DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

GBPC50005W
THRU
GBPC5010W

TECHNICAL SPECIFICATIONS OF GLASS PASSIVATED BRIDGE RECTIFIER

## VOLTAGE RANGE - 50 to 1000 Volts

CURRENT - 50 Amperes

FEATURES
* Ideal for printed circuit boardd
* High surge current capability
* Low forward voltage drop
* Glass passivated junction

MECHANICAL DATA
* Case: Molded plastic
* Epoxy: UL 94-V0 rate flame retardant
* Terminals: Solder plated solderable per
            MIL-STD-750, Method 2026
* Polarity: As marked
* Mounting position: Any
* Weight: 25 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

MBR-25W

METAL HEAT SINK

Dimensions in inches and (millimeters)
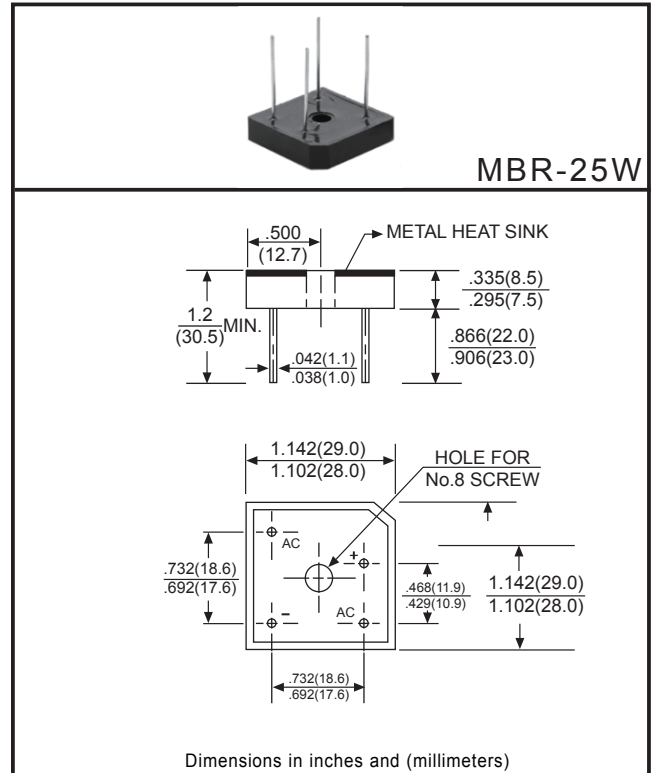
	SYMBOL	GBPC 50005W	GBPC 5001W	GBPC 5002W	GBPC 5004W	GBPC 5006W	GBPC 5008W	GBPC 5010W	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at T_A = 55°C	I_O	50							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	450							Amps
Maximum Instantaneous Forward Voltage at 25 A DC	V_F	1.1							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage @TJ = 25°C	I_R	10							μAmps
@TJ = 125°C		1000							
I^2t Rating for Fusing (t<8.3msS)	I^2t	664							A^2s
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150							^{o}C

RATING AND CHARACTERISTIC CURVES (GBPC50005W THRU GBPC5010W)

FIG. 1
TYPICAL FORWARD CURRENT
DERATING CURVE

Single Phase
Half Wave 60Hz
Resistive or
Inductive Load

AVERAGE FORWARD CURRENT, (A)

AMBIENT TEMPERATURE, (^{O}C)
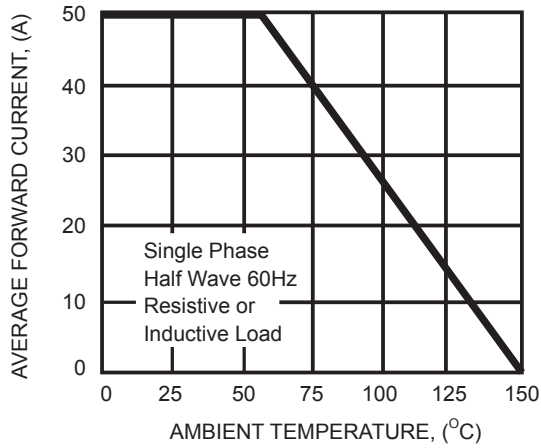
FIG. 2
MAXIMUM NON-REPETITIVE FORWARD
SURGE CURRENT

8.3ms Single Half Sine-Wave
(JEDEC Method)

PEAK FORWARD SURGE CURRENT, (A)

NUMBER OF CYCLES AT 60Hz
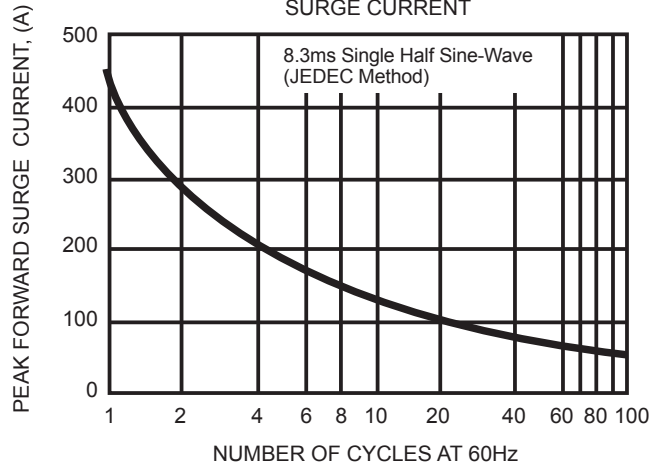
FIG. 3
TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS

T_J=25°C
Pulse Width=300μs
1% Duty Cycle

INSTANTANEOUS FORWARD CURRENT, (A)

INSTANTANEOUS FORWARD VOLTAGE, (V)

FIG. 4
TYPICAL REVERSE CHARACTERISTICS

T_J=125°C

T_J=100°C

T_J=25°C

INSTANTANEOUS REVERSE CURRENT, (μA)

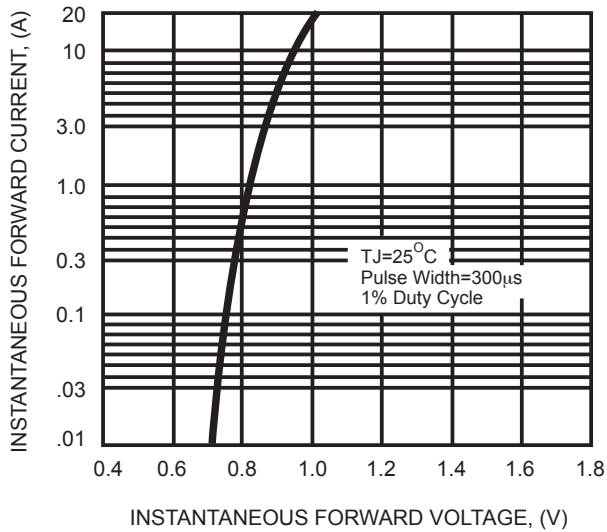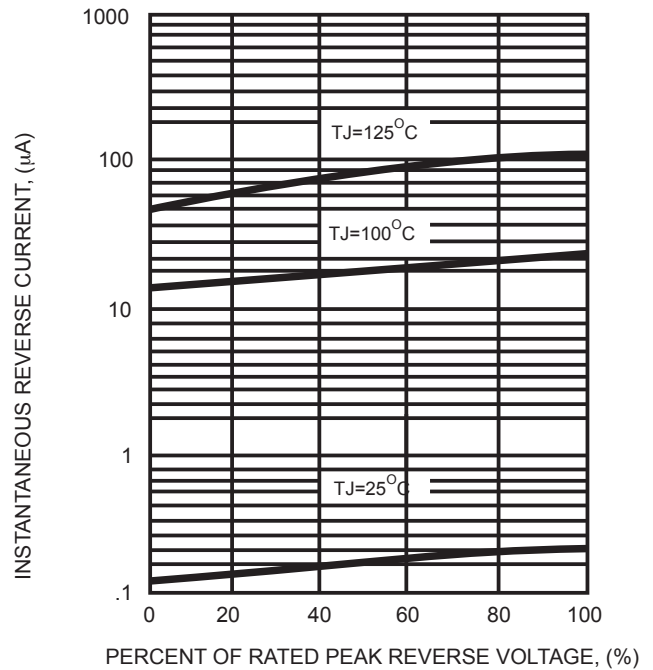PERCENT OF RATED PEAK REVERSE VOLTAGE, (%)

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