

1A Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifiers

■ Features

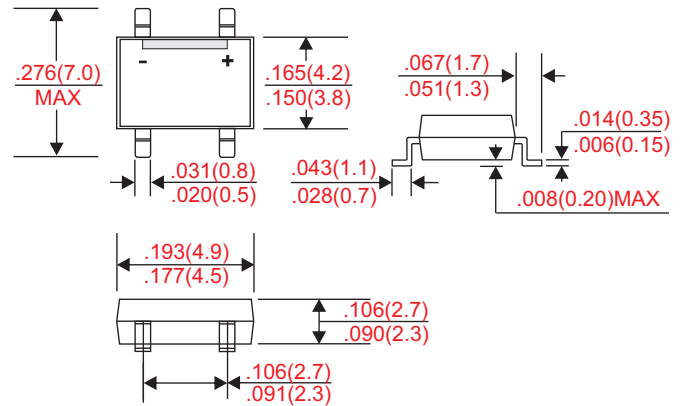
- Surge overload ratings to 30 amperes peak.
- Save space on printed circuit board.
- Ideal for automated replacement.
- Reliable low cost construction utilizing molded plastic technology results in inexpensive product.
- Glass passivated chip junctions.
- Suffix "G" indicates Halogen-free part, ex.MB1005SG.

■ Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, MDS / TO-269AA
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : marked on body
- Weight : Approximated 0.0044 ounce, 0.125 grams

■ Outline

MDS(TO-269AA)



Dimensions in inches and (millimeters)

■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Maximum average forward rectified output current	at $T_A = 40^\circ\text{C}$	I_o			1.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	I_{FSM}			30	A
Rating for fusing	$t < 8.3\text{ms}$	I^2t			10	A^2sec
Reverse current	$V_R = V_{RRM}$ $T_A = 25^\circ\text{C}$	I_R			10	uA
	$V_R = V_{RRM}$ $T_A = 125^\circ\text{C}$				500	
Typical thermal resistance		$R_{\theta JA}$		110		$^\circ\text{C}/\text{W}$
Typical junction capacitance	at 2.0MHz and applied reverse voltage of 4.0V DC	C_J		25		pF
Storage temperature		T_{STG}	-55		+150	$^\circ\text{C}$

Symbol	Marking code	Max. repetitive peak reverse voltage V_{RRM} (V)	Max. RMS voltage V_{RMS} (V)	Max. DC blocking voltage V_R (V)	Max. forward voltage @1.0A, $T_A = 25^\circ\text{C}$ V_F (V)	Operating temperature T_J ($^\circ\text{C}$)
MB1005S	MB1005S	50	35	50	1.1	-55 ~ +150
MB101S	MB101S	100	70	100		
MB102S	MB102S	200	140	200		
MB104S	MB104S	400	280	400		
MB106S	MB106S	600	420	600		
MB108S	MB108S	800	560	800		
MB110S	MB110S	1000	700	1000		

■ Rating and characteristic curves

FIG.1-DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

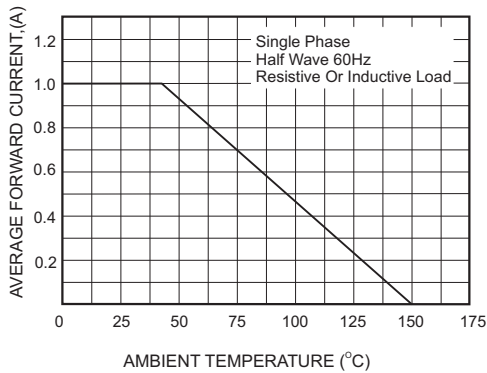


FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

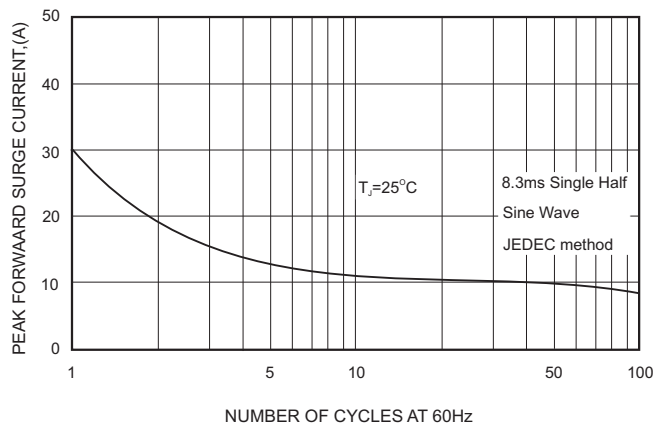


FIG.3-TYPICAL FORWARD CHARACTERISTICS

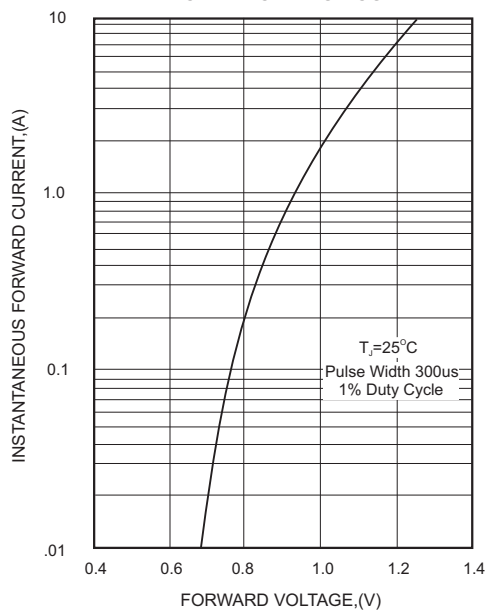
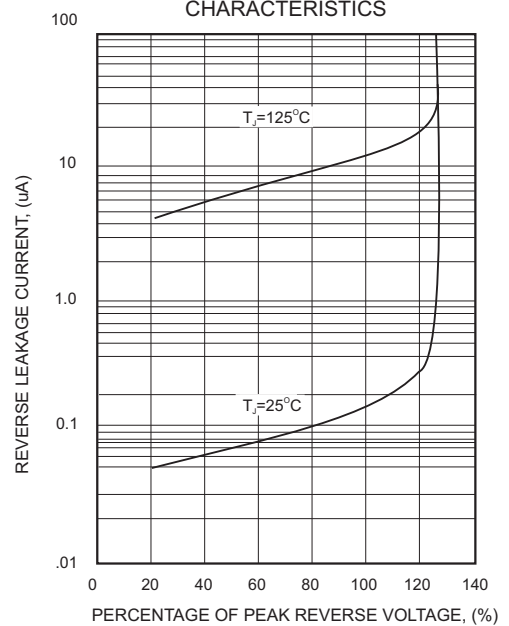
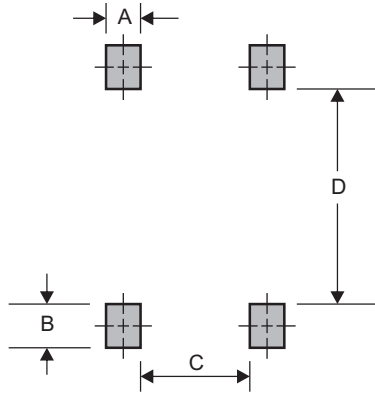


FIG.4-TYPICAL REVERSE CHARACTERISTICS



■ MDS(TO-269AA) foot print



A	B	C	D
0.030 (0.76)	0.059 (1.50)	0.070 (1.78)	0.226 (5.75)

Dimensions in inches and (millimeters)

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