

VOLTAGE RANGE: 50 --- 1000 V

CURRENT: 0.5 A

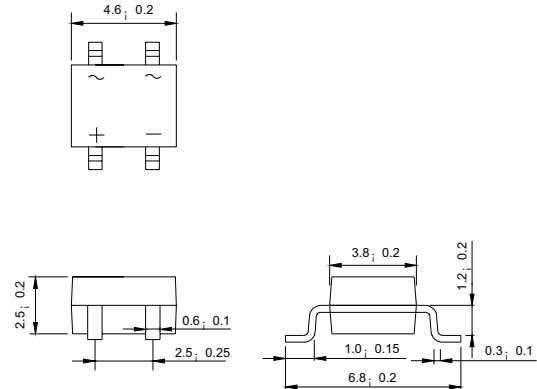
MBS

Features

- ✧ This series is UL recognized under Component Index, file number E239431
- ✧ Glass passivated chip junctions
- ✧ Plastic material has U/L flammability classification 94V-O
- ✧ High surge overload rating: 35A peak
- ✧ Saves space on printed circuit boards
- ✧ High temperature soldering guaranteed: 260°C/10 seconds at 5 lbs. (2.3kg) tension

Mechanical Data

- ✧ Case: Molded plastic body over passivated junctions
- ✧ Terminals: Plated leads solderable per MIL-STD-750, Method 2026
- ✧ Polarity: Polarity symbols marked on body
Dimensions in inches and (millimeters)
- ✧ Mounting Position: Any
- ✧ Weight: 0.0078 ounce, 0.22 gram



Dimensions in millimeters

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

		MB05S	MB1S	MB2S	MB4S	MB6S	MB8S	MB10S	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 output current @ $T_A=25^\circ\text{C}$	$I_{F(AV)}$	0.5 ¹⁾ 0.8 ²⁾							A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load	I_{FSM}	35.0							A
Maximum instantaneous forward voltage @ 0.4 A	V_F	1.0							V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	I_R	5.0 0.5							μA mA
Typical junction capacitance per leg (NOTE 3)	C_J	13							pF
Typical thermal resistance per leg (NOTE 1) (NOTE 2)	R_{f-JA} R_{f-JL}	85 20							$^\circ\text{C}/\text{W}$
Operating junction temperature range	T_J	- 55 ---- + 150							$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ---- + 150							$^\circ\text{C}$

NOTES: (1) On glass epoxy P.C.B. mounted on 0.05 x 0.05" (1.3 x 1.3mm) pads

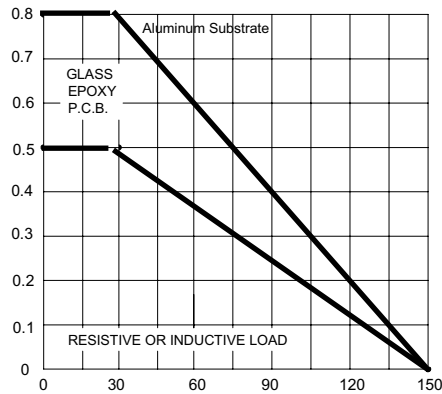
(2) On aluminum substrate P.C.B. with an area of 0.8" x 0.8" (20 x 20mm) mounted on 0.05 x 0.05" (1.3 x 1.3mm) solder pad

(3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

Ratings AND Characteristic Curves

AVERAGE FORWARD CURRENT, AMPERES

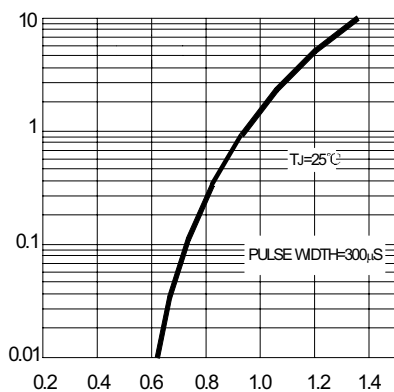
FIG.1 – DERATING CURVE FOR OUTPUT RECTIFIED CURRENT



AMBIENT TEMPERATURE, °C

INSTANTANEOUS FORWARD CURRENT, AMPERES

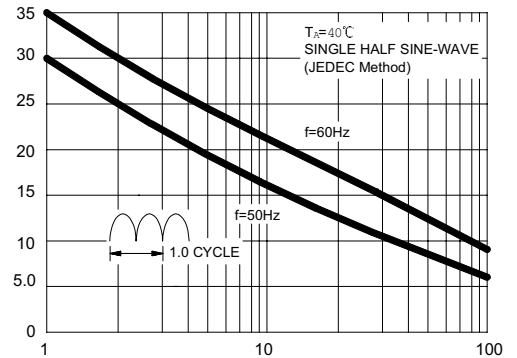
FIG.3 – TYPICAL FORWARD VOLTAGE CHARACTERISTICS PER LEG



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

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

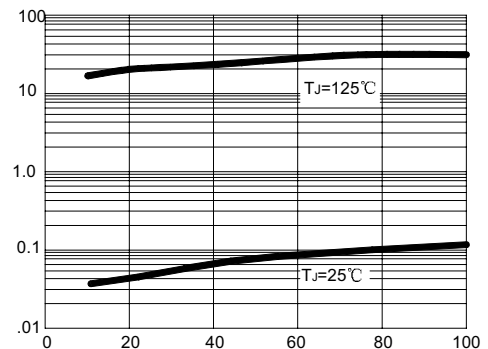
PEAK FORWARD SURGE CURRENT, AMPERES



NUMBER OF CYCLES AT 50/60Hz

FIG.4 – TYPICAL REVERSE CHARACTERISTIC

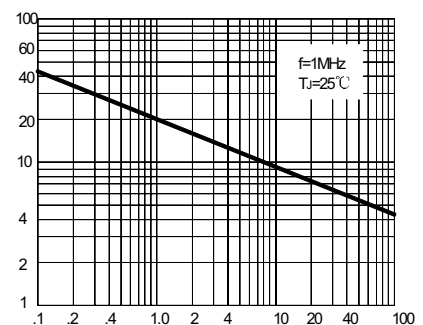
INSTANTANEOUS REVERSE CURRENT, MICRO AMPERES



PERCENT OF RATED PEAK REVERSE VOLTAGE, %

FIG.5 – TYPICAL JUNCTION CAPACITANCE PER ELEMENT

CAPACITANCE, pF



REVERSE VOLTAGE, VOLTS