

## SILICON BRIDGE RECTIFIERS

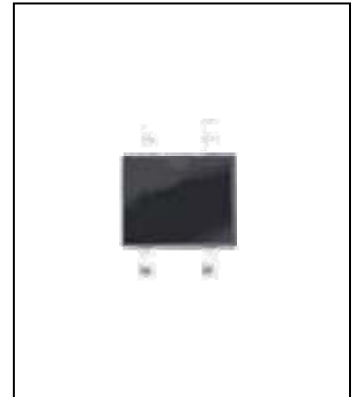
## MB05S--MB10S

### FEATURES

- Glass: passivated chip junctions
- High surge overload rating: 35A peak
- Saves space on printed circuit boards
- This series is UL recognized under Component Index, file number E239431
- Plastic material has U/L flammability classification 94V-0
- High temperature soldering guaranteed:  
260°C/10 seconds at 5 lbs. (2.3kg) tension



Lead-free



### 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

Marking: Note A

### 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
Peak Repetitive Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
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 <sup>1)</sup> 0.8 <sup>2)</sup>							A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load	$I_{FSM}$	35							A
Maximum instantaneous forward voltage at 0.4 A	$V_F$	1.0							V
Maximum reverse current @ $T_A=25^\circ\text{C}$	$I_R$	5.0							$\mu\text{A}$
at rated DC blocking voltage @ $T_A=100^\circ\text{C}$		0.5							m A
Typical junction capacitance per leg (NOTE 3)	$C_J$	13							p F
Typical thermal resistance per leg (NOTE 1)	$R_{\theta JA}$	85							$^\circ\text{C/W}$
(NOTE 2)	$R_{\theta JL}$	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

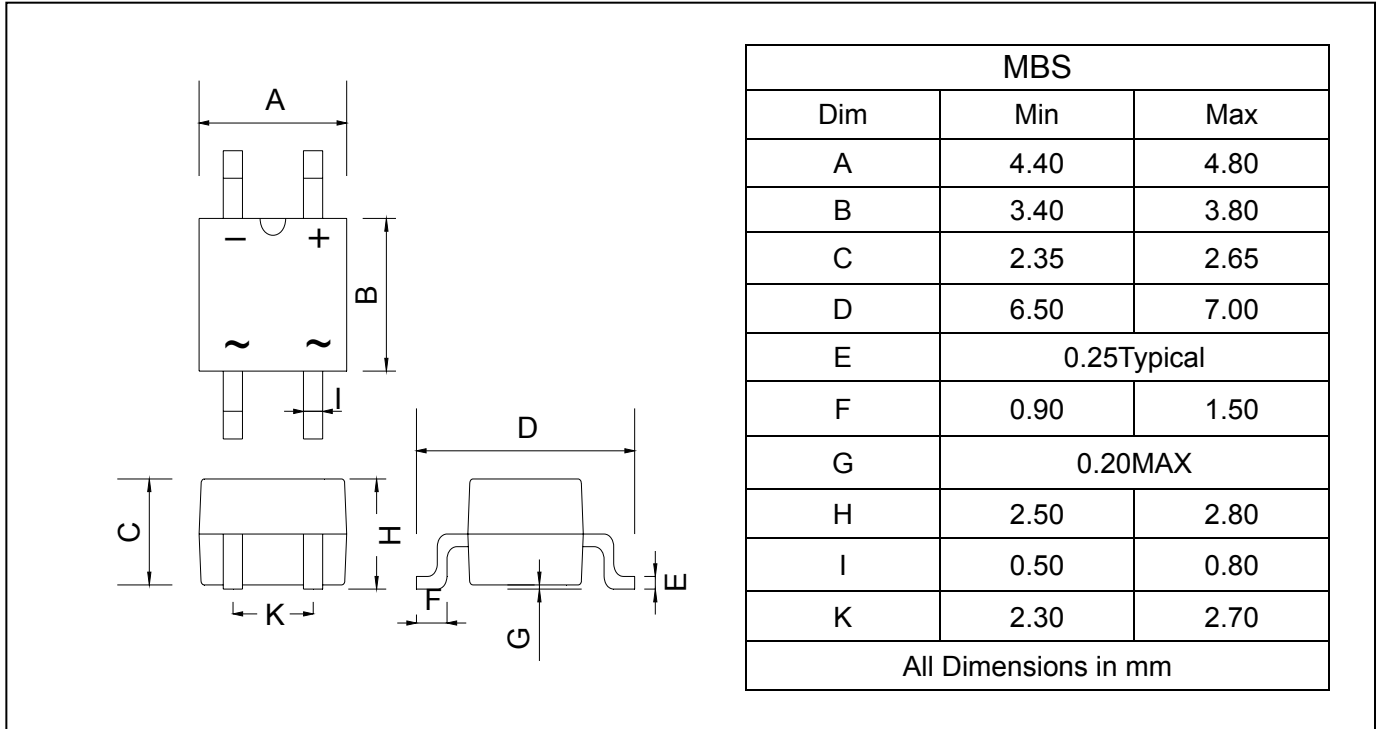
(2) On aluminum substrate P.C.B. with an area of 0.8" x 0.8" (20 x 20mm) mounted on 0.05 x 0.05" (1.3 x 1.3mm) solder pad

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

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**PACKAGE OUTLINE DIMENSIONS**



**PACKAGE INFORMATION**

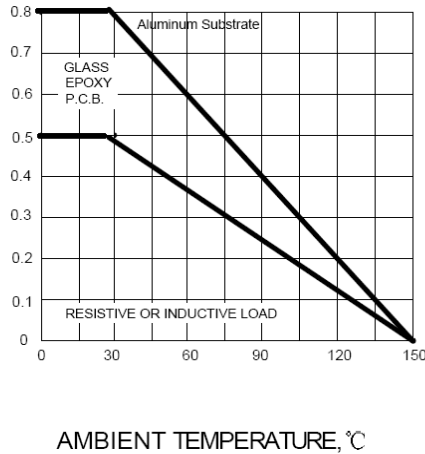
Device	Package	Shipping
MB05S--MB10S	MBS	3000/Tape&Reel

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**MB05S--MB10S**

AVERAGE FORWARD CURRENT, AMPERES

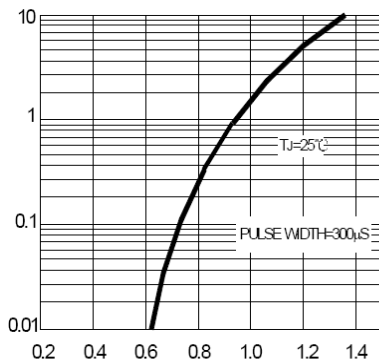
**FIG.1 -- DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



AMBIENT TEMPERATURE, °C

INSTANTANEOUS FORWARD CURRENT, AMPERES

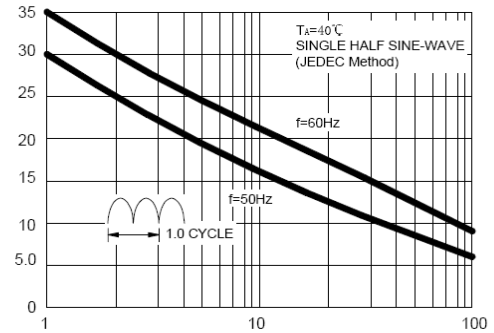
**FIG.3 -- TYPICAL FORWARD VOLTAGE CHARACTERISTICS PER LEG**



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

PEAK FORWARD SURGE CURRENT, AMPERES

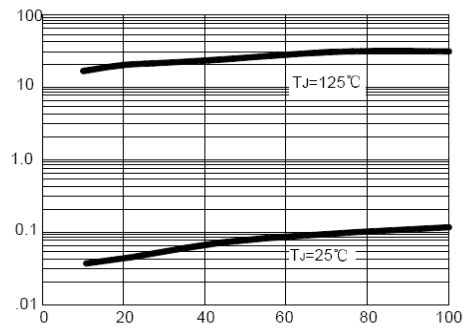
**FIG.2 -- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG**



NUMBER OF CYCLES AT 50/60Hz

INSTANTANEOUS REVERSE CURRENT, MICRO AMPERES

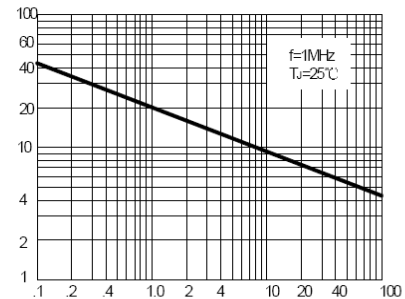
**FIG.4 -- TYPICAL REVERSE CHARACTERISTIC**



PERCENT OF RATED PEAK REVERSE VOLTAGE, %

CAPACITANCE, pF

**FIG.5 -- TYPICAL JUNCTION CAPACITANCE PER ELEMENT**



REVERSE VOLTAGE, VOLTS