

**1A 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> = 0.5A	I <sub>R</sub> Max (μA)
1000	1.0	0.95	5

**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: 0.93 grams (Approximate)

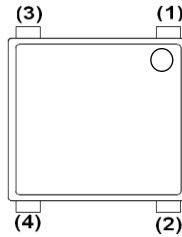
**Features**

- Glass Passivated Die Construction
- Rating to 1000V PRV
- Ideal for SMT Manufacturing
- 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/>**

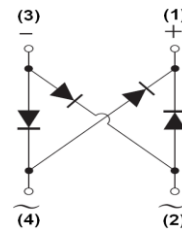
SOPA-4 (Type WX)



Top View



Pin Diagram



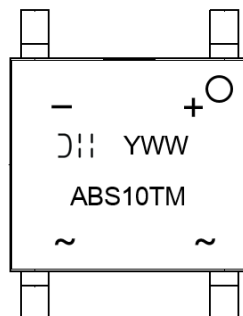
Internal Schematic

**Ordering Information** (Note 4)

Part Number	Qualification	Package	Packing	
			Qty.	Carrier
ABS10TM	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**



ABS10TM = Product Type Marking Code  
 DII = Manufacturer's Code Marking  
 YWW = Date Code Marking  
 Y = Last Digit of Year (ex: 1 = 2021)  
 WW = Week Code (01 to 53)

### Maximum Ratings (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	1000	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	1000	V
Maximum Average Rectified Output Current	I <sub>F(AV)</sub>	1.0	A
Peak Forward Surge Current 8.3ms Single Half Sine T <sub>J</sub> = +25°C Wave Superimposed on Rated Load T <sub>J</sub> = +125°C	I <sub>FSM</sub>	30 24	A
Peak Forward Surge Current 1.0ms Single Half Sine T <sub>J</sub> = +25°C Wave Superimposed on Rated Load T <sub>J</sub> = +125°C	I <sub>FSM</sub>	60 48	A
I <sup>2</sup> t Rating For Fusing ( t = 8.3ms)	I <sup>2</sup> t	3.73	A <sup>2</sup> s
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to + 150	°C

### Electrical Characteristics

Characteristic	Test Conditions		Symbol	Value	Unit
Forward Voltage	I <sub>F</sub> = 0.5A	T <sub>J</sub> = +25°C	V <sub>F</sub>	0.95	V
Leakage Current	V <sub>R</sub> = 1000V	T <sub>J</sub> = +25°C T <sub>J</sub> = +125°C	I <sub>R</sub>	5 500	μA
Typical Junction Capacitance (Note 5)			C <sub>J</sub>	13	pF

### Thermal Characteristics

Characteristic	Test Conditions		Symbol	Min	Max	Unit
Reverse Recovery Time	I <sub>F</sub> = 0.5A, I <sub>rr</sub> = 0.25A, I <sub>R</sub> = 1.0A	T <sub>J</sub> = +25°C	t <sub>rr</sub>	430	1050	ns

### Thermal Characteristics

Characteristic	Symbol	Typ.	Unit
Typical Thermal Resistance (Note 6)	R <sub>θJC</sub> R <sub>θJL</sub> R <sub>θJA</sub>	13 17 79	°C/W

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 foot print copper pad per pin.

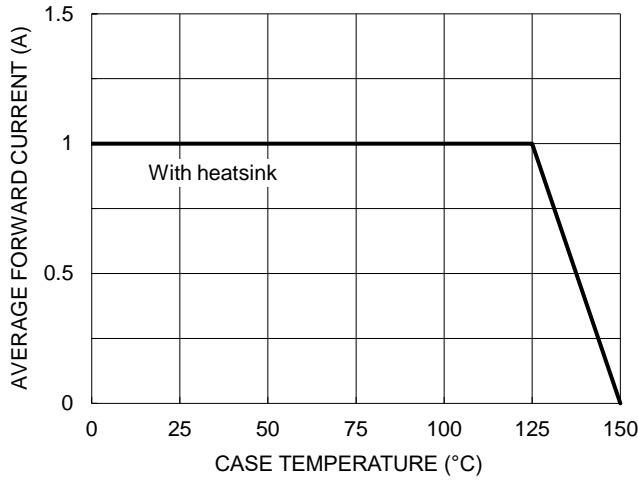


Figure 1. Forward Current Derating Curve

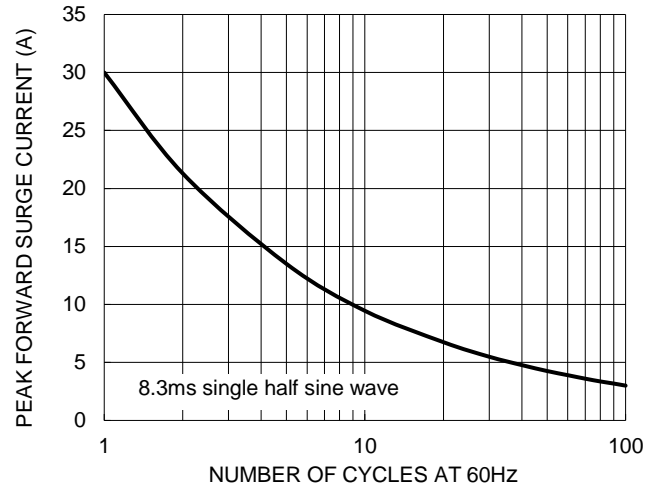


Figure 2. Maximum Non-Repetitive Surge Current

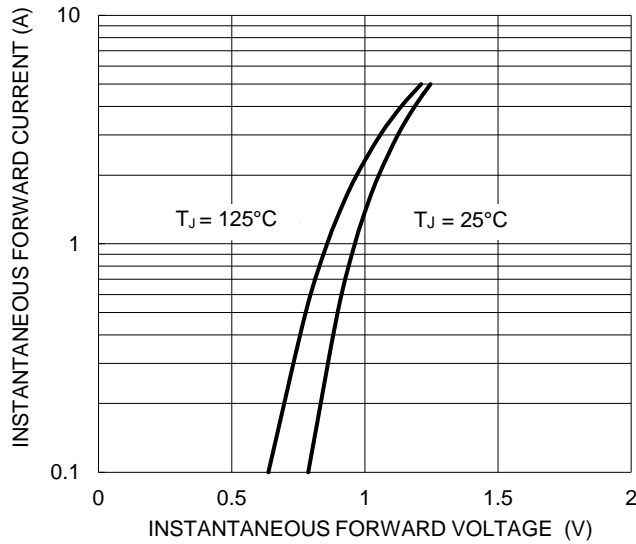


Figure 3. Typical Forward Characteristics

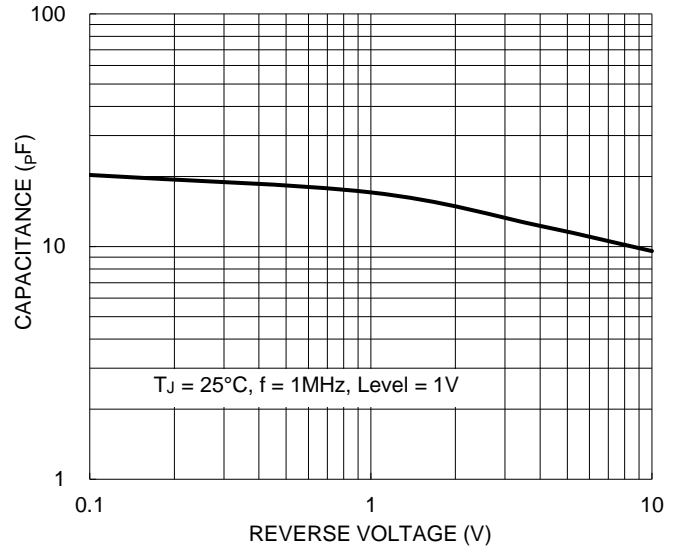


Figure 4. Typical Junction Capacitance

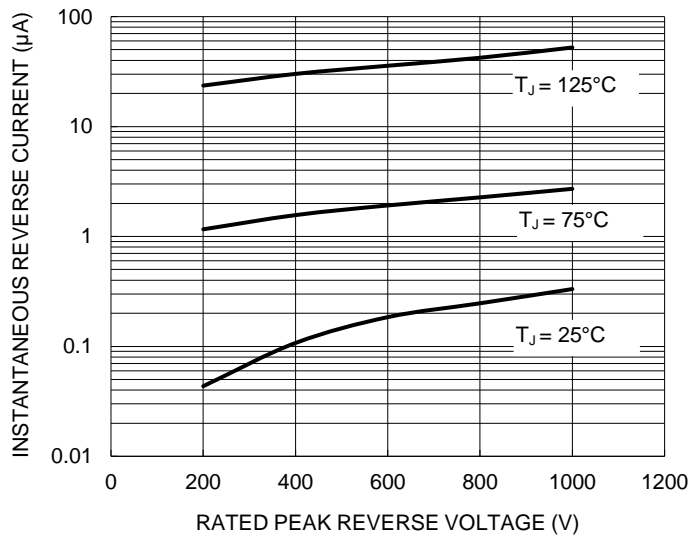
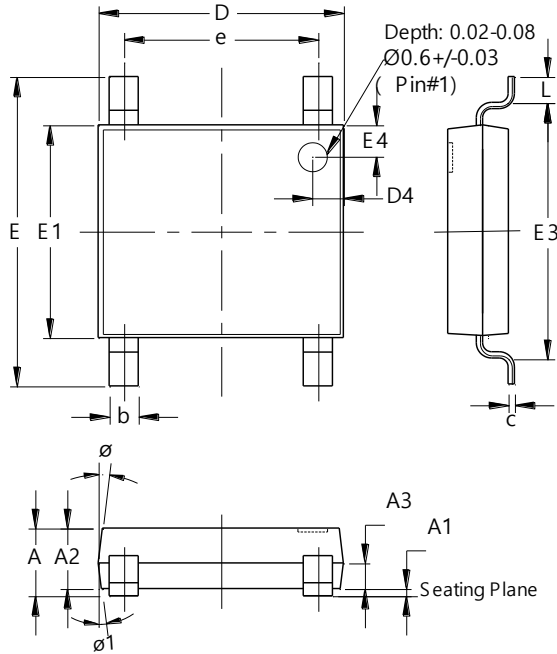


Figure 5. Typical Reverse Characteristics

**Package Outline Dimensions**

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

**SOPA-4 (Type WX)**

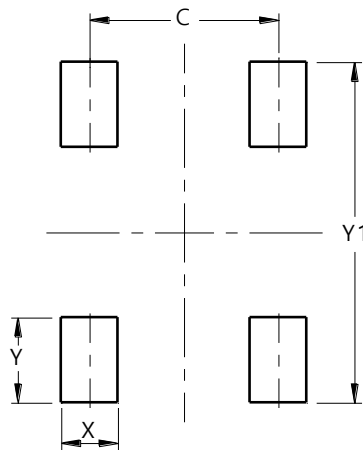


SOPA-4 (Type WX)			
Dim	Min	Max	Typ
A	1.20	1.40	--
A1	0.00	0.15	--
A2	1.20	1.30	--
A3	0.43	0.63	--
b	0.50	0.80	--
c	0.10	0.30	--
D	4.85	5.25	--
D4	0.45	0.85	--
e	3.80	4.20	--
E	6.40	6.80	--
E1	4.25	4.65	--
E3	5.20	5.60	--
E4	0.45	0.85	--
L	0.40	0.80	--
$\varnothing$	--	--	7°
$\varnothing 1$	--	--	7°
All Dimensions in mm			

**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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