1A SURFACE-MOUNT STANDARD RECOVERY BRIDGE RECTIFIER

Product Summary

V_{RRM} (V)	I_F (A)	V_F Max (V) @ I_F = 0.5A	I_R Max (μA)
1000	1.0	0.95	5

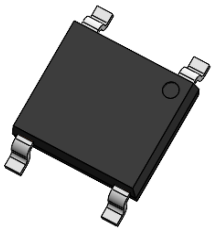
Features

- Glass Passivated Die Construction
- Rating to 1000V PRV
- Ideal for SMT Manufacturing
- Reliable Low-Cost Construction Utilizing Molded Plastic Technique
- UL Recognized File # E364304
- **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-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please contact us or your local Diodes representative. https://www.diodes.com/quality/product-definitions/**

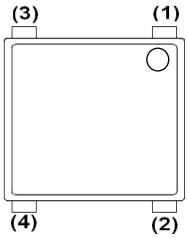
Mechanical Data

- 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 (e3)
- Polarity Indicator: Symbol Molded on Body
- Weight: 0.1 grams (Approximate)

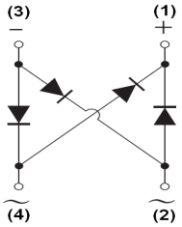
SOPA-4 (Type WX)



Top View



Pin Diagram



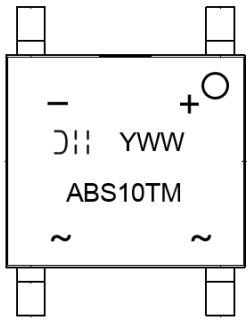
Internal Schematic

Ordering Information (Note 4)

Orderable Part Number	Package	Packing	
		Qty.	Carrier
ABS10TM	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
= Manufacturer's Code Marking
YWW = Date Code Marking
Y = Last Digit of Year (ex: 5 = 2025)
WW = Week Code (01 to 53)

Maximum Ratings (@T_A = +25°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
Maximum Average Rectified Output Current	$I_{F(AV)}$	1.0	A
Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load (T_J = +25°C) (T_J = +125°C)	I_{FSM}	30 24	A
Peak Forward Surge Current 1.0ms Single Half Sine Wave Superimposed on Rated Load (T_J = +25°C) (T_J = +125°C)	I_{FSM}	60 48	A
I^2t Rating For Fusing (t = 8.3ms)	I^2t	3.73	A^2s
Operating and Storage Temperature Range	T_J , T_{STG}	-55 to + 150	°C

Electrical Characteristics

Characteristic	Test Conditions		Symbol	Min	Typ	Max	Unit
Forward Voltage	I_F = 0.5A	T_J = +25°C	V_F	—	—	0.95	V
Leakage Current	V_R = 1000V	T_J = +25°C T_J = +125°C	I_R	—	—	5 500	μA
Reverse-Recovery Time	I_F = 0.5A, Irr= 0.25A, I_R =1.0A	T_J = +25°C	t_{rr}	430	—	1050	ns
Typical Junction Capacitance (Note 5)		T_J = +25°C	C_J	—	13	—	pF

Thermal Characteristics

Characteristic	Symbol	Typ	Unit
Typical Thermal Resistance (Note 6)	$R_{\theta JC}$ $R_{\theta JL}$ $R_{\theta JA}$	13 17 79	°C/W

Notes: 5. Measured at 1.0MH_Z 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.

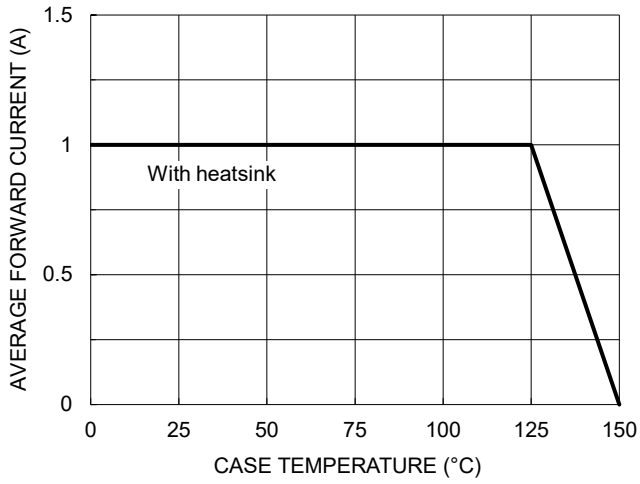


Figure 1. Forward Current Derating Curve

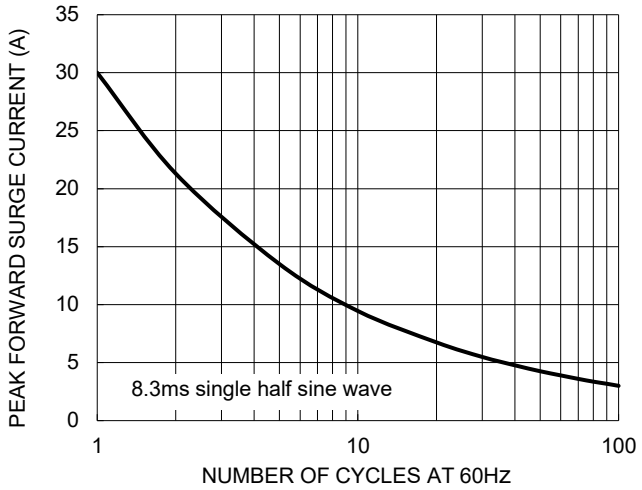


Figure 2. Maximum Non-Repetitive Surge Current

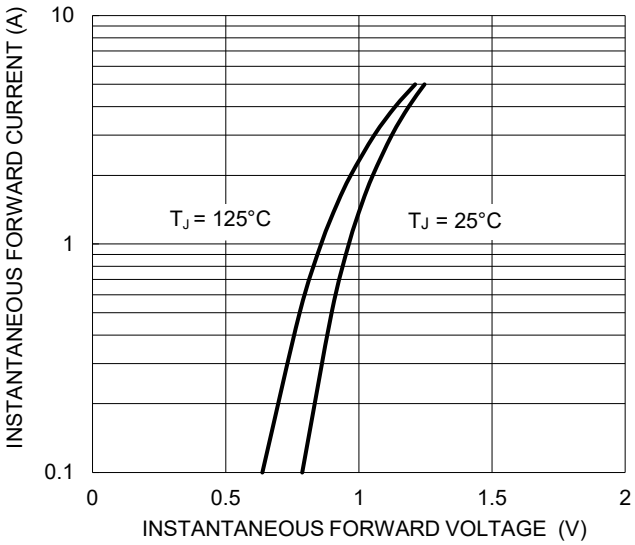


Figure 3. Typical Forward Characteristics

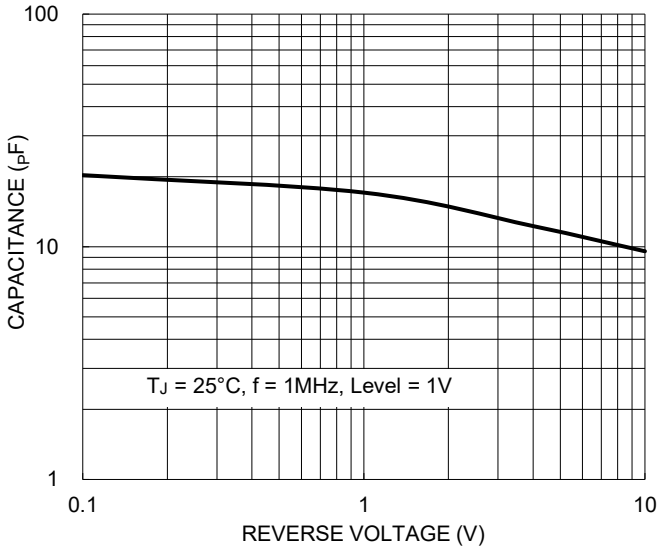


Figure 4. Typcial Junction Capacitance

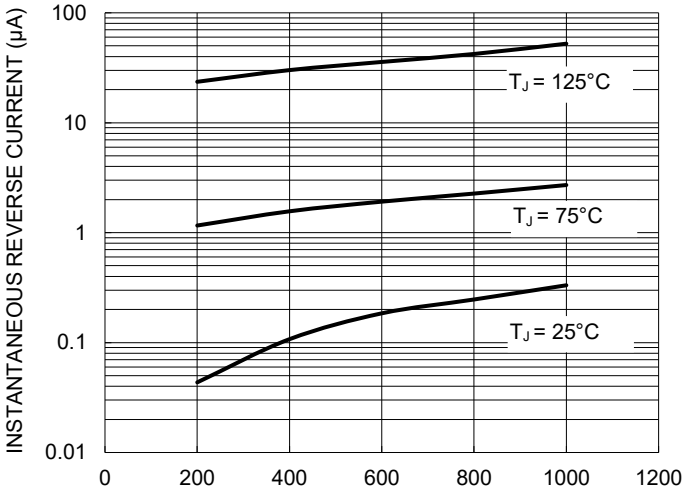
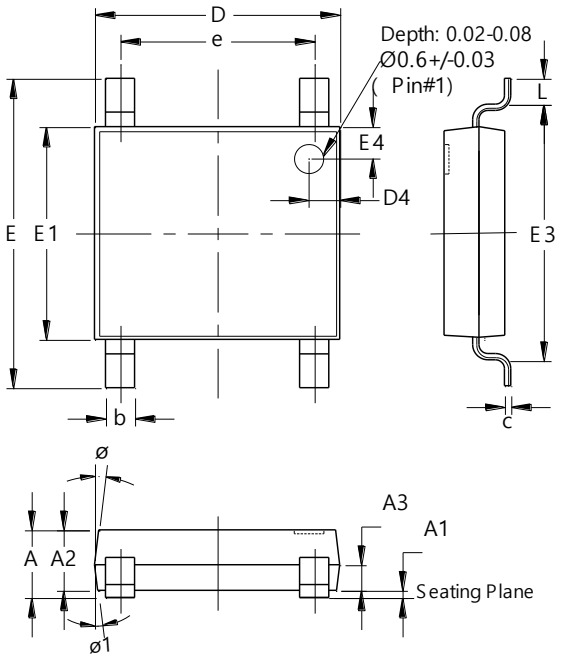


Figure 5. Typical Reverse Characteristics

Package Outline Dimensions

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

SOPA-4 (Type WX)

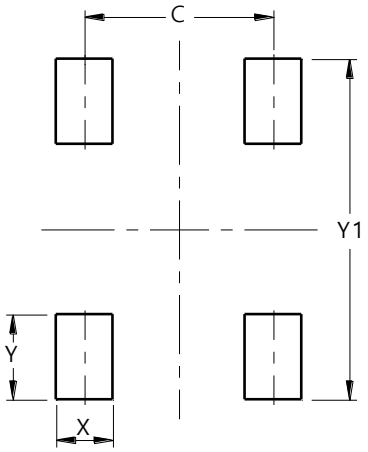


SOPA-4 (Type WX)			
Dim	**Min**	**Max**	**Typ**
A	1.20	1.40	--
A1	0.00	0.15	--
A2	1.20	1.30	--
A3	0.43	0.63	--
b	0.50	0.80	--
c	0.10	0.30	--
D	4.85	5.25	--
D4	0.45	0.85	--
e	3.80	4.20	--
E	6.40	6.80	--
E1	4.25	4.65	--
E3	5.20	5.60	--
E4	0.45	0.85	--
L	0.40	0.80	--
Ø	--	--	7°
Ø1	--	--	7°
All Dimensions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