MEI

Lead Free RoHS Compliant

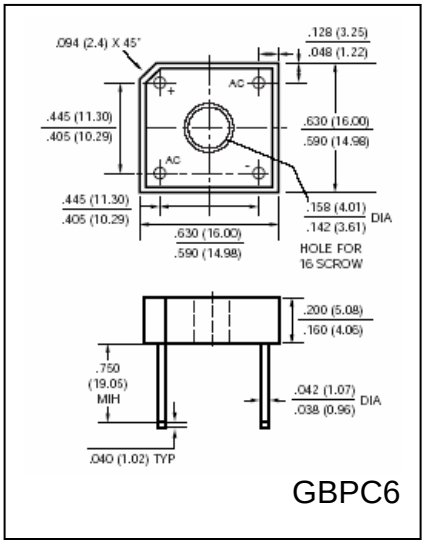
SINGLE PHASE BRIDGE RECTIFIER

GBPC6005 THRU GBPC610

VOLTAGE RANGE **50 to 1000 Volts**
CURRENT **6.0 Ampere**

FEATURES

- Plastic package has UL flammability classification 94V-0
- High forward surge capacity
- Glass passivated chip junction
- High case dielectric with standing voltage of $1500V_{RMS}$
- High temperature soldering guaranteed: $260^{O}C$ / 10 seconds



MECHANICAL DATA

- Case: Molded plastic
- Terminal: Plated leads solderable per MIL-STD-750 method 2026
- Polarity: Polarity symbols marked on case
  Mounting: Any position, see note 1
- Weight: 0.1 ounce, 2.8 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at $25^{O}C$ ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

		SYMBOLS	GBPC 6005	GBPC 601	GBPC 602	GBPC 604	GBPC 606	GBPC 608	GBPC 610	UNIT
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage		V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage		V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current,	At $T_C = 50^{O}C$ (Note 2)	$I_{(AV)}$	6.0							Amps
	At $Ta = 40^{O}C$ (Note 3)		3.0							
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)		I_{FSM}	175							Amps
Rating for Fusing (t<8.3mS)		I^2t	127							A^2s
Maximum Instantaneous Forward Voltage drop per Bridge element 3.0A		V_F	1.0							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage per element	$T_A = 25^{O}C$	I_R	5.0							µA
	$T_A = 125^{O}C$		500							µA
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)		C_J	186				90			pF
Typical Thermal Resistance per leg (Note 1)		$R_{\theta Jl}$	7.3							$^{O}C/W$
		$R_{\theta Ja}$	22							$^{O}C/W$
Operating Junction Temperature Range		T_J	(-55 to +150)							^{O}C
Storage Temperature Range		T_{STG}	(-55 to +150)							^{O}C

Notes:

1. Bolt down on heatsink with silicon thermal compound between bridge and mounting surface for maximum heat transfer
2. Unit mounted on 4.0" x 4.0" x 0.11" (10.5cm x 10.5cm x 0.3cm) AL plate
3. Unit mounted on PCB at 0.375" (9.5mm) lead with 0.5" x 0.5" (12mm x12mm) copper pads

RATINGS AND CHARACTERISTIC CURVES GBPC6005 THRU GBPC610

FIG. 1 - DERATING CURVE OUTPUT RECTIFIED CURRENT

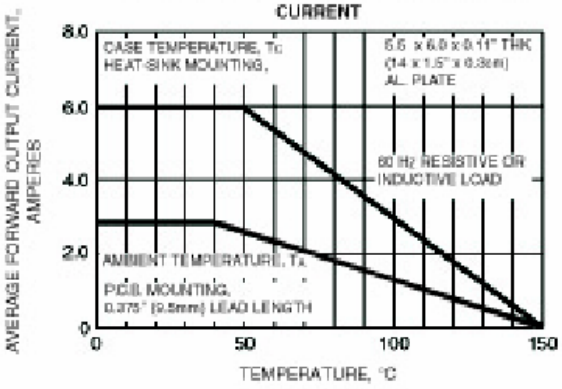


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

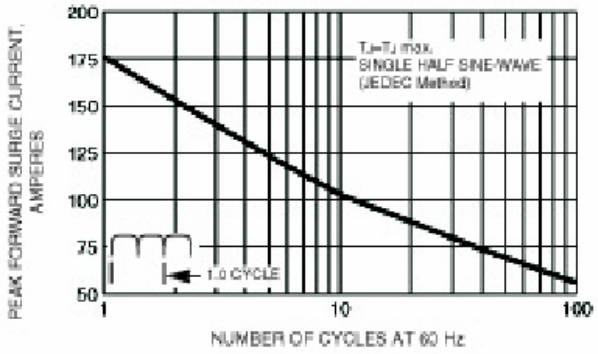


FIG. 4 - TYPICAL FORWARD CHARACTERISTICS PER LEG

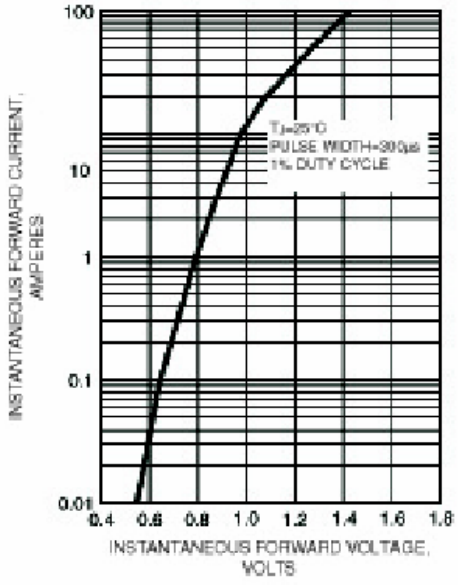


FIG. 3 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS PER LEG

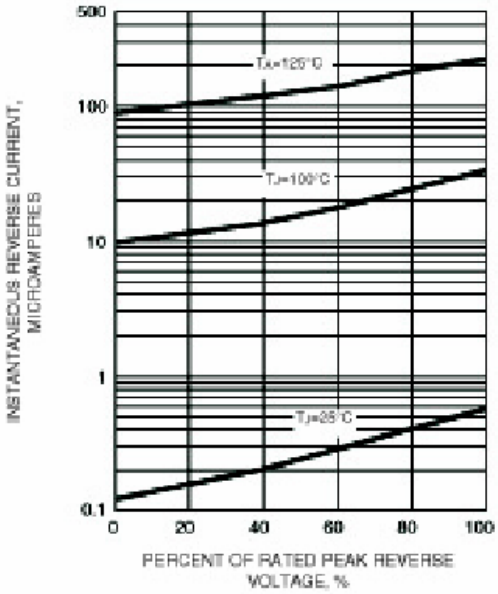


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

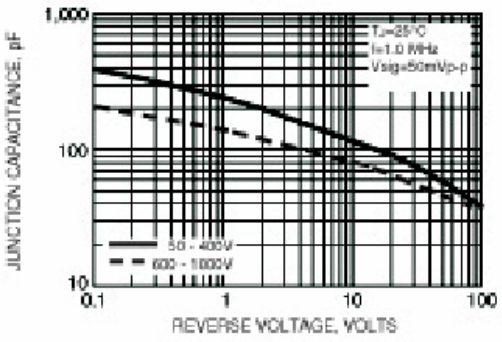


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE