



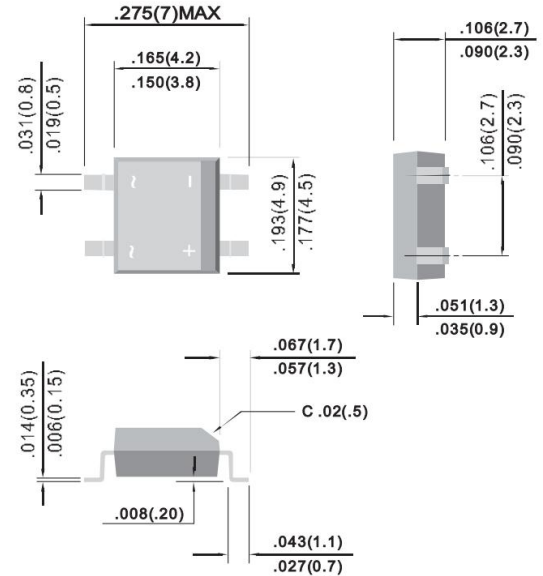
# MB01S THRU MB10S

VOLTAGE RANGE 50 to 1000 Volts  
CURRENT 1.0 Ampere

## Features

- Glass passivated chip:50mil
- Glass passivated chip junction
- Ideal for surface mounted applications
- Low leakage
- High forward surge current capability
- High temperature soldering guaranteed: 260°C/10 seconds at terminals

MBS



## Mechanical Data

- Case: Molded plastic body
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Molded on body
- LeadP: Plated terminals solderable per MIL-STD-202E method 208C
- Weight: 0.006 ounce, 0.17 gram

## 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%

TYPE NUMBER	SYMBOLS	MB 01S	MB 02S	MB 03S	MB 04S	MB 06S	MB 08S	MB 10S	UNIT
Maximum Reverse Peak Repetitive 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 Output Current, 0.06"(1.5mm) lead length at $T_A=125^\circ C$	$I_{(AV)}$	1.0							Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30							Amps
Peak Forward Surge Current 1.0ms single half sine wave superimposed on rated load (JEDEC Method)		65							
Rating for Fusing (1.0ms<t<8.3ms $T_J=25^\circ C$ , Rating of per diode)	$I^2t$	5.8							$A^2s$
Maximum Instantaneous Forward Voltage drop Per Bridge element 1.0A	$V_F$	1.0							Volts
Maximum Reverse Current at rated DC blocking voltage per element	$I_R$	$T_A=25^\circ C$							$\mu Amps$
		$T_A=125^\circ C$							
Typical Junction Capacitance (NOTE 1)	$C_J$	25							pF
Typical Thermal Resistance (NOTE 2)	$R_{\theta JA}$	85							$^\circ C/W$
	$R_{\theta JL}$	20							
Operating and Storage Temperature Range	$T_J, T_{STG}$	(-55 to +150)							$^\circ C$

Notes:

1. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
2. Unit mounted on P.C.B. with 0.05"x0.05"(1.30mmx1.30mm) copper pads.

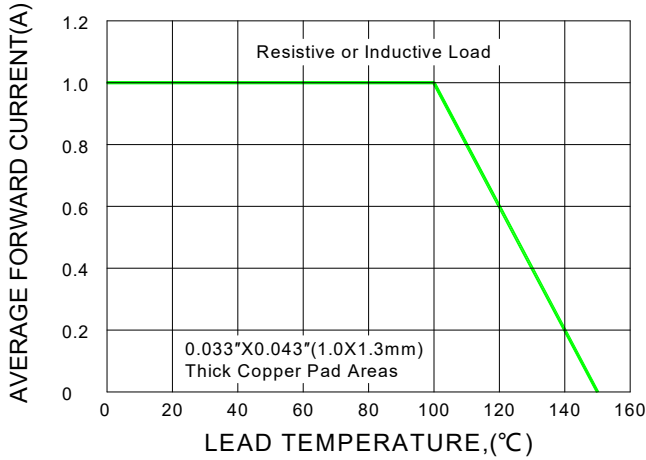


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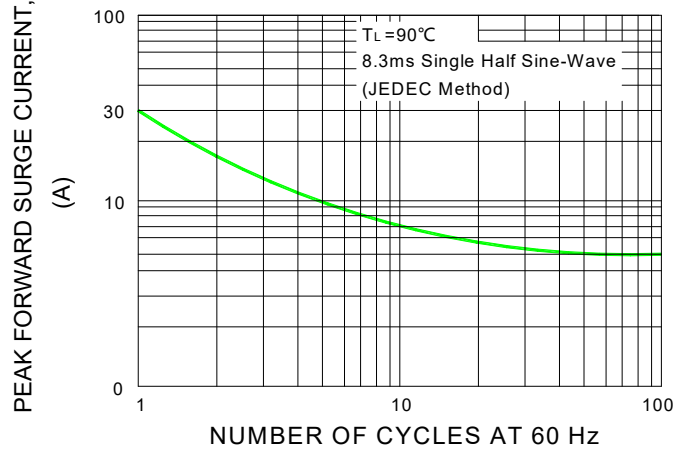
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## Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

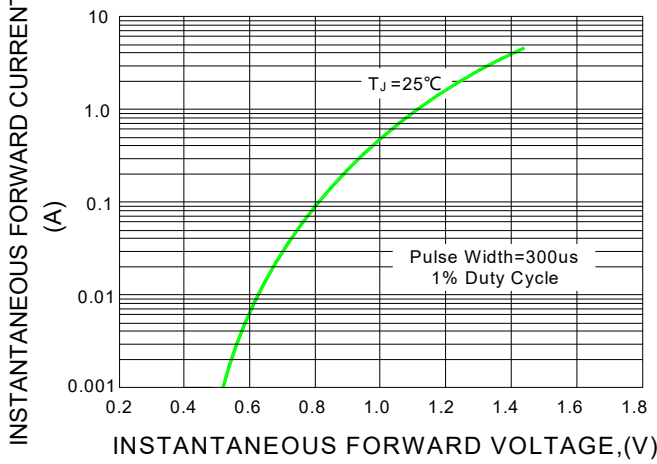
F1G.1-FORWARD CURRENT DERATING CURVE



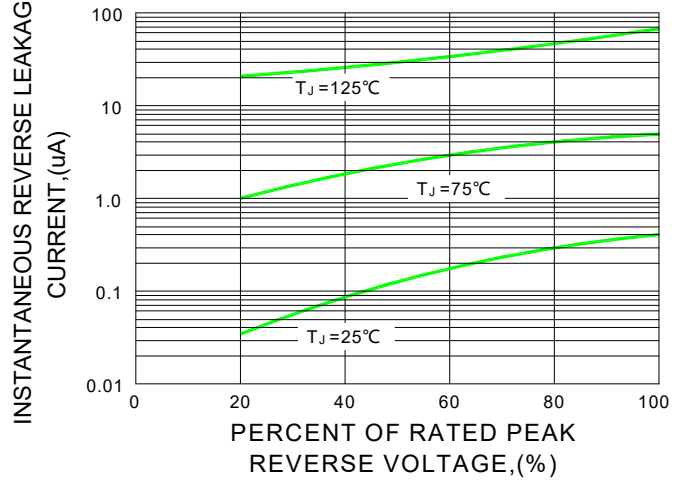
F1G.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



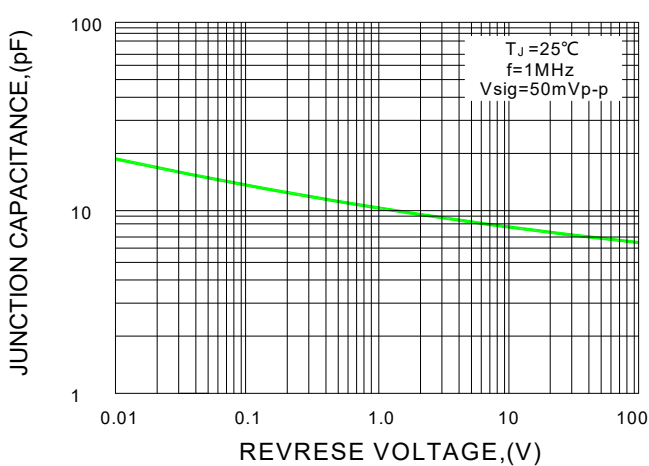
F1G.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



F1G.4-TYPICAL REVERSE CHARACTERISTICS



F1G.5-TYPICAL JUNCTION CAPACITANCE

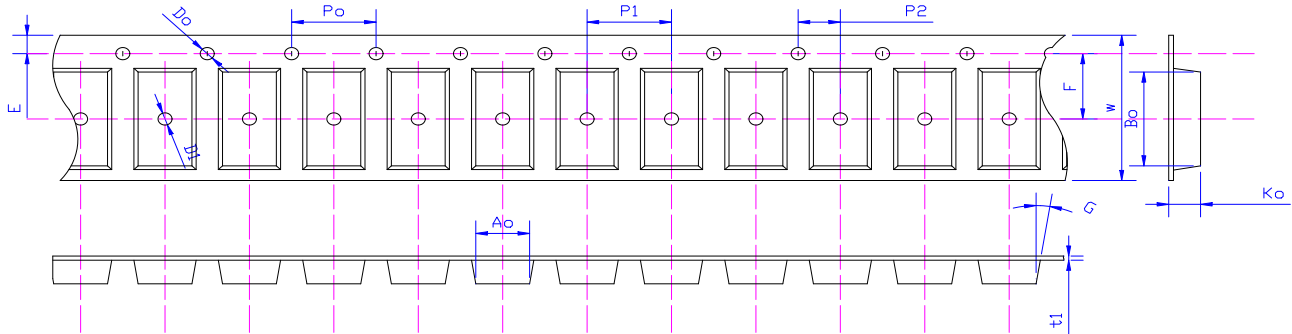




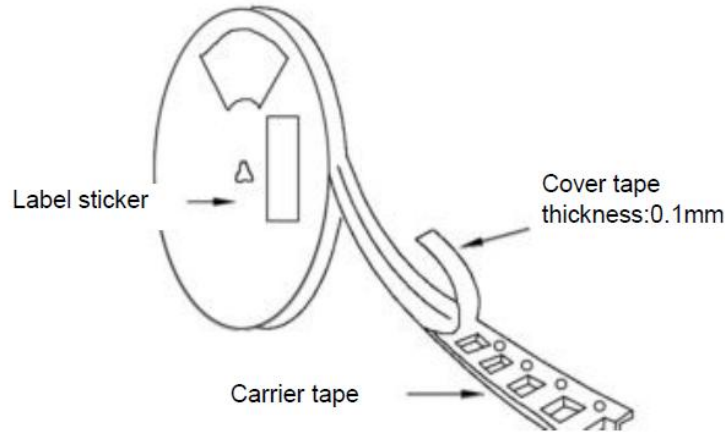
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Package Reel Information



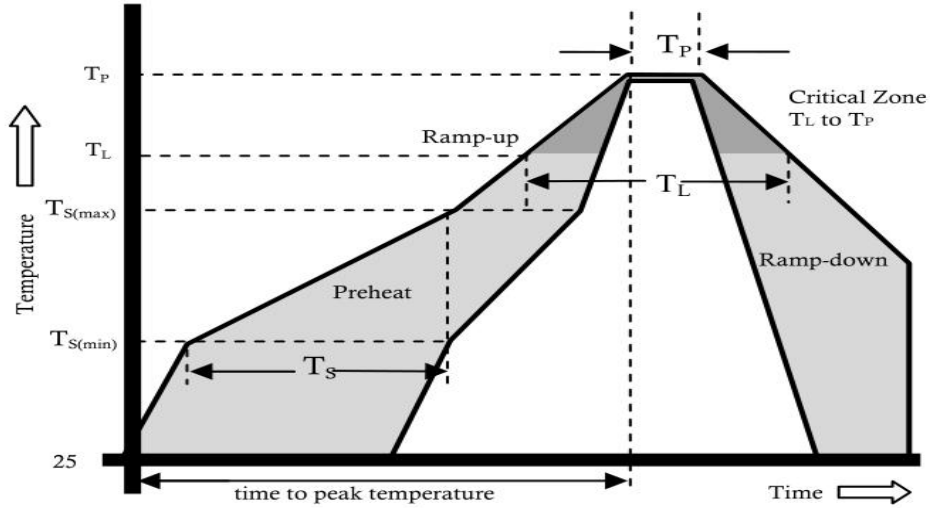
Specifications	$A_o$	$B_o$	$K_o$	$P_o$	$W$	$t_1$
MBS	$5.05 \pm 0.10$	$7.10 \pm 0.10$	$3.85 \pm 0.10$	$4.00 \pm 0.1$	$12.0 \pm 0.10$	$0.30 \pm 0.02$



DEVICE TYPE	Tape Width	13"Reel			07"Reel			
		Q'TY/REEL(pcs)	BOX/CARTON	Q'TY/CARTON(pcs)	Q'TY/REEL(pcs)	REEL/BOX	BOX/CARTON	Q'TY/CARTON(pcs)
MBS	13mm	3000	8	24000	NA	NA	NA	NA



Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp(T <sub>L</sub> ) to peak)		3°C/sec. Max.
T <sub>S</sub> (max) to T <sub>L</sub> - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature (T <sub>L</sub> )(Liquidus)	+217°C
	Temperature (T <sub>L</sub> )	60-150 secs.
Peak Temp (T <sub>P</sub> )		+(260+0/-5) °C
Time within 5°C of actual Peak Temp (T <sub>P</sub> )		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (T <sub>P</sub> )		8 min. Max.
Do not exceed		+260°C

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