



DATA SHEET

GBPC12,15,25 AND 35 Series

SEMICONDUCTOR

GLASS PASSIVATED SINGLE-PHASE BRIDGE RECTIFIER

Reverse Voltage - 50 to 1000 Volts Current Voltage - 12.0 to 35.0 Amperes 

FEATURES

- The plastic package has Underwriters Laboratory Flammability Classification 94V-0
- This series is UL recognized under 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 capabilities
- Glass passivated chip junctions
- Typical IR less than 0.3mA
- High temperature soldering guaranteed:
260°C/10 seconds at 5lbs. (2.3 kg) tension
- High temperature soldering : 260°C / 10 seconds at terminals
- Pb free product at available : 99% Sn above meet RoHS environment substance directive request

GBPC - W Wire leads



GBPC - Standard



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 leads (e.g. GBPC12005W).
- Mounting Position: See NOTE 3
- Polarity: Polarity symbols molded on body
- Mounting Torque: 20 in. - lb. max. Weight: 0.53 ounce, 15 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

		GBPC12, 15, 25, 35								
		SYMBOLS	005	01	02	04	06	08	10	UNITS
Maximum repetitive peak reverse voltage		VRRM	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage		VRMS	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage		VDC	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified output current (SEE FIG.1)	GBPC12	I(AV)	12.0						Amps	
	GBPC15		15.0							
	GBPC25		25.0							
	GBPC35		35.0							
Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method)	GBPC12	IFSM	200.0						Amps	
	GBPC15		300.0							
	GBPC25		300.0							
	GBPC35		400.0							
Rating (non-repetitive, for t greater than 1ms and less than 8.3ms) for fusing	GBPC12	I2t	160.0						A2 sec	
	GBPC15		375.0							
	GBPC25		375.0							
	GBPC35		660.0							
Maximum instantaneous forward voltage drop per leg at	GBPC12 IF=6.0A	VF	1.1						Volts	
	GBPC15 IF=7.5A									
	GBPC25 IF=12.5A									
	GBPC35 IF=17.5A									
Maximum reverse DC current at rated DC blocking voltage per leg	TA=25°C	IR	5.0						uA	
	TA=125°C		500.0							
RMS isolation voltage from case to leads		VISO	2500.0						Volts	
Typical junction capacitance per leg (NOTE 1)		CJ	300.0						pF	
Typical thermal resistance per leg (NOTE 2)	GBPC12-25	RQJC	1.9						°C/W	
	GBPC35		1.4							
Operating junction storage temperature range		TJ, TSTG	-55 to +150						°C	

NOTES:

- Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- Thermal resistance from junction to case per leg
- Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer efficiency with #10 screw

DEVICE CHARACTERISTICS

GBPC12,15,25 AND 35 Series

FIG. 1 - MAXIMUM OUTPUT RECTIFIED CURRENT

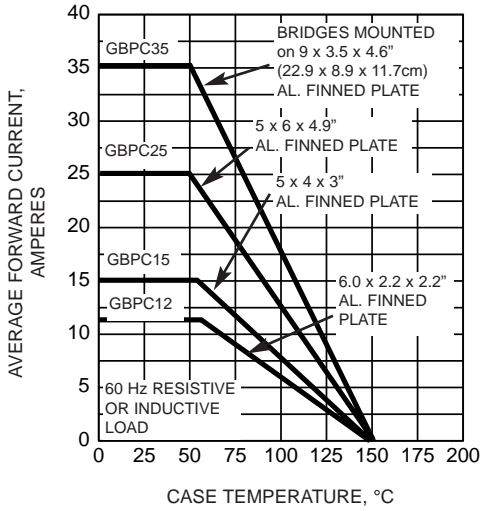


FIG. 2 - MAXIMUM OUTPUT RECTIFIED CURRENT

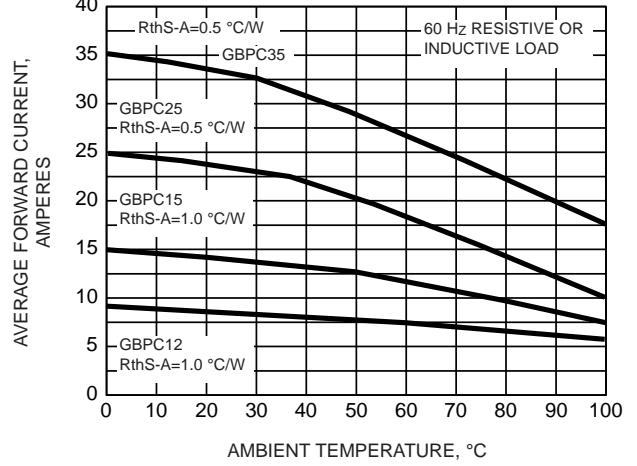


FIG. 3 - MAXIMUM POWER DISSIPATION

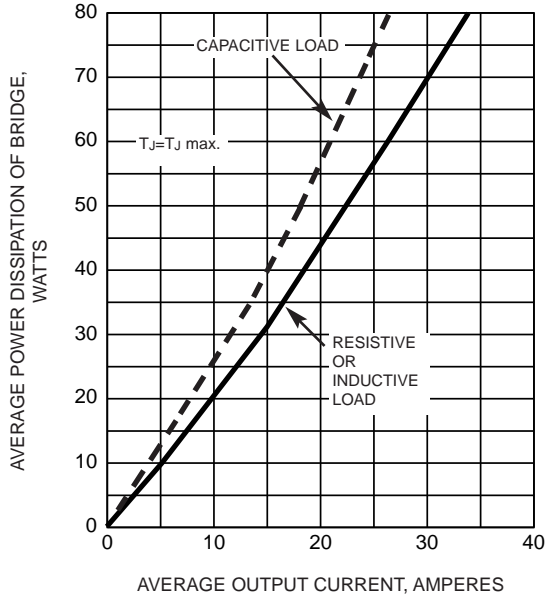
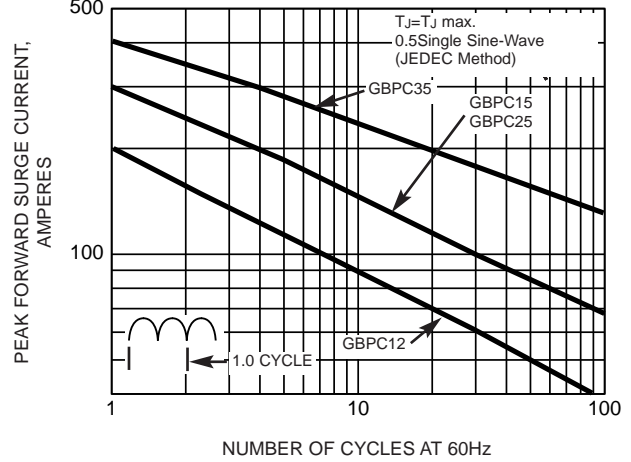


FIG. 4 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG



DEVICE CHARACTERISTICS

GBPC12,15,25 AND 35 Series

FIG. 5 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

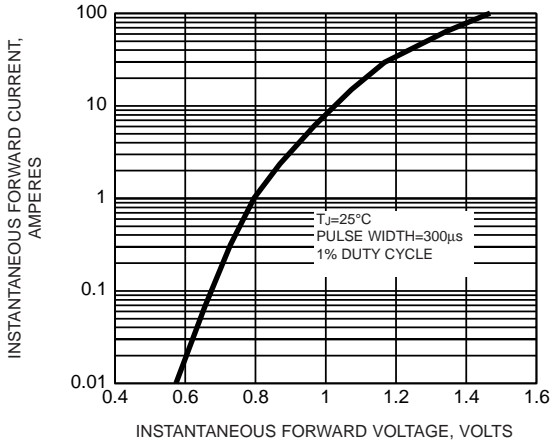


FIG. 6 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS PER LEG

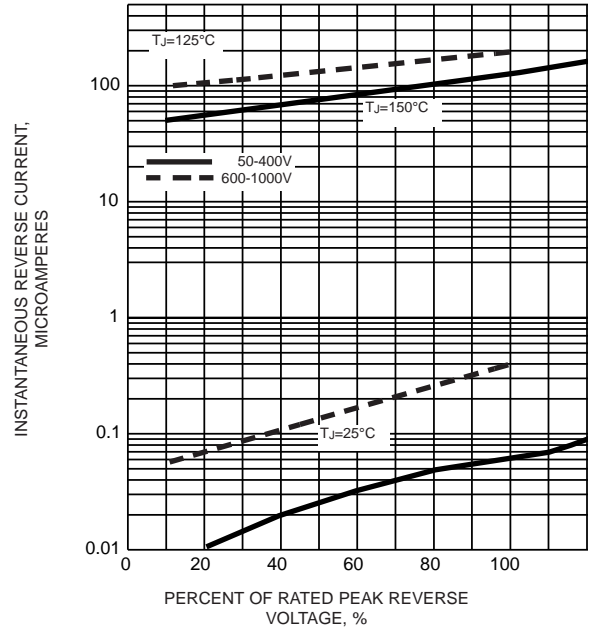


FIG. 7 - TYPICAL JUNCTION CAPACITANCE PER LEG

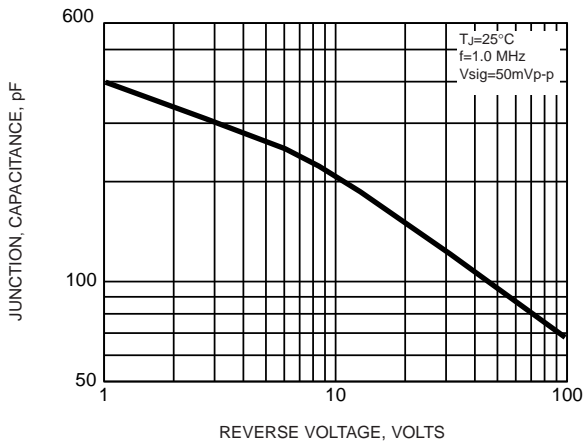
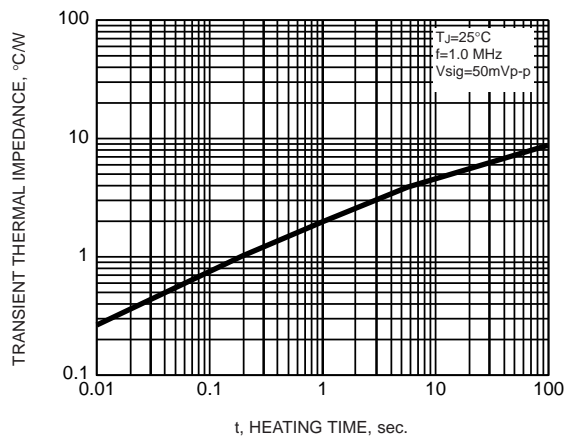


FIG. 8 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



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FIG. 9

GBPC35

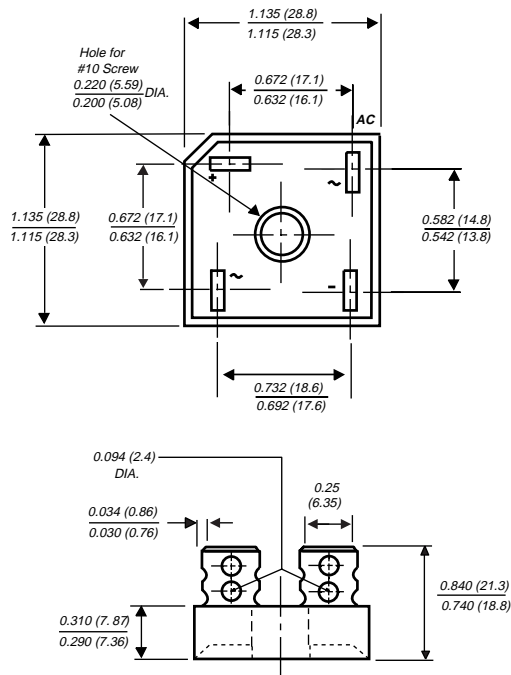
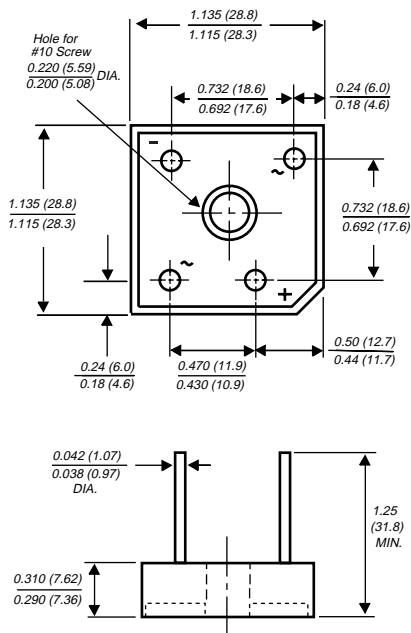


FIG. 10

GBPC-W



Dimensions in inches and (millimeters)

NOTES:

- (1) Corrosion resistant terminals designed with 0.25" female quick connectors for wrap or snap-on
- (2) A thin film of silicone thermal compound is recommended between the bridge case and mounting surface for improved thermal conduction