TAIWAN SEMICONDUCTOR

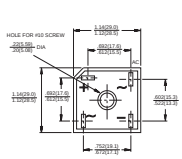
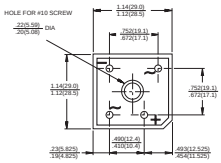
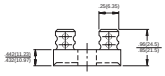
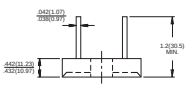
RoHS COMPLIANCE

GBPC 15, 25, 35 SERIES

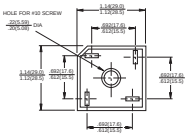
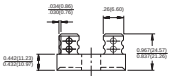
High Current 15, 25, 35 AMPS. Single Phase Glass Passivated Bridge Rectifiers



GBPC **GBPC-W**

GBPC-M

Dimensions in inches and (millimeters)

Features

- ✧ UL Recognized file # E-96005
- ✧ The plastic material used carries Underwriters Laboratory Flammability Recognition 94V-0
- ✧ Integrally molded heatsink provide very low thermal resistance for maximum heat dissipation
- ✧ Surge overload ratings from 300 amperes to 400 amperes
- ✧ Terminals solderable per MIL-STD-202, Method 208 (For wire type)
- ✧ Typical I_R less than 0.2 uA
- ✧ High temperature soldering guaranteed: 260 °C / 10 seconds / .375", (9.5mm) lead lengths(For wire type)
- ✧ Isolated voltage from case to lead over 2500 volts

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%

Type Number	Symbol	-005	-01	-02	-04	-06	-08	-10	Units
Maximum Recurrent 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 Current @T_C= 55 °C GBPC15	$I_{(AV)}$	15.0							A
Maximum Average Forward Rectified Current @T_C= 55 °C GBPC25		25.0							
Maximum Average Forward Rectified Current @T_C= 55 °C GBPC35		35.0							
Peak Forward Surge Current, Single Sine-wave Superimposed on Rated Load (JEDEC method) GBPC15	I_{FSM}	300							A
Peak Forward Surge Current, Single Sine-wave Superimposed on Rated Load (JEDEC method) GBPC25		300							
Peak Forward Surge Current, Single Sine-wave Superimposed on Rated Load (JEDEC method) GBPC35		400							
Maximum Instantaneous Forward Voltage Drop Per Element at Specified Current GBPC15 7.5A / GBPC25 12.5A / GBPC35 17.5A	V_F	1.1							V
Maximum DC Reverse Current at Rated DC Blocking Voltage Per Element	I_R	5							uA
Typical Thermal Resistance (Note 1)	$R_{\theta JC}$	1.5							°C/W
Operating and Storage Temperature Range	T_J ,T_{STG}	-50 to +150							°C

Notes: 1. Thermal Resistance from Junction to Case.
2. Suffix "W" - Wire Lead Structure/"M" - Terminal Location Face to Face.

Version: B08

RATINGS AND CHARACTERISTIC CURVES (GBPC15005 THRU GBPC1510 GBPC25005 THRU GBPC2510 GBPC35005 THRU GBPC3510)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

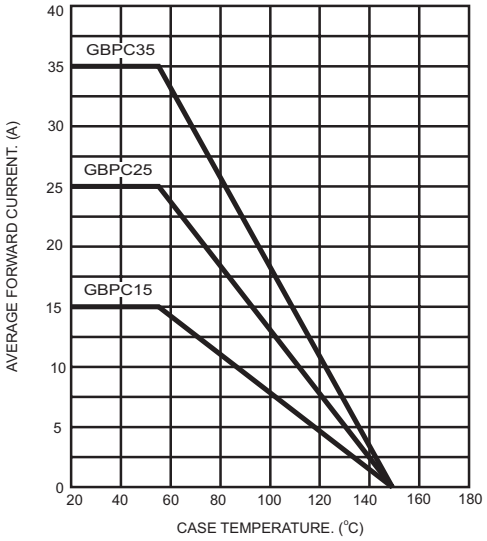


FIG.2- TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT

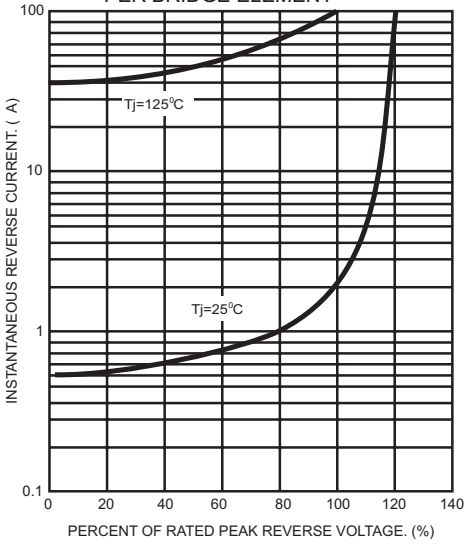


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER BRIDGE ELEMENT

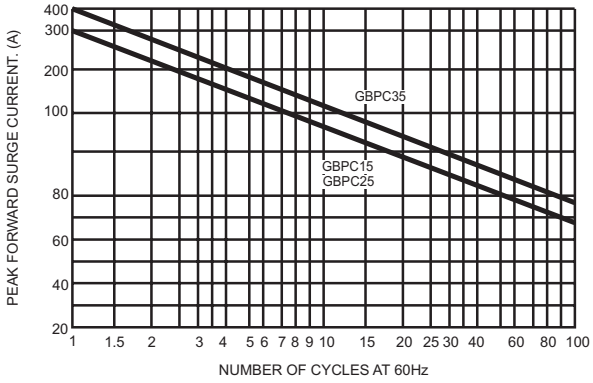


FIG.4- TYPICAL FORWARD CHARACTERISTICS PER BRIDGE ELEMENT

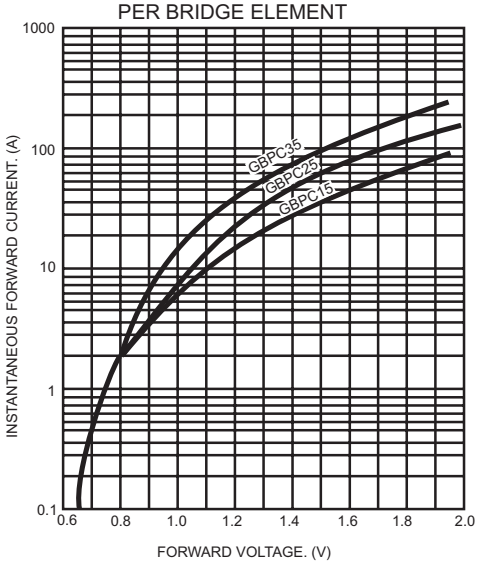


FIG.5- TYPICAL JUNCTION CAPACITANCE