

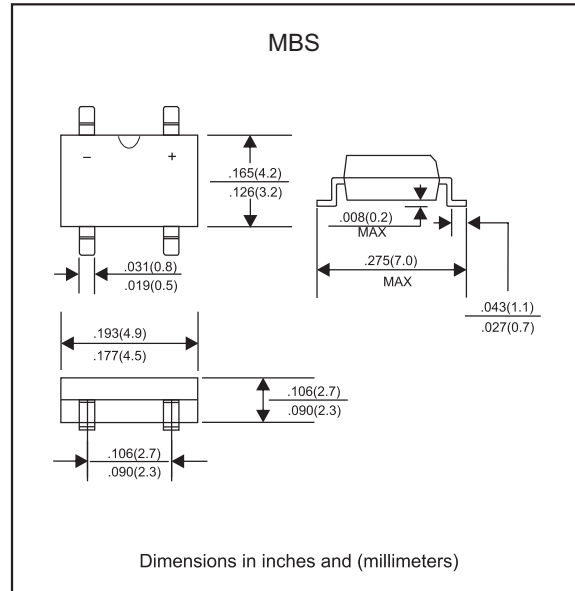
Features

- Surge overload ratings to 30 amperes peak.
- Save space on printed circuit board.
- Ideal for automated replacement.
- Reliable low cost construction utilizing molded plastic technology results in inexpensive product.
- Glass passivated chip junctions.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen free part, ex. MB05S-H.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, MBS
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : marked on body
- Mounting Position : Any

Package outline



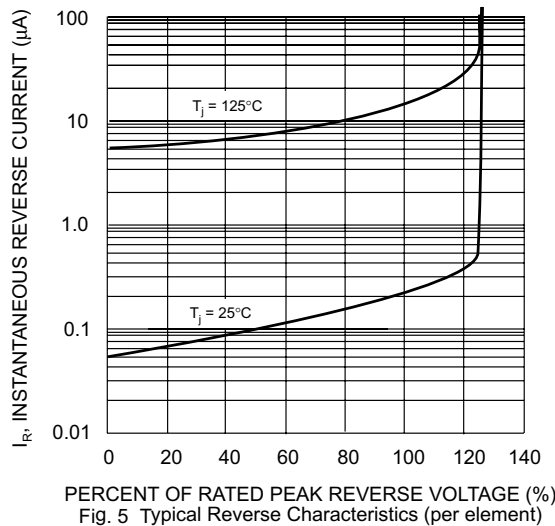
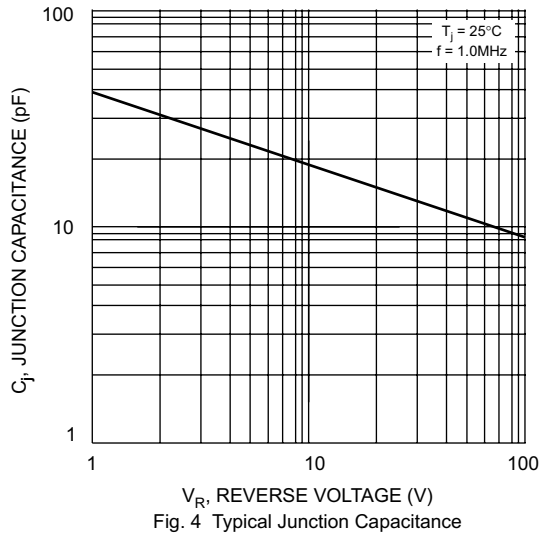
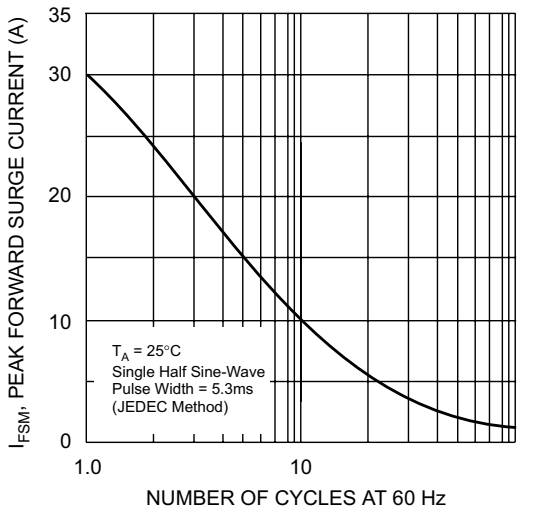
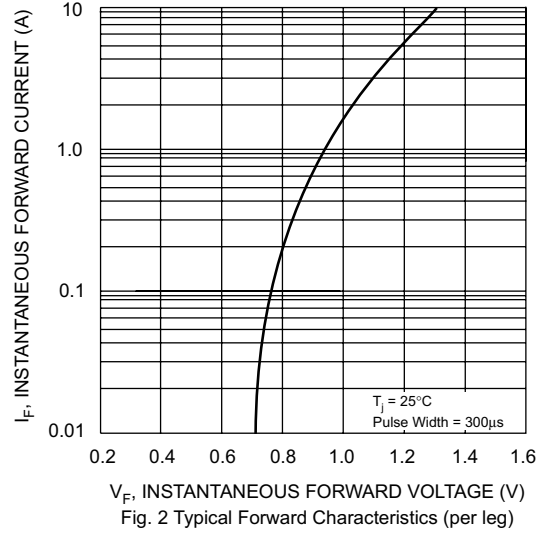
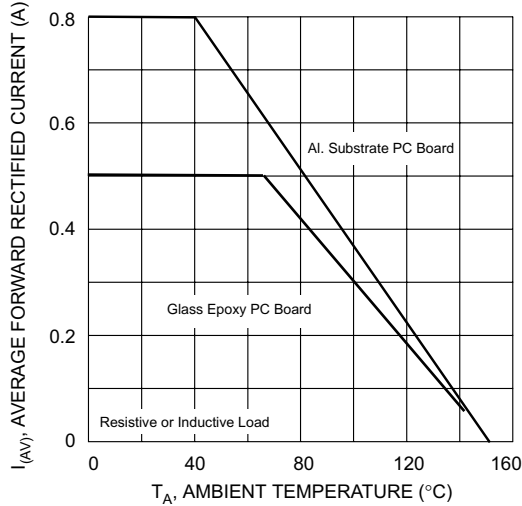
Maximum ratings and Electrical Characteristics (AT $T_a=25^\circ\text{C}$ unless otherwise noted)

CHARACTERISTICS	SYMBOL	MB05S	MB1S	MB2S	MB4S	MB6S	MB8S	MB10S	UNIT
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 Rectified Current @ $T_J=25^\circ\text{C}$	$I_{(AV)}$	0.8							A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	I_{FSM}	30							A
Maximum Forward Voltage at 0.8A DC	V_F	1.1							V
Maximum DC Reverse Current at Rated DC Blocking Voltage @ $T_J=25^\circ\text{C}$	I_R	10							μA
		500							
$I^2 t$ Rating for Fusing($t < 8.3\text{ms}$)	$I^2 t$	3.74							A^2s
Typical Junction Capacitance Per Element(Note1)	C_J	15							pF
Typical Thermal Resistance (Note2)	$R_{\theta JA}$	85							$^\circ\text{C}/\text{W}$
Operating Temperature Range	T_J	-55 to +150							$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150							$^\circ\text{C}$

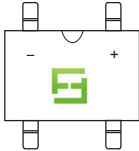
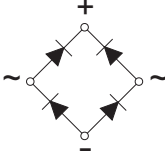
Note:1.Measured at 1.0MHz and applied reverse voltage of 4.0V DC

2. Thermal resistance from junction to ambient mounted on P.C.B with 0.5*0.5"(13*13mm)copper pads.

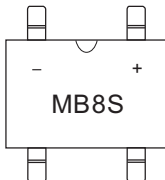
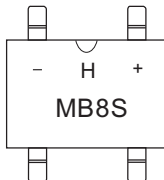
Rating and characteristic curves



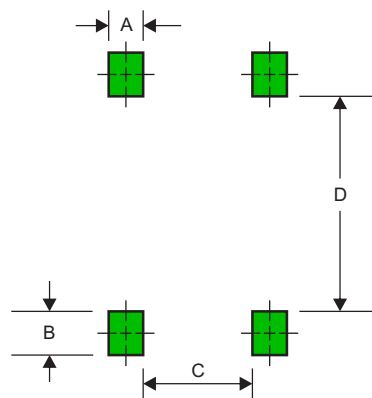
Pinning information

Simplified outline	Symbol
	

Marking

Type number	Marking code	Example	
MB05S	MB05S	1. For Halogen Device	2. For Halogen-free Device
MB1S	MB1S		
MB2S	MB2S		
MB4S	MB4S		
MB6S	MB6S		
MB8S	MB8S		
MB10S	MB10S		

Suggested solder pad layout

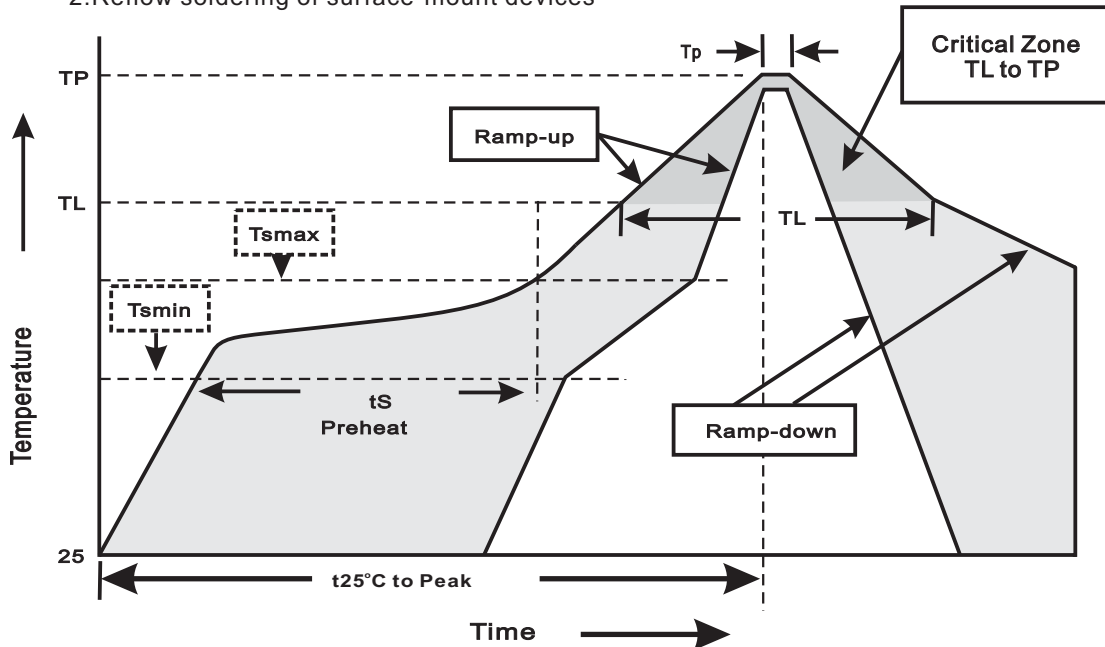


Dimensions in inches and (millimeters)

PACKAGE	A	B	C	D
MBS	0.023 (0.58)	0.030 (0.76)	0.070 (1.78)	0.226 (5.75)

Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(TL to TP)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(ts)	150°C 200°C 60~120sec
Tsmax to TL -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(TL) -Time(tL)	217°C 60~260sec
Peak Temperature(TP)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(tp)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes

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