

## 2A SURFACE MOUNT STANDARD RECOVERY BRIDGE RECTIFIER

### Product Summary

V <sub>RRM</sub> (V)	I <sub>F</sub> (A)	V <sub>F</sub> Max (V) @ I <sub>F</sub> = 1A	I <sub>R</sub> Max (μA)
1000	2.0	0.95	10

### Mechanical Data

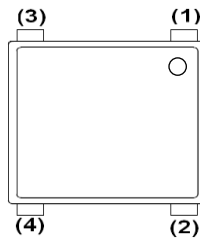
- Package: SOPA-4
- Package Material: Plastic Material, UL flammability Classification 94V-0.(No Br. Sb, Cl)
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin Plated Leads, Solderable Per MIL-STD-202, Method 208
- Polarity Indicator: Symbol Molded on Body
- Weight: 0.1 grams (Approximate)

### Features

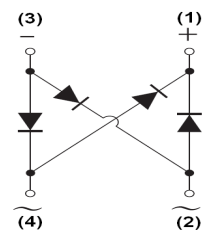
- Glass Passivated Die Construction
- Rating to 1000V PRV
- Ideal for Printed Circuit Board
- Reliable Low Cost Construction Utilizing Molded Plastic Technique
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. “Green” Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](mailto:contact@diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**



Top View



Pin Diagram



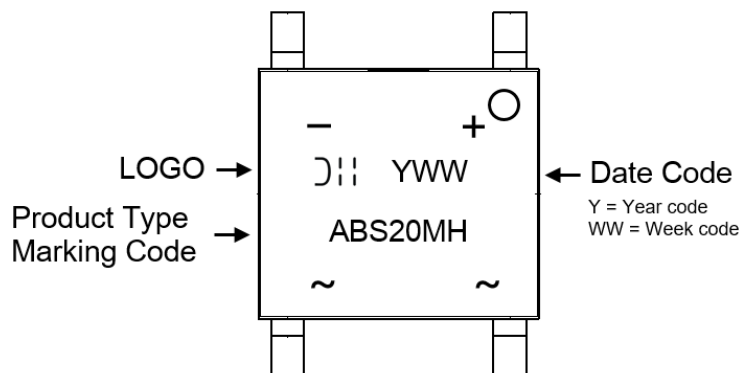
Internal Schematic

### Ordering Information (Note 4)

Part Number	Qualification	Package	Packing	
			Qty.	Carrier
ABS20MH-13	Commercial	SOPA-4 (Type WX)	3000	Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  2. See <https://www.diodes.com/quality/lead-free/> 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 <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

### Marking Information



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

Characteristic	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	1000	V
Maximum DC Blocking Voltage	$V_{DC}$	1000	V
Average Rectified Output Current	$I_{F(AV)}$	2.0	A
Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load	$I_{FSM}$	$T_A = +25^\circ\text{C}$ 60 $T_A = +125^\circ\text{C}$ 48	A
Peak Forward Surge Current 1.0ms Single Half Sine Wave Superimposed on Rated Load	$I_{FSM}$	$T_A = +25^\circ\text{C}$ 120 $T_A = +125^\circ\text{C}$ 96	A
$I^2t$ Rating for Fusing ( $t = 8.3\text{ms}$ )	$I^2t$	14.9	$\text{A}^2\text{s}$
Operating Temperature Range	$T_J$	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^\circ\text{C}$

**Electrical Characteristics**

Characteristic	Test Conditions	Symbol	Max	Unit
Forward Voltage	$I_F = 1.0\text{A}$ $T_A = +25^\circ\text{C}$	$V_F$	0.95	V
Leakage Current	$V_R = 1000\text{V}$ $T_A = +25^\circ\text{C}$ $T_A = +125^\circ\text{C}$	$I_R$	10 100	$\mu\text{A}$
Typical Junction Capacitance (Note 5)		$C_J$	20	pF

**Thermal Characteristics**

Characteristic	Symbol	Typ.	Unit
Typical Thermal Resistance (Note 6)	$R_{\theta JC}$	6	$^\circ\text{C/W}$
	$R_{\theta JL}$	17.5	
	$R_{\theta JA}$	26	

Notes: 5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

6. Thermal resistance junction to case, lead and ambient. Unit mounted on glass-epoxy substrate with 1oz/ft<sup>2</sup> 30mm \* 30mm copper pad per pin.

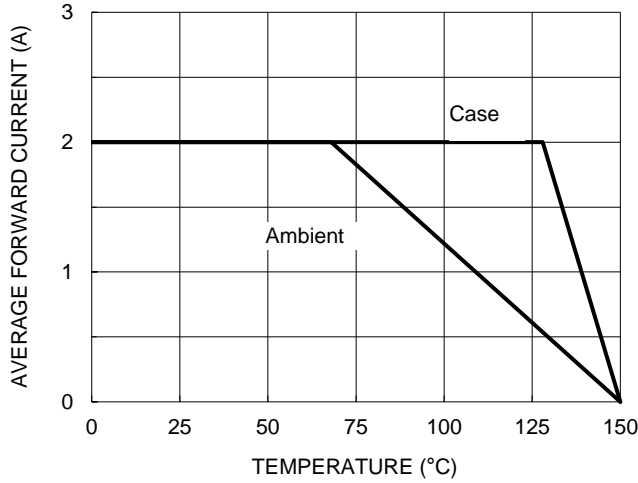


Figure 1. Forward Current Derating Curve

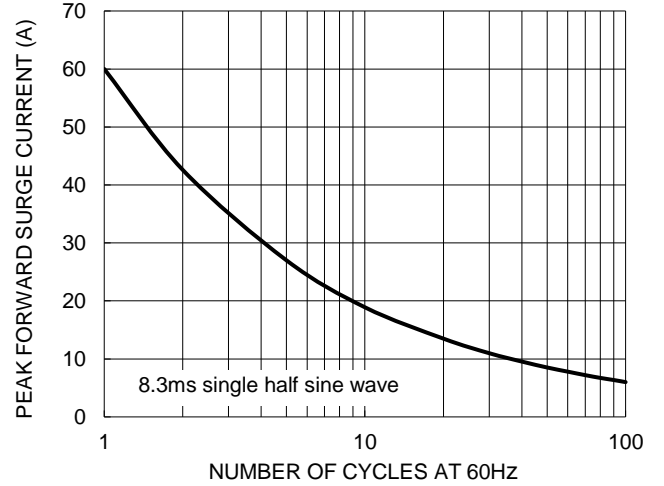


Figure 2. Maximum Non-repetitive Surge Current

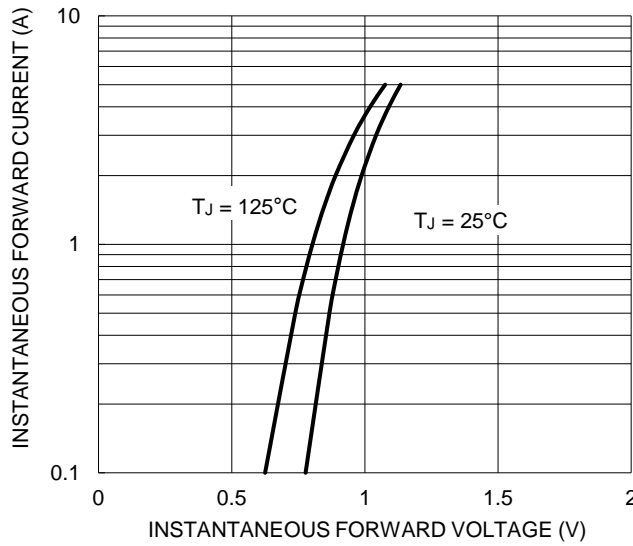


Figure 3. Typical Forward Characteristics

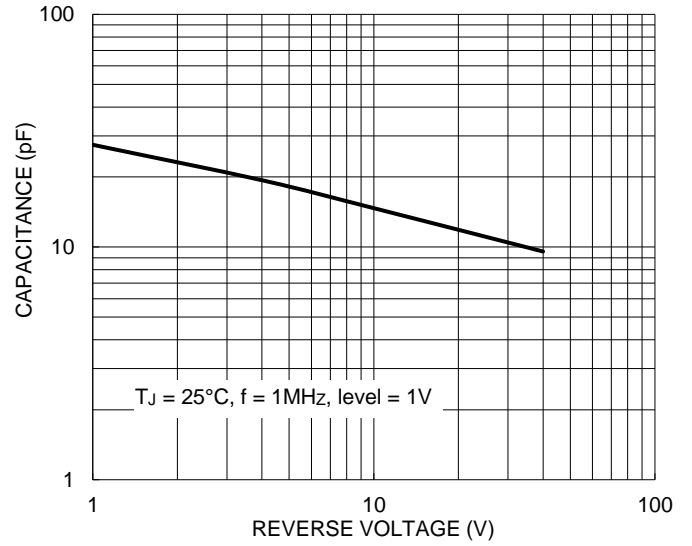


Figure 4. Typical Junction Capacitance

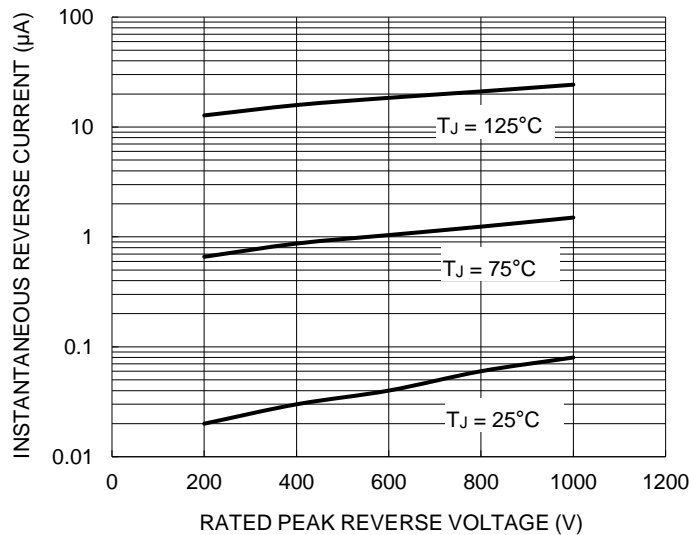
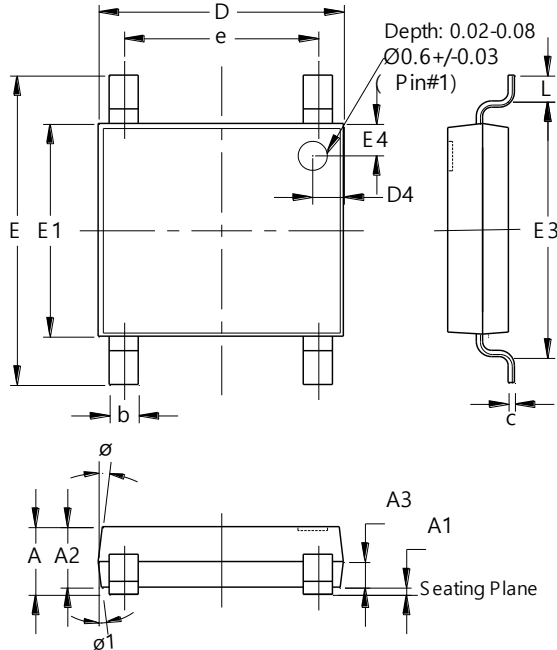


Figure 5. Typical Reverse Characteristics

**Package Outline Dimensions**

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

**SOPA-4 (Type WX)**

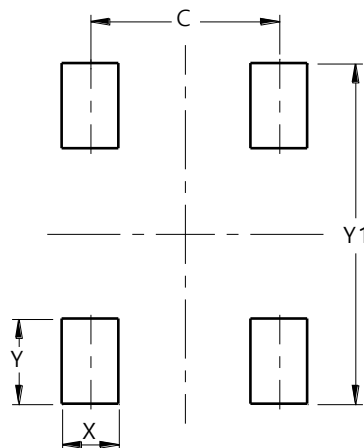


SOPA-4 (Type WX)			
Dim	Min	Max	Typ.
A	1.20	1.40	--
A1	0.00	0.15	--
A2	1.20	1.30	--
A3	0.43	0.63	--
b	0.50	0.80	--
c	0.10	0.30	--
D	4.85	5.25	--
D4	0.45	0.85	--
e	3.80	4.20	--
E	6.40	6.80	--
E1	4.25	4.65	--
E3	5.20	5.60	--
E4	0.45	0.85	--
L	0.40	0.80	--
Ø	--	--	7°
Ø1	--	--	7°
<b>All Dimensions in mm</b>			

**Suggested Pad Layout**

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

**SOPA-4 (Type WX)**



Dimensions	Value (in mm)
C	4.00
X	1.20
Y	1.80
Y1	7.20

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