TAIWAN SEMICONDUCTOR

GBPC 40, 50 SERIES

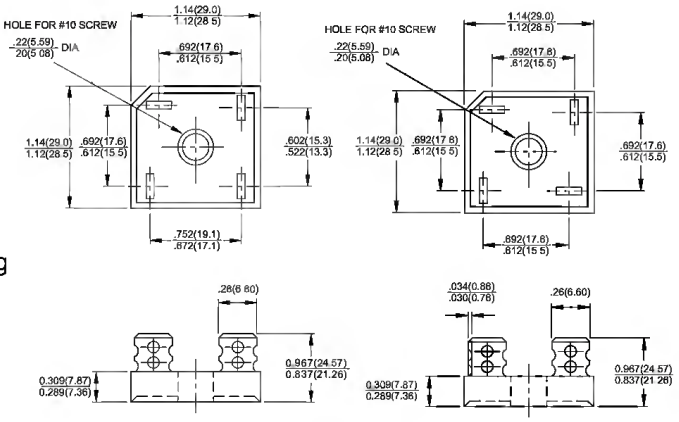
High Current 40, 50 AMPS. Single Phase Glass Passivated Bridge Rectifiers

Pb RoHS COMPLIANCE

Features

- ✧ UL Recognized File # E-96005
- ✧ Glass passivated junction
- ✧ The plastic material used carries Underwriters Laboratory Flammability Recognition 94V-0
- ✧ Integrally molded heatsink provide very low thermal resistance for maximum heat dissipation
- ✧ Universal 4-way terminals; snap-on, wrap-around, solder or P.C. board mounting
- ✧ Surge overload ratings 400 amperes
- ✧ Terminals solderable per MIL-STD-202, Method 208
- ✧ Typical I_R less than 0.2 uA
- ✧ High temperature soldering guaranteed: 260°C / 10 seconds / .375", (9.5mm) lead lengths
- ✧ Isolated voltage from case to lead over 2500 volts

GBPC40 **GBPC40 -M**



Dimensions in inches and (millimeters)

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 GBPC40 / GBPC50	$I_{(AV)}$	40.0 / 50.0							A
Peak Forward Surge Current, Single Sine-wave Superimposed on Rated Load (JEDEC method) GBPC40 / GBPC50	I_{FSM}	400 / 400							A
Maximum Instantaneous Forward Voltage Drop Per Element at Specified Current GBPC40 @20A / GBPC50 @25A	V_F	1.1							V
Maximum DC Reverse Current at Rated DC Blocking Voltage Per Element	I_R	10							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 "M" - Terminal Location Face to Face.

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RATINGS AND CHARACTERISTIC CURVES (GBPC40005 THRU GBPC4010 / GBPC50005 GBPC5010)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

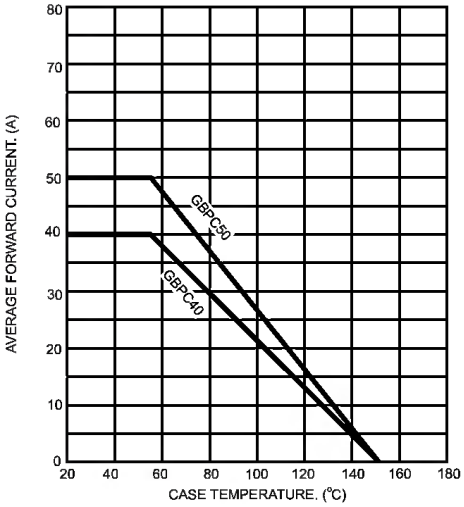


FIG.2- TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT

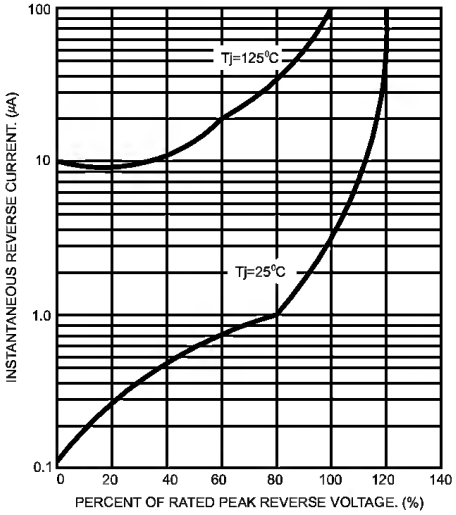


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

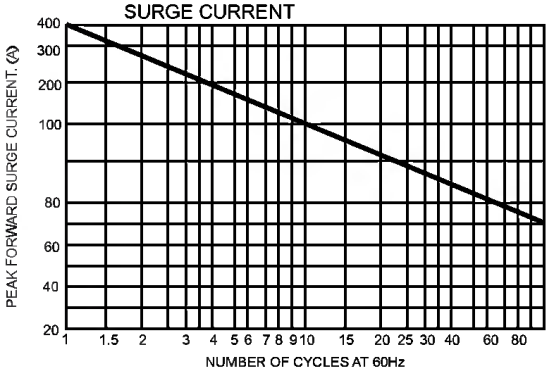


FIG.4- TYPICAL FORWARD CHARACTERISTICS PER BRIDGE ELEMENT

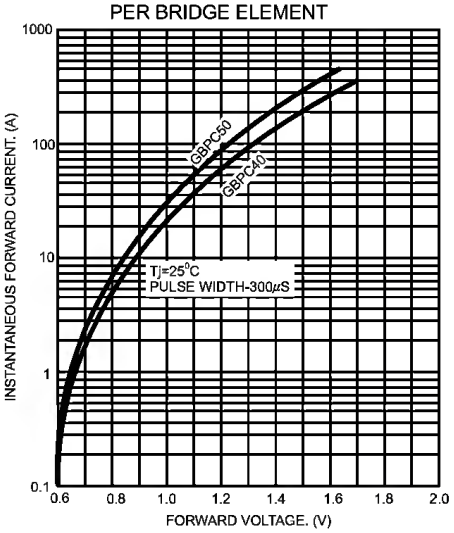
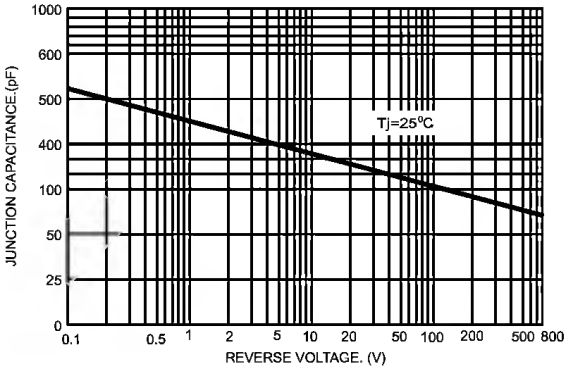


FIG.5- TYPICAL JUNCTION CAPACITANCE



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