

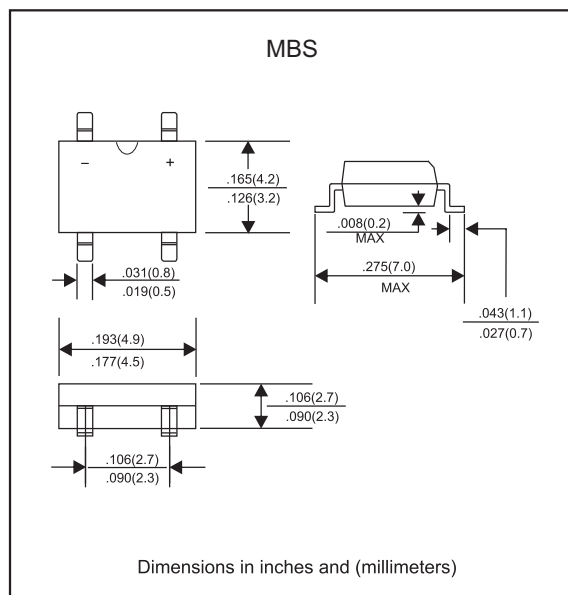
Features

- 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



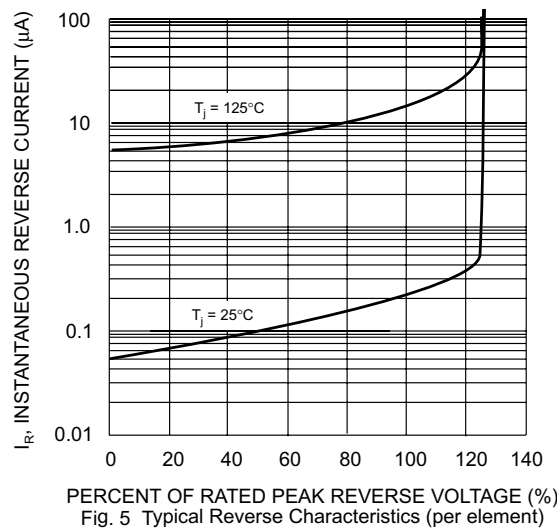
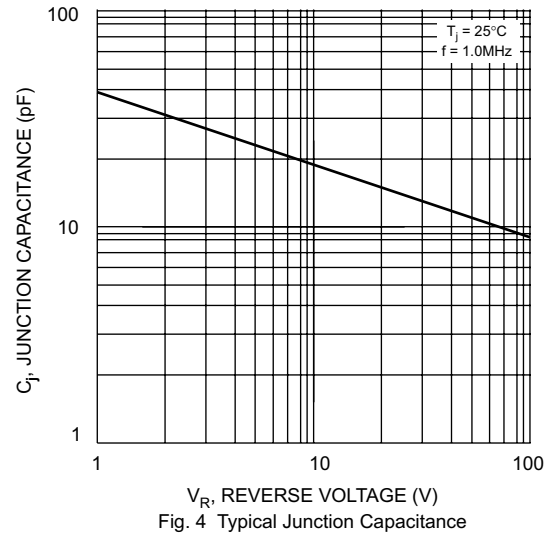
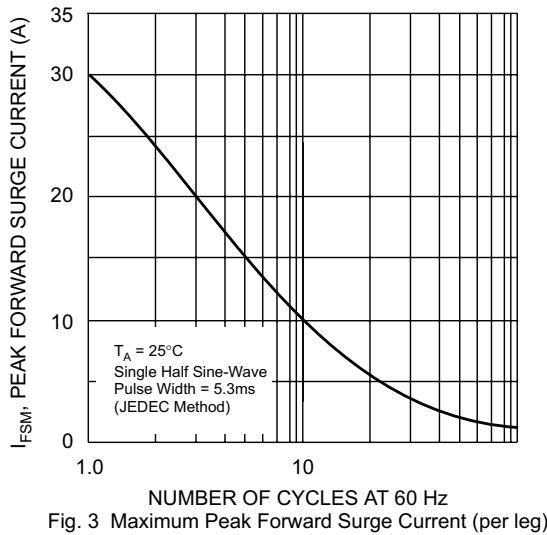
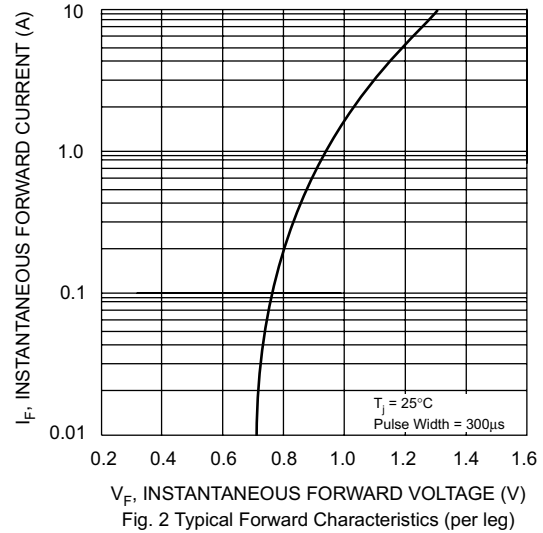
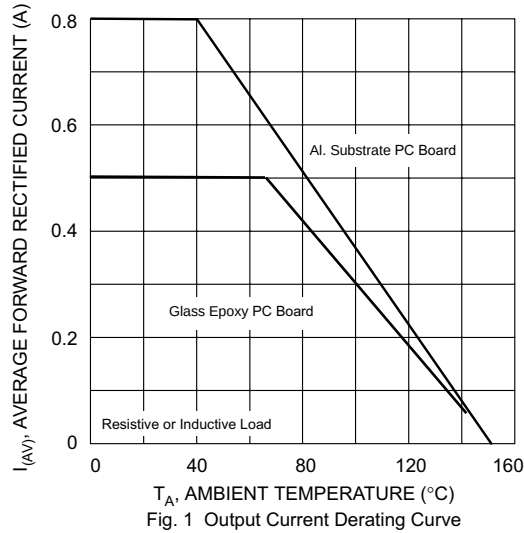
Maximum ratings and Electrical Characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

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 @ $T_J=25^{\circ}\text{C}$ at Rated DC Blocking Voltage @ $T_J=125^{\circ}\text{C}$	I_R	10 500							μA
$I^2 t$ 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							$^{\circ}\text{C}$

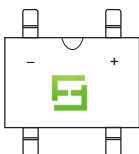
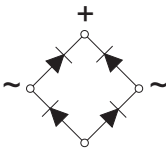
Note:1.Measured at 1.0MHz and applied reverse voltage of 4.0V DC

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

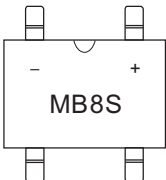
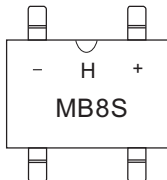
Rating and characteristic curves



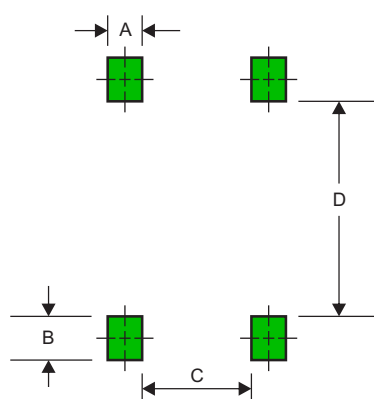
Pinning information

Simplified outline	Symbol
	

Marking

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

Suggested solder pad layout

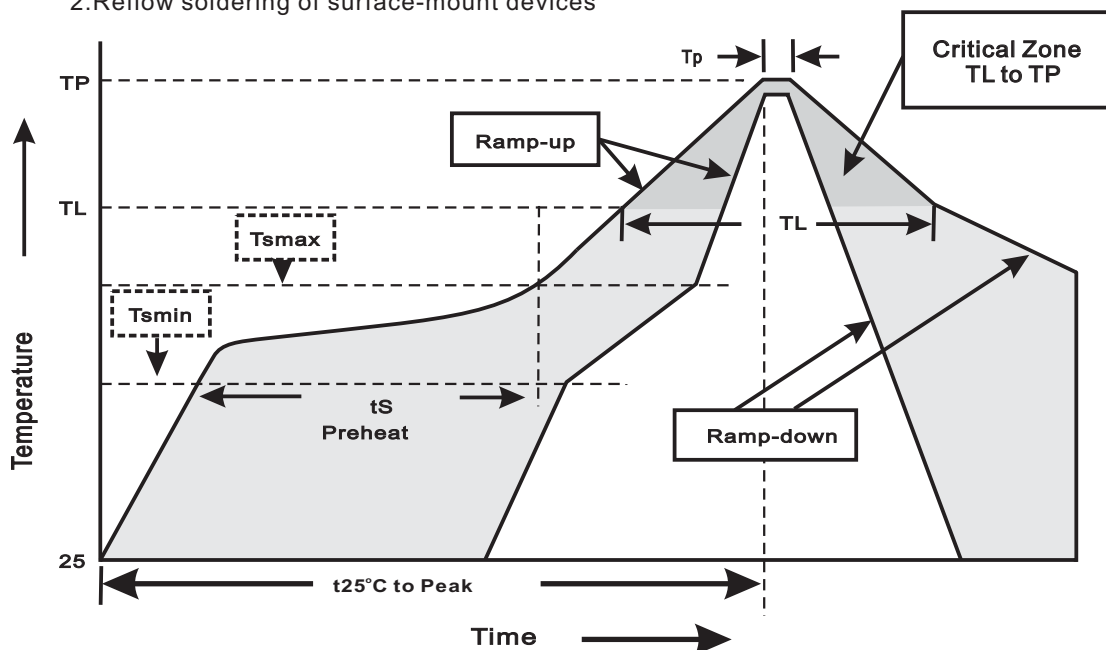


Dimensions in inches and (millimeters)

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