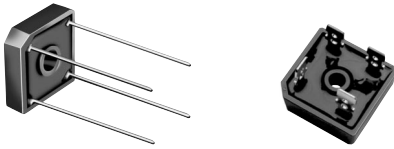
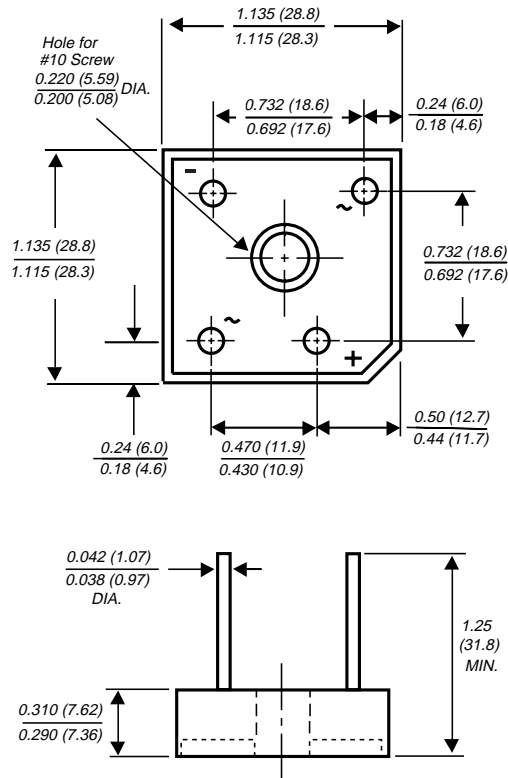


## Glass Passivated Single-Phase Bridge Rectifier

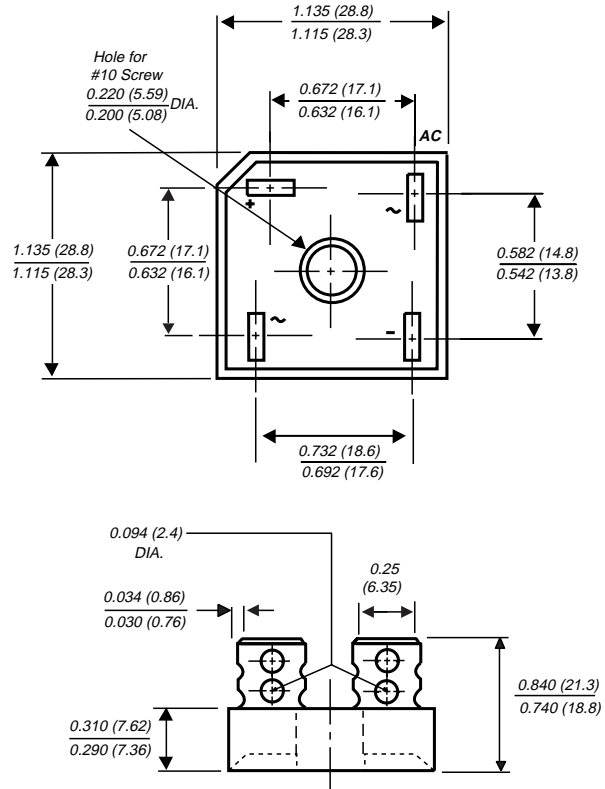
Reverse Voltage 50 and 1000 V  
Forward Current 12 to 35 A



**GBPC-W**



**GBPC**



### Mechanical Data

**Case:** Molded plastic with heatsink integrally mounted in the bridge encapsulation

**Terminals:** Either plated 0.25" (6.35mm) Faston lugs or plated copper leads 0.040" (1.02mm) diameter. Suffix letter "W" added to indicate wire leads (e.g. GBPC12005W)

**Mounting Position:** See NOTE 2

**Polarity:** Polarity symbols molded on body

**Mounting Torque:** 20 in. - lb. max.

**Weight:** 0.53 ounce, 15 grams

### Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- This series is UL listed under the Recognized Component Index, file number E54214
- Integrally molded heatsink provides very low thermal resistance for maximum heat dissipation
- Universal 3-way terminals; snap-on, wire wrap-around, or P.C.B. mounting
- High forward surge current capability
- Glass passivated chip junctions
- Typical  $I_R$  less than  $0.3\mu A$
- High temperature soldering guaranteed:  $260^\circ C/10$  seconds at 5lbs. (2.3kg) tension

## Glass Passivated Single-Phase Bridge Rectifier

### Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	GBPC12, 15, 25, 35							Units
		005	01	02	04	06	08	10	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified output current (SEE FIG.1)	GBPC12 GBPC15 GBPC25 GBPC35 $I_{F(AV)}$				12 15 25 35				A
Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method)	GBPC12 GBPC15 GBPC25 GBPC35 $I_{FSM}$				200 300 300 400				A
Rating (non-repetitive, for t greater than 1ms and less than 8.3ms) for fusing	GBPC12 GBPC15 GBPC25 GBPC35 $I^2t$				160 375 375 660				A <sup>2</sup> sec
RMS isolation voltage from case to leads	$V_{ISO}$				2500				V
Typical thermal resistance per leg (NOTE 1) GBPC12-25 GBPC35	$R_{\theta JC}$				1.9 1.4				°C/W
Operating junction storage temperature range	$T_J, T_{STG}$				-55 to +150				°C

### Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	GBPC12, 15, 25, 35							Units
		005	01	02	04	06	08	10	
Maximum instantaneous forward voltage drop per leg at GBPC12 $I_F=6.0A$ GBPC15 $I_F=7.5A$ GBPC25 $I_F=12.5A$ GBPC35 $I_F=17.5A$	$V_F$				1.1				V
Maximum reverse DC current at rated DC blocking voltage per leg $T_A=25^\circ C$ $T_A=125^\circ C$	$I_R$				5.0 500				$\mu A$
Typical junction capacitance per leg at 4V, 1MHZ	$C_J$				300				pF

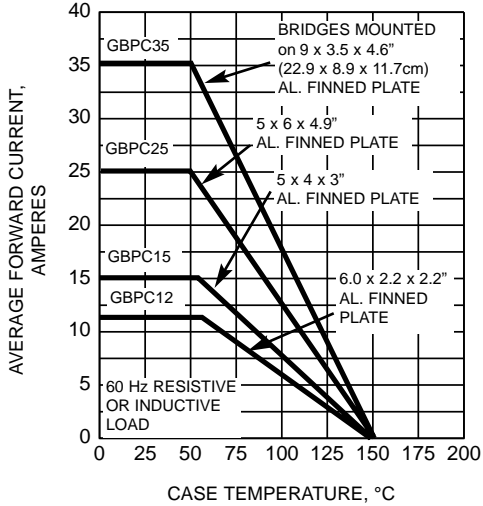
**NOTES:**

- (1) Thermal resistance from junction to case per leg
- (2) Bolt down on heatsink with silicone thermal compound between bridge and mounting surface for maximum heat transfer with #10 screw

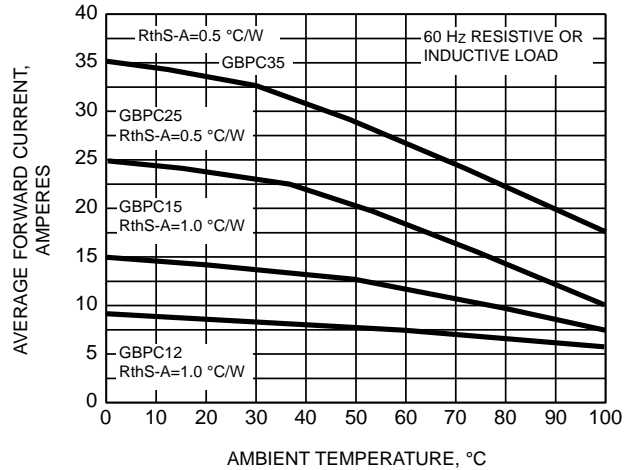
**Glass Passivated Single-Phase Bridge Rectifier**

**Ratings and Characteristic Curves** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

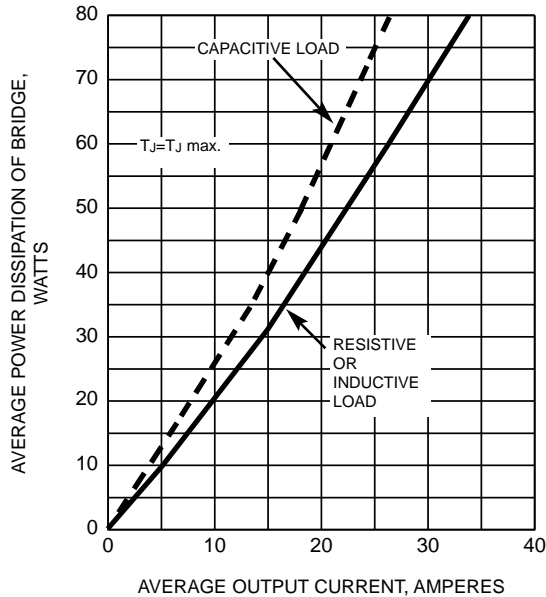
**FIG. 1 - MAXIMUM OUTPUT RECTIFIED CURRENT**



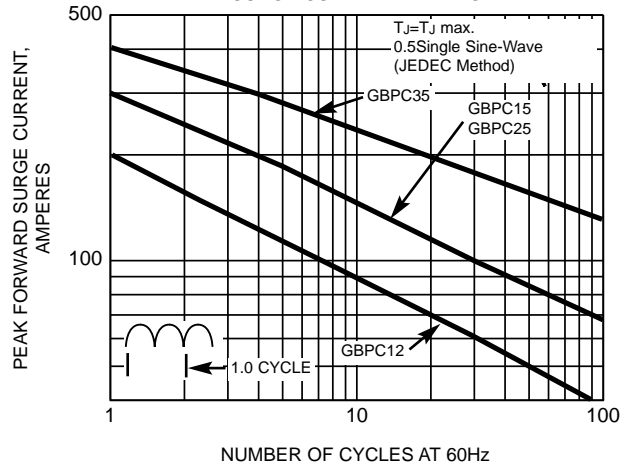
**FIG. 2 - MAXIMUM OUTPUT RECTIFIED CURRENT**



**FIG. 3 - MAXIMUM POWER DISSIPATION**



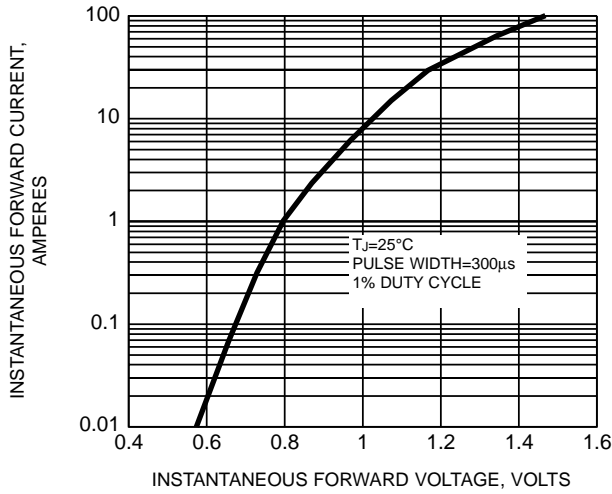
**FIG. 4 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG**



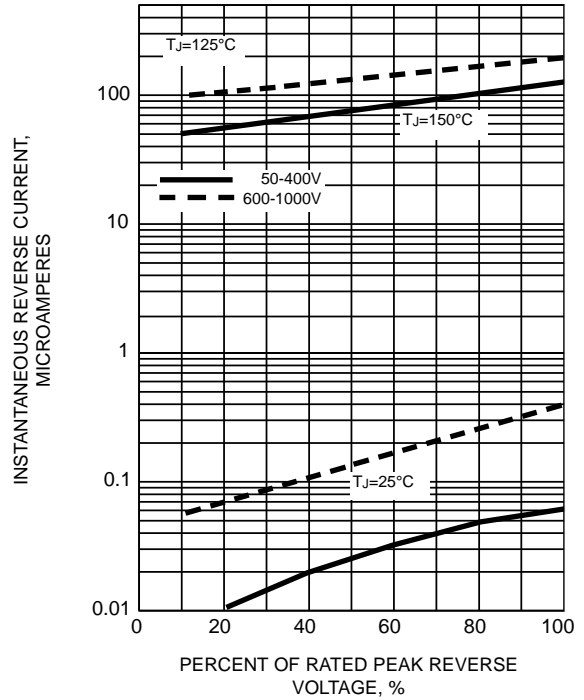
## Glass Passivated Single-Phase Bridge Rectifier

### Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

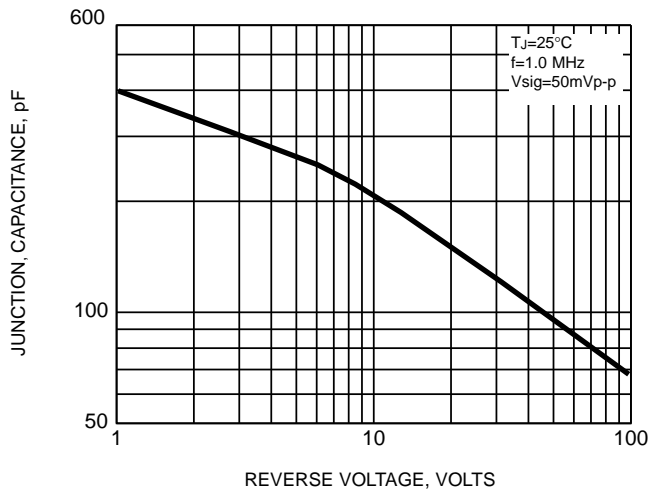
**FIG. 5 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG**



**FIG. 6 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS PER LEG**



**FIG. 7 - TYPICAL JUNCTION CAPACITANCE PER LEG**



**FIG. 8 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG**

