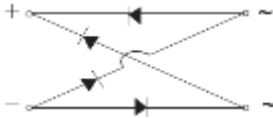


MINIATURE GLASS PASSIVATED FAST RECOVERY SURFACE MOUNT BRIDGE RECTIFIER

DESCRIPTION:



The ALPMBXS (ALPMB2S, ALPMB4S, ALPMB6S) is Miniature Glass Passivated Fast Recovery Surface Mount Bridge Rectifier for General purpose use in AC/DC bridge full wave rectification for power supply, lighting ballaster, battery charger, home appliances, office equipment, and telecommunication applications. Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade.

FEATURES:

- Saves space on printed circuit boards
- Ideal for automated placement
- High surge current capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- RoHS Compliant
- REACH Compliant

APPLICATIONS:

- Power Supply
- Lighting Ballaster
- Battery Charger
- Home Appliances
- Office Equipment
- Telecommunication applications

TYPICAL DEVICE CHARACTERISTICS

PRIMARY CHARACTERISTICS		ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)				
Package	TO-269AA (MBS)	PARAMETER	TEST CONDITIONS	SYMBOL	ALPMBXS	UNIT
$I_{F(AV)}$	0.5 A	Maximum instantaneous forward voltage per diode	$I_F = 0.4\text{ A}$	V_F	1.0	V
V_{RRM}	200 V, 400 V, 600 V	Maximum DC reverse current at rated DC blocking voltage per diode	$T_A = 25\text{ }^{\circ}\text{C}$	I_R	5.0	μA
I_{FSM}	35 A		$T_A = 125\text{ }^{\circ}\text{C}$		100	
I_R	5 μA	Typical junction capacitance per diode	4.0 V, 1 MHz	C_j	13	pF
V_F at $I_F = 0.4\text{ A}$	1.0 V					
T_J max.	150 $^{\circ}\text{C}$					
Diode variations	Quad					

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	ALPMB2S	ALPMB4S	ALPMB6S	UNIT
Typical thermal resistance	R _{θJA} ⁽¹⁾	85			°C/W
	R _{θJA} ⁽²⁾	70			
	R _{θJL} ⁽¹⁾	20			

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)						
PARAMETER		SYMBOL	ALPMB2S	ALPMB4S	ALPMB6S	UNIT
Maximum repetitive peak reverse voltage		V _{RRM}	200	400	600	V
Maximum RMS voltage		V _{RMS}	140	280	420	V
Maximum DC blocking voltage		V _{DC}	200	400	600	V
Maximum average forward output rectified current (fig. 1)	on glass-epoxy PCB ⁽¹⁾	I _{F(AV)}	0.5			A
	on aluminum substrate ⁽²⁾		0.8			
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load		I _{FSM}	35			A
Rating for fusing (t < 8.3 ms)		I ² t	5.0			A ² S
Operating junction and storage temperature range		T _J , T _{STG}	-55 to +150			°C

NOTES:

⁽¹⁾ On glass epoxy PCB mounted on 0.05" x 0.05" (1.3 mm x 1.3 mm) pads

⁽²⁾ On aluminum substrate PCB with an area of 0.8" x 0.8" (20 mm x 20 mm) mounted on 0.05" x 0.05" (1.3 mm x 1.3 mm) solder pad.

TYPICAL DEVICE CHARACTERISTICS CURVES ($T_A = 25^\circ\text{C}$ unless otherwise noted)

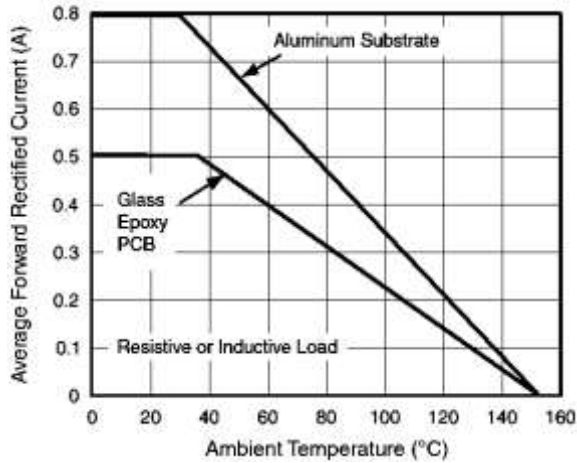


Fig.1 Derating Curve for Output Rectified Current

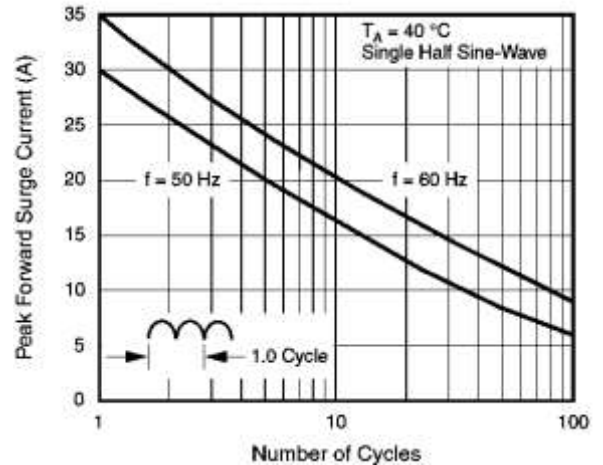


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current Per Diode

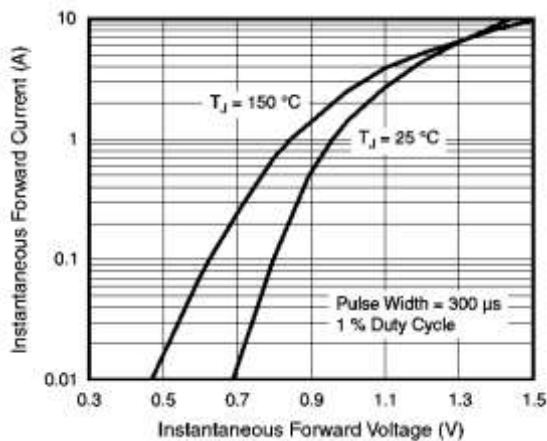


Fig.3 Typical Forward Voltage Characteristics Per Diode

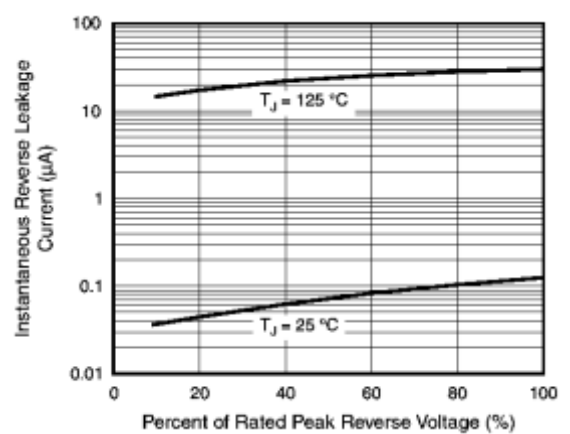


Fig.4 Typical Reverse Leakage Characteristics Per Diode

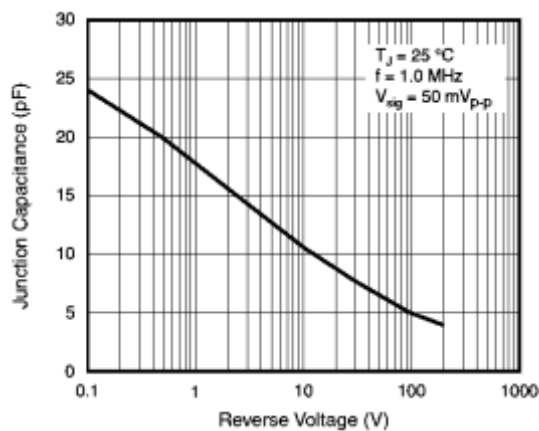
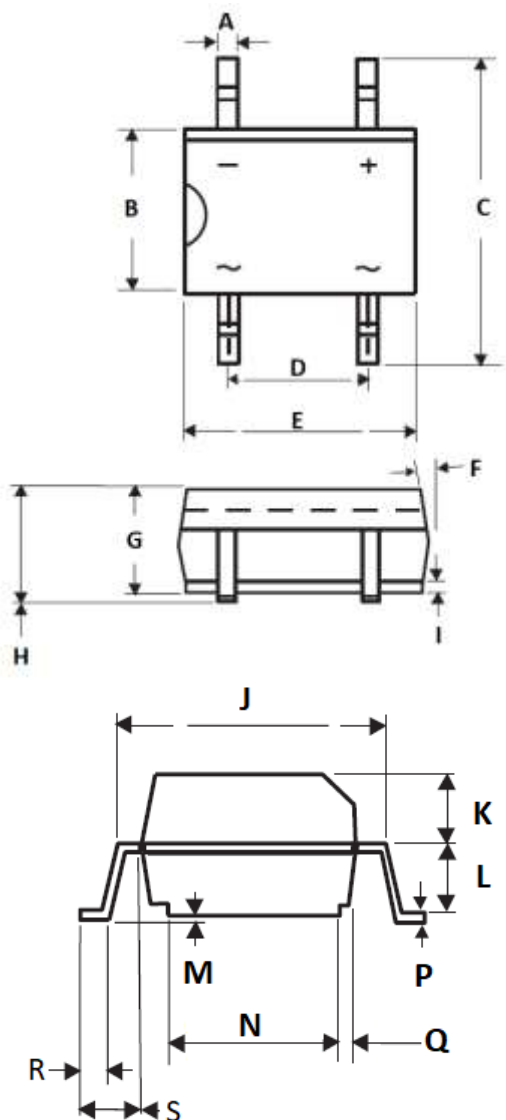


Fig.5 Typical Junction Capacitance Per Diode

PACKAGE INFORMATION
TO-269AA (MBS)

OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.43	0.74	0.017	0.029
B	3.65	4.10	0.144	0.161
C	6.40	6.90	0.0252	0.272
D	2.41	2.67	0.095	0.105
E	4.55	4.95	0.179	0.195
F	0 to 8°			
G	2.30	2.70	0.090	0.106
H	2.40	2.90	0.094	0.114
I	0.16	0.19	0.0065	0.0075
J	4.95	5.21	0.195	0.205
K	0.99	1.24	0.039	0.049
L	1.47	1.57	0.058	0.062
M	0.10	0.20	0.004	0.008
N	2.80	2.90	0.110	0.114
P	0.15	0.41	0.006	0.016
Q	0.36	0.46	0.014	0.018
R	0.48	0.96	0.019	0.038
S	1.37	1.47	0.054	0.058

NOTES

- Controlling dimension: millimeters.
- Dimensioning and tolerances per ANSI Y14.5M, 1985.
- Dimensions are exclusive of mold flash and metal burrs.

PAD LAYOUT DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.58	-	0.023	-
B		6.91		0.272
C	0.76		0.030	
D	2.41	2.67	0.095	0.105



beyond boundaries...

ALPMBXS
TO-269AA (MBS)

CUSTOMER NOTE:

DISCLAIMER

The product information and the selection guide facilitates the selection of the ALPINESEMI™'s Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review the Data sheet(s) so as to confirm that the Device(s) meets functionality parameters for your application. The information furnished on the Data Sheet and the ALPINESEMI™'s Web Site is believed to be accurate and reliable at the time of preparation of this document. ALPINESEMI™ however, does not assume any inaccuracies that may arise when the components are mounted and removed. Furthermore, ALPINESEMI™ does not assume liability whatsoever, arising out of the application or the use of any of ALPINESEMI™'s product(s). Neither, does it convey any license under its patent rights nor the rights of others. These products are not guaranteed for use in life saving/support appliances or systems. ALPINESEMI™'s customers using these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and ALPINESEMI™ will not be responsible in any way(s) for any damage(s) resulting from such use.

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2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).



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