics

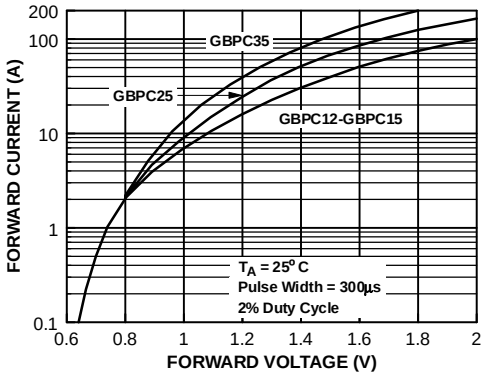
Forward Current Derating Curve



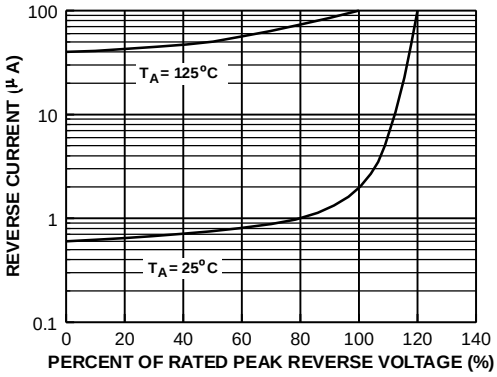
Non-Repetitive Surge Current



Forward Characteristics



Reverse Characteristics



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Datasheet Identification	Product Status	Definition
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