

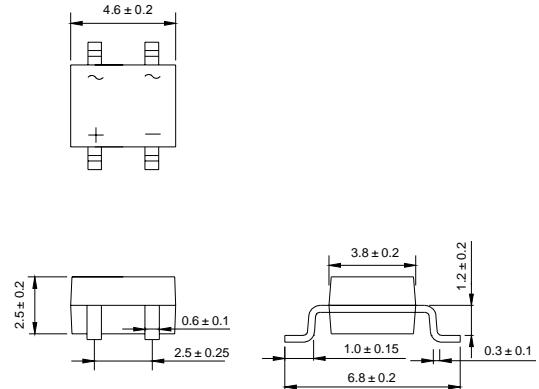
VOLTAGE RANGE: 50 --- 1000 V

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



Dimensions in millimeters

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

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 @ $T_A=25^\circ\text{C}$	$I_{F(AV)}$					0.8 ¹⁾			A
						1.0 ²⁾			
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			μA mA
						0.5			
Typical junction capacitance per leg (NOTE 3)	C_J					13			pF
Typical thermal resistance per leg (NOTE 1) (NOTE 2)	R_{JA} R_{JL}					85			$^\circ\text{C}/\text{W}$
						20			
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

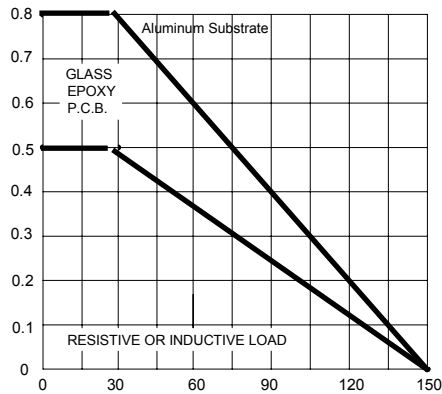
(2) On aluminum substrate P.C.B. with an area of 0.8" x 0.8" (20 x 20mm) mounted on 0.05 x 0.05" (1.3 x 1.3mm) solder pad

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

Ratings AND Characteristic Curves

AVERAGE FORWARD CURRENT, AMPERES

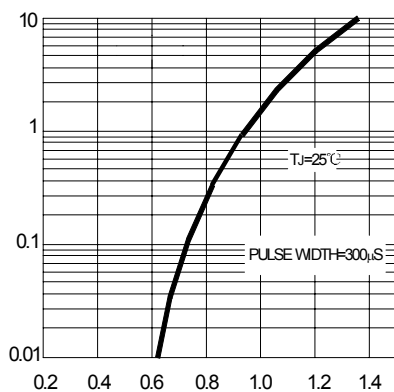
FIG.1 – DERATING CURVE FOR OUTPUT RECTIFIED CURRENT



AMBIENT TEMPERATURE, °C

INSTANTANEOUS FORWARD CURRENT, AMPERES

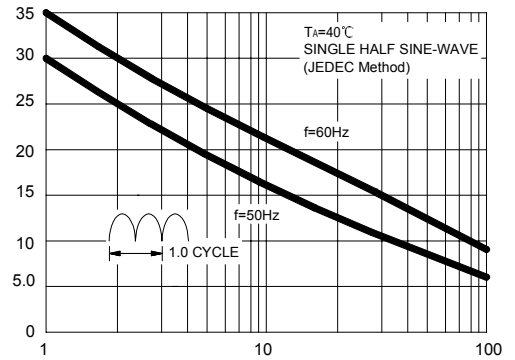
FIG.3 – TYPICAL FORWARD VOLTAGE CHARACTERISTICS PER LEG



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

PEAK FORWARD SURGE CURRENT, AMPERES

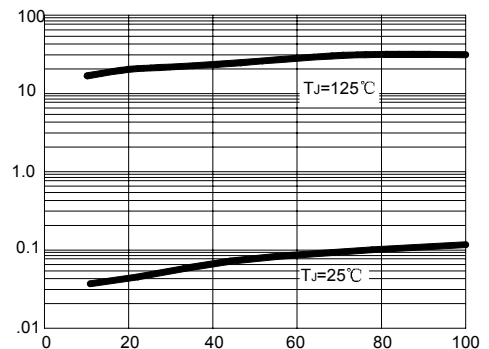
FIG.2 – MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG



NUMBER OF CYCLES AT 50/60Hz

INSTANTANEOUS REVERSE CURRENT, MICRO AMPERES

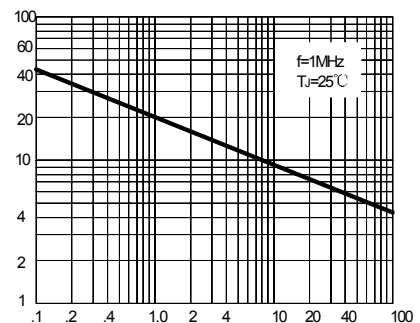
FIG.4 – TYPICAL REVERSE CHARACTERISTIC



PERCENT OF RATED PEAK REVERSE VOLTAGE, %

CAPACITANCE, pF

FIG.5 – TYPICAL JUNCTION CAPACITANCE PER ELEMENT



REVERSE VOLTAGE, VOLTS