



THE DATASHEET OF MSB08M-13



Product Summary @ $T_A = +25^\circ\text{C}$

V_{RRM} (V)	I_o (A)	V_F (V)	I_R (μA)
1,000	0.8	1.05	5

Description and Applications

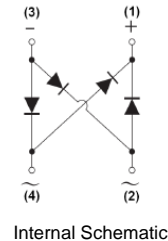
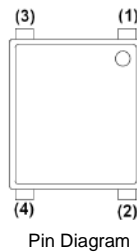
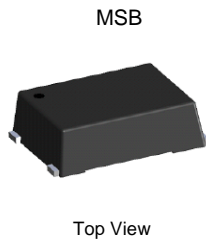
Suitable for AC to DC bridge full wave rectification for SMPS, LED lighting, adapter, battery charger, home appliances, office equipment and telecommunication applications.

Features and Benefits

- Glass Passivated Die Construction
- Compact, Thin Profile Package Design
- Reliable Robust Construction
- Ideal for SMT Manufacturing
- **Lead-Free Finish/RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

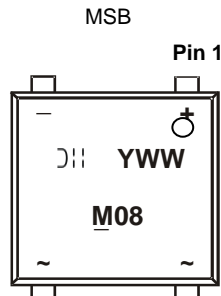
Mechanical Data

- Case: MSB
- Case Material: Molded Plastic; UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin Annealed over Copper Leadframe; Solderable per MIL-STD-202, Method 208 **(e3)**
- Polarity: As Marked on Body
- Weight: 0.07 grams (Approximate)


Ordering Information (Note 4)

Part Number	Case	Packaging
MSB08M-13	MSB	3,000/Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

Marking Information


M08 = Product Type Marking Code
 = Manufacturers' Code Marking
 YWW = Date Code Marking
 Y = Last Digit of Year (ex: 6 = 2016)
 WW = Week Code (01 to 53)

Maximum Ratings (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	1,000	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	700	V
Average Rectified Output Current @ $T_C = +120^\circ\text{C}$	I_O	0.8	A
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	30	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	80	$^\circ\text{C/W}$
Typical Thermal Resistance, Junction to Case	$R_{\theta JC}$	12	$^\circ\text{C/W}$
Typical Thermal Resistance, Junction to Lead	$R_{\theta JL}$	40	$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	1,000	—	—	V	$I_R = 5\mu\text{A}$
Forward Voltage	V_F	—	0.90 0.95	1.02 1.05	V	$I_F = 0.4\text{A}$ $I_F = 0.8\text{A}$
Leakage Current (Note 6)	I_R	—	—	5 500	μA	$V_R = 1,000\text{V}, T_A = +25^\circ\text{C}$ $V_R = 1,000\text{V}, T_A = +125^\circ\text{C}$
Typical Total Capacitance	C_T	—	10	—	pF	$V_R = 4\text{V}, f = 1.0\text{MHz}$

Note: 5. Device mounted on glass-epoxy substrate with 1oz 20mm x 20mm Cu pad per pin.
6. Short duration pulse test used to minimize self-heating effect.

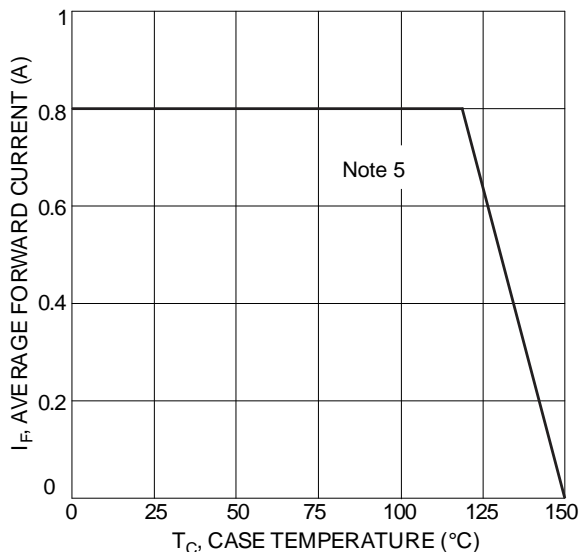


Figure 1 Forward Current Derating Curve

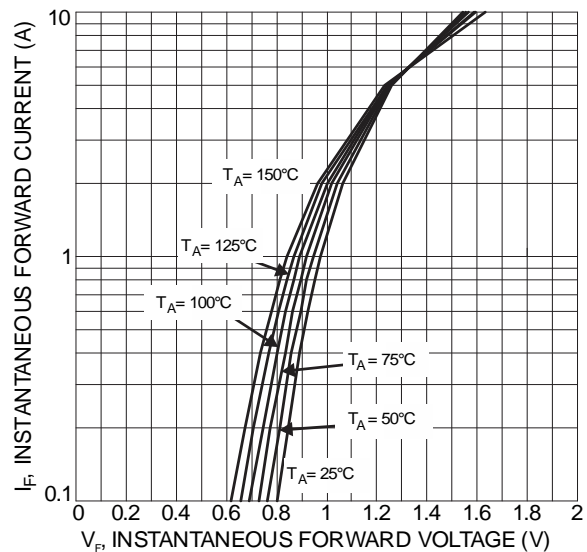


Figure 2 Typical Forward Characteristics

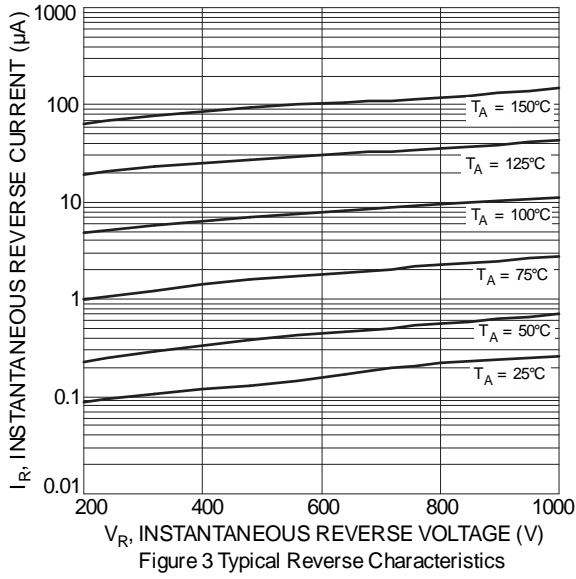


Figure 3 Typical Reverse Characteristics

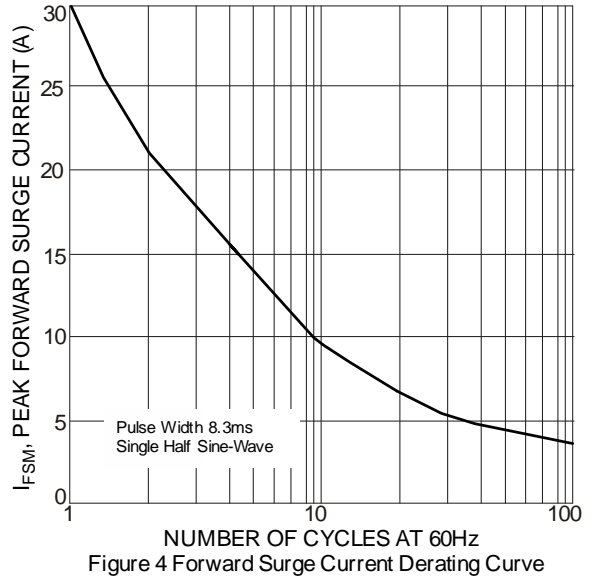


Figure 4 Forward Surge Current Derating Curve

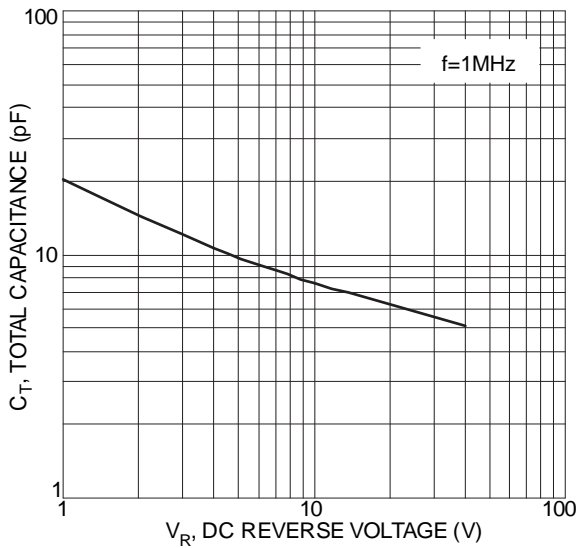


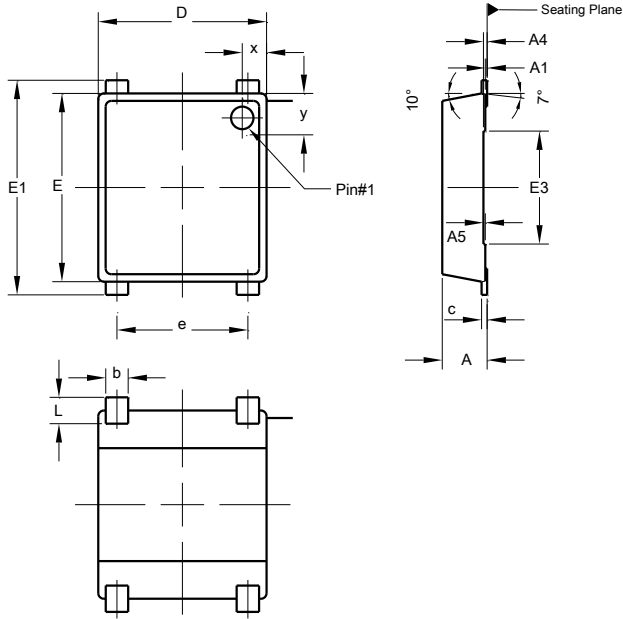
Figure 5 Total Capacitance vs. Reverse Voltage

Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

NEW PRODUCT

MSB

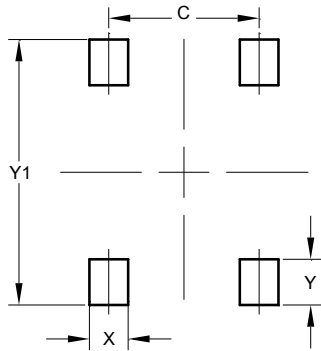


MSB			
Dim	Min	Max	Typ
A	1.10	1.30	1.20
A1	0.00	0.05	0.02
A4	0.05	0.08	-
A5	0.03	0.08	0.05
b	0.55	0.70	0.60
c	0.12	0.18	0.15
D	4.40	4.60	4.50
E	4.90	5.10	5.00
E1	5.60	5.80	5.70
E3	2.95	3.05	3.00
e	3.45	3.55	3.50
L	0.65	0.75	0.70
x	0.60	0.70	0.65
y	0.60	0.70	0.65
All Dimensions in mm			

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

MSB



Dimensions	Value (in mm)
C	3.55
X	0.90
Y	1.05
Y1	6.10

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