

# MB1S–MB8S

## ABSOLUTE MAXIMUM RATINGS

(Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted)

Symbol	Parameter	MB1S	MB2S	MB4S	MB6S	MB8S	Unit
$V_{RRM}$	Maximum Repetitive Reverse Voltage	100	200	400	600	800	V
$V_{RMS}$	Maximum RMS Bridge Input Voltage	70	140	280	420	560	V
$V_R$	DC Reverse Voltage (Rated $V_R$ )	100	200	400	600	800	V
$I_{F(AV)}$	Average Rectified Forward Current at $T_A = 50^\circ\text{C}$	0.5					A
$I_{FSM}$	Non-Repetitive Peak Forward Surge Current: 8.3 ms Single Half-Sine-Wave	35					A
$T_{STG}$	Storage Temperature Range	-55 to +150					$^\circ\text{C}$
$T_J$	Operating Junction Temperature Range	-55 to +150					$^\circ\text{C}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

## THERMAL CHARACTERISTICS

Symbol	Parameter	Value	Unit
$P_D$	Power Dissipation	1.4	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient, per Leg (Note 1)	85	$^\circ\text{C}/\text{W}$
$R_{\theta JL}$	Thermal Resistance, Junction to Lead, per Leg (Note 1)	20	$^\circ\text{C}/\text{W}$

1. Device mounted on PCB with  $0.5 \times 0.5$  inch ( $13 \times 13$  mm) lead length.

## ELECTRICAL CHARACTERISTICS (Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Conditions	Value	Unit
$V_F$	Forward Voltage, per Bridge	$I_F = 0.5 \text{ A}$	1.0	V
$I_R$	Reverse Current, per Leg at Rated $V_R$	$T_A = 25^\circ\text{C}$	5.0	$\mu\text{A}$
		$T_A = 125^\circ\text{C}$	0.5	mA
$I^2t$	$I^2t$ Rating for Fusing	$t < 8.3 \text{ ms}$	5.0	$\text{A}^2\text{s}$
$C_T$	Total Capacitance, per Leg	$V_R = 4.0 \text{ V}, f = 1.0 \text{ MHz}$	13	pF

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

## ORDERING INFORMATION

Part Number	Top Mark	Package	Shipping <sup>†</sup>
MB1S	MB1S	SOIC4 W (Pb-Free)	3,000 / Tape & Reel
MB2S	MB2S		
MB4S	MB4S		
MB6S	MB6S		
MB8S	MB8S		

<sup>†</sup>For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

TYPICAL PERFORMANCE CHARACTERISTICS

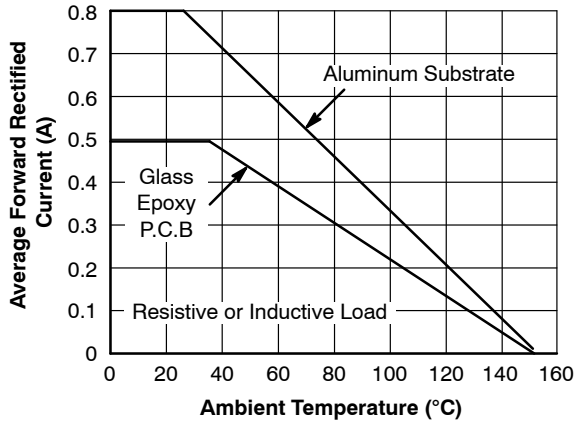


Figure 1. Derating Curve for Output Rectified Current

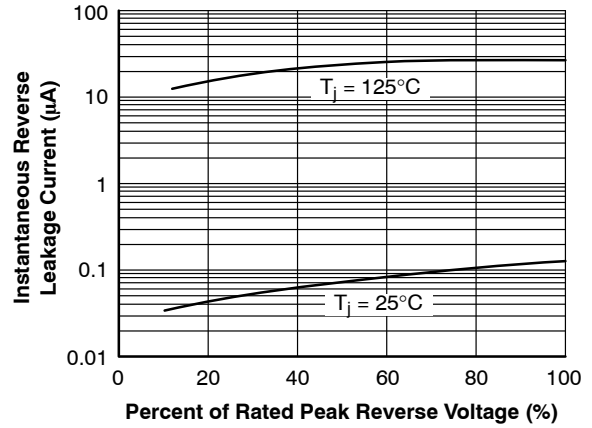


Figure 2. Typical Reverse Leakage Characteristics Per Leg

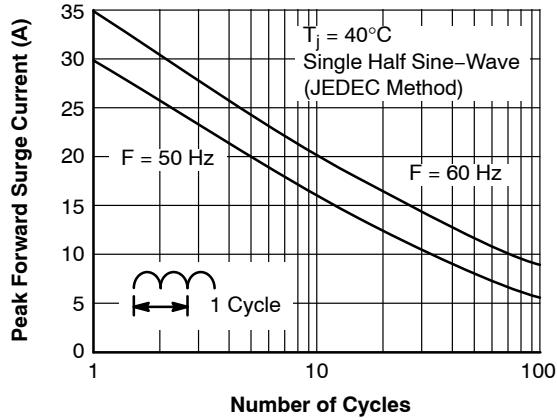


Figure 3. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

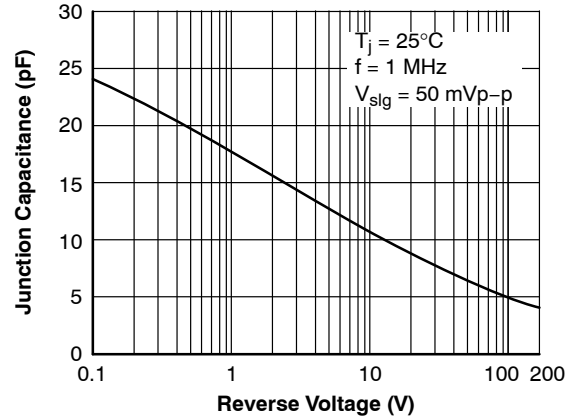


Figure 4. Typical Junction Capacitance Per Leg

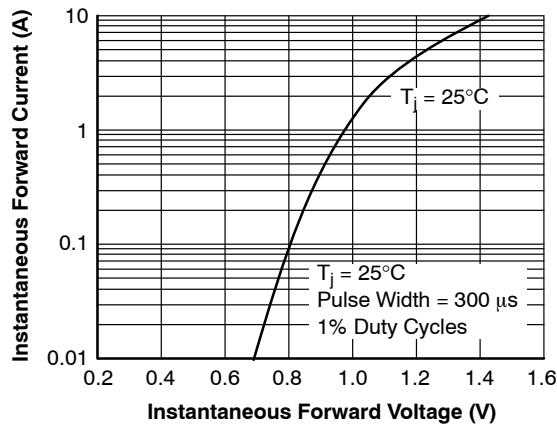


Figure 5. Typical Forward Voltage Characteristics Per Leg

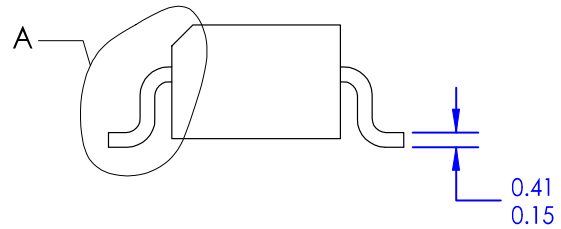
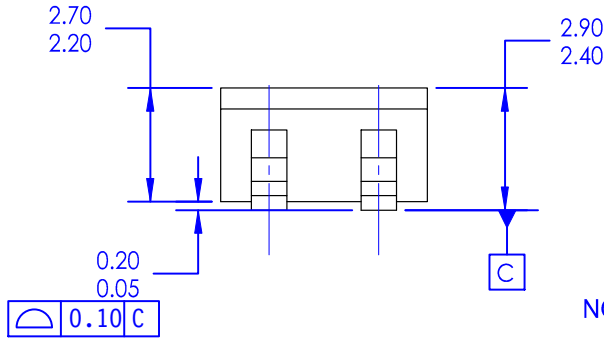
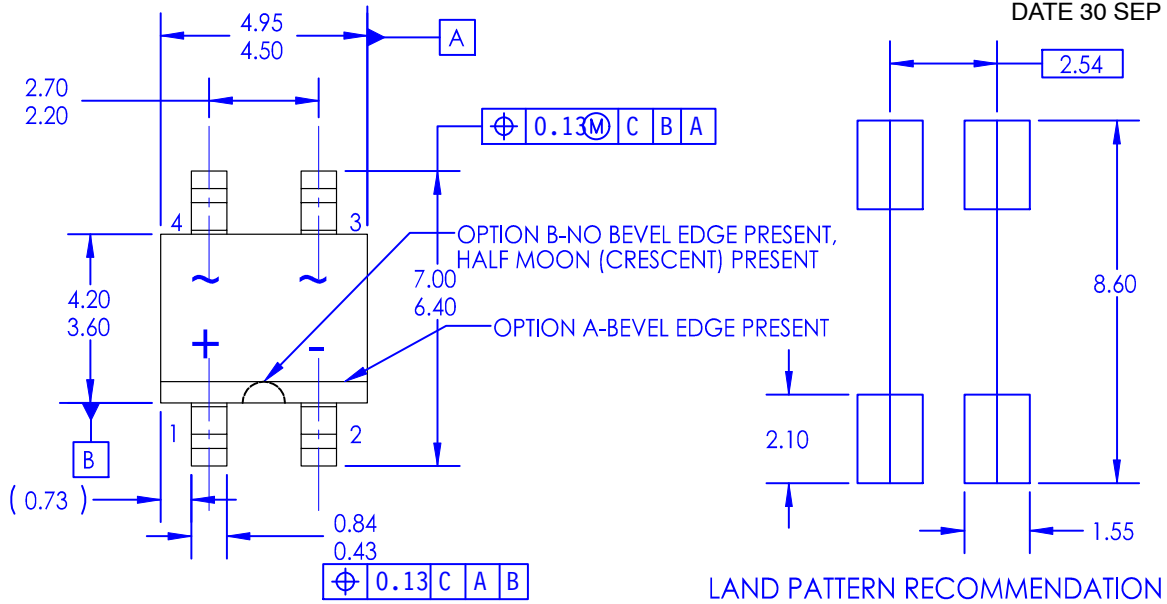
# MECHANICAL CASE OUTLINE PACKAGE DIMENSIONS

ON Semiconductor®

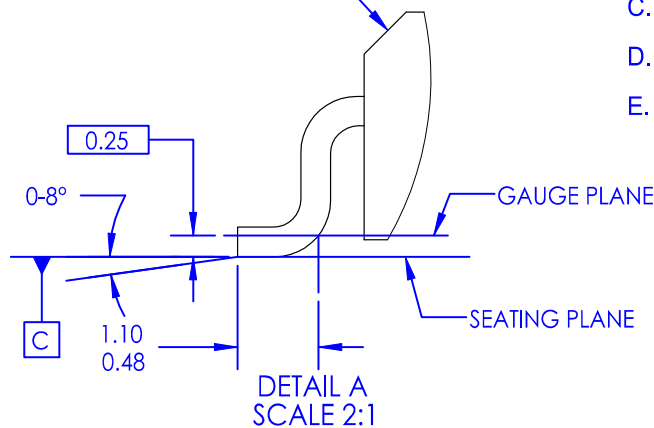


## SOIC4 W CASE 751EP ISSUE O

DATE 30 SEP 2016



OPTION A - BEVEL EDGE



NOTES: UNLESS OTHERWISE SPECIFIED

- A. THIS PACKAGE DOES NOT CONFORM TO JEDEC TO269AA
- B. ALL DIMENSIONS ARE IN MILLIMETERS.
- C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR EXTRUSIONS.
- D. DIMENSIONS AND TOLERANCES AS PER ASME Y14.5-2009.
- E. LAND PATTERN AS PER IPC7351# SOIC254P960X400-4N

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