NEW PRODUCT

RABF152-RABF1510

1.5A SURFACE MOUNT FAST GLASS PASSIVATED BRIDGE RECTIFIER

Product Summary (@T_A = +25°C)

Part Number	V_{RRM} (V)	I_O (A)	V_F (V)	I_R (µA)
RABF152-13	200	1.5	1.3	5
RABF154-13	400	1.5	1.3	5
RABF156-13	600	1.5	1.3	5
RABF158-13	800	1.5	1.3	5
RABF1510-13	1000	1.5	1.3	5

Features and Benefits

- Glass Passivated Die Construction
- Miniature Package Saves Space on PC Boards
- High Current Capability
- Fast Recovery Time for Higher Efficiency
- Ideal for SMT Manufacturing
- Low Forward Voltage Drop
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

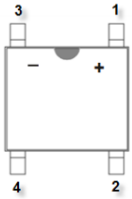
Description and Applications

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

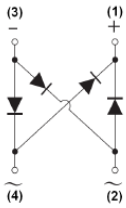
Mechanical Data

- Case: SOPA-4 (Type B)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 (e3)
- Polarity: As Marked on Body
- Weight: 0.02 grams (Approximate)

Top View



Pin Diagram



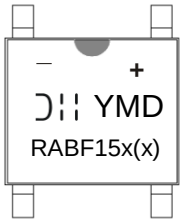
Internal Schematic

Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
RABF1510-13	Commercial	SOPA-4 (Type B)	5,000/Tape & Reel
RABF158-13	Commercial	SOPA-4 (Type B)	5,000/Tape & Reel
RABF156-13	Commercial	SOPA-4 (Type B)	5,000/Tape & Reel
RABF154-13	Commercial	SOPA-4 (Type B)	5,000/Tape & Reel
RABF152-13	Commercial	SOPA-4 (Type B)	5,000/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 http://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



RABF15x(x)= Product Type Marking Code
= Manufacturers' Code Marking
YMD = Date Code Marking
Y = Last Digit of Year (ex: 8 = 2018)
M = See Month/Code Table Below
D = Day 1 to 9 = 1 to 9; Day 10 to 31 = A to V

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

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Maximum Ratings and Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

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

Characteristic	Symbol	RABF152	RABF154	RABF156	RABF158	RABF1510	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	140	280	420	560	700	V
Average Rectified Output Current (Note 5)@ T_C = +100°C	I_O	1.5					A
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	50					A
I^2t Rating for Fusing (1ms < t < 8.3ms)	I^2t	10.375					A^2s
Maximum Forward Voltage (Per Element) @I_F=1.5A	V_{FM}	1.3					V
Maximum Reverse Recovery Time (Note 6)	t_{RR}	150	150	250	500	500	ns
Peak Reverse Current @T_A =+25°C At Rated DC Blocking Voltage (Note 7) @T_A =+125°C	I_R	5.0 200					µA
Typical Total Capacitance (Per Element) (Note 8)	C_T	17					ns

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Ambient (Note 5) (Per Element)	$R_{\theta JA}$	80	°C/W
Typical Thermal Resistance, Junction to Lead (Per Element)	$R_{\theta JL}$	25	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Notes:
5. Device mounted on aluminum substrate PC board with 1.3mm^2 solder pad.
6. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A.
7. Short duration pulse test used to minimize self-heating effect.
8. Measured at 1.0MHz and applied reverse voltage of 4.0V D.C.

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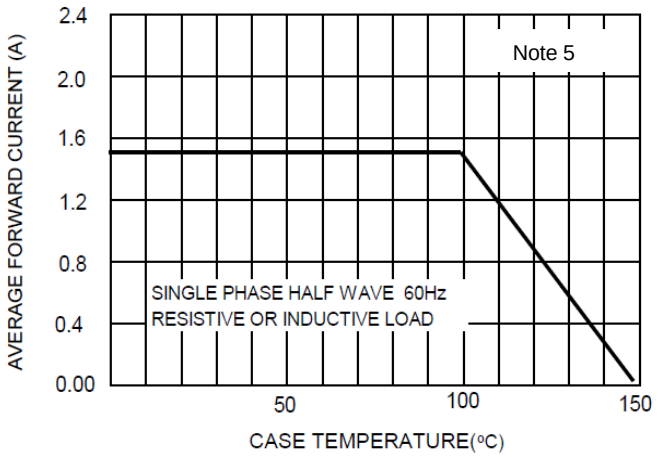

Figure.1. FORWARD CURRENT DERATING

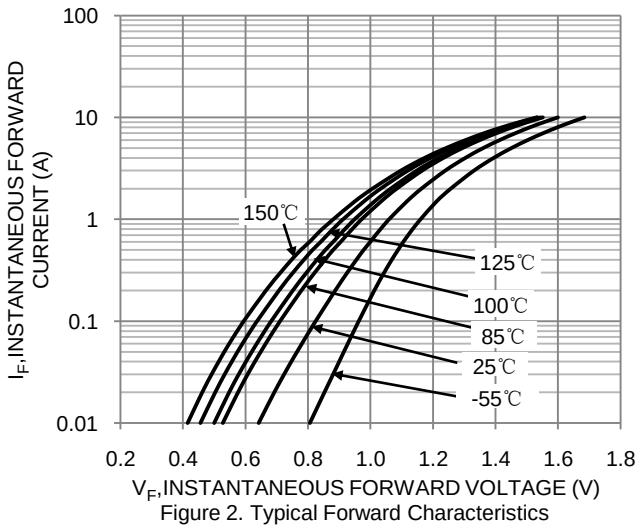

Figure 2. Typical Forward Characteristics

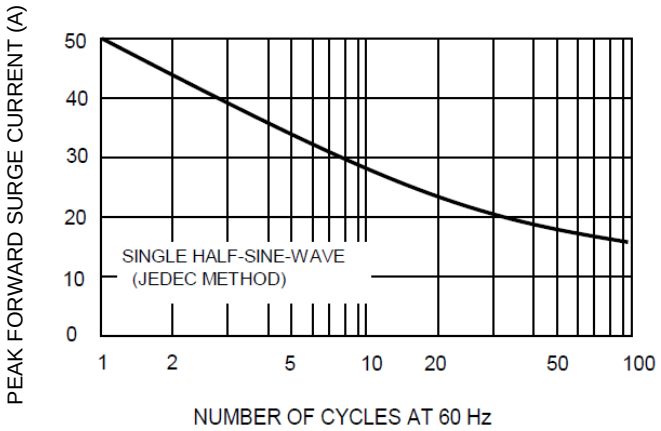

Figure 3. MAXIMUM NON-REPETITIVE SURGE CURRENT

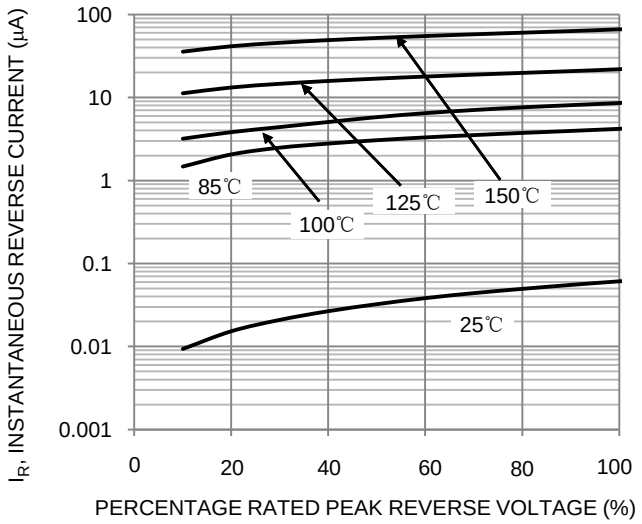

Figure 4. Typical Reverse Characteristics

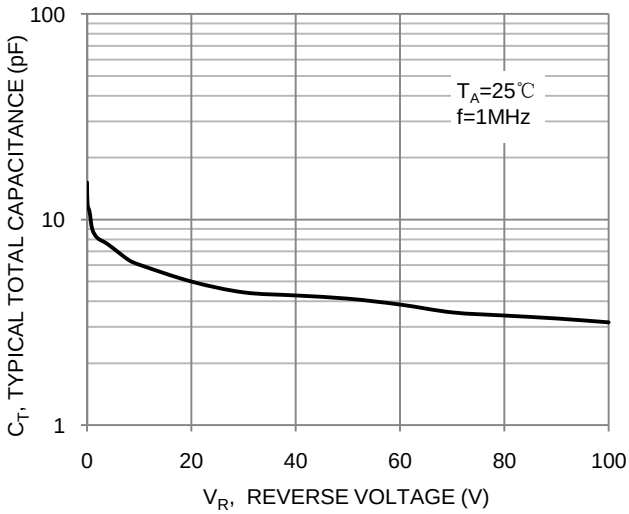

Figure 5. Typical Total Capacitance (Per Element)

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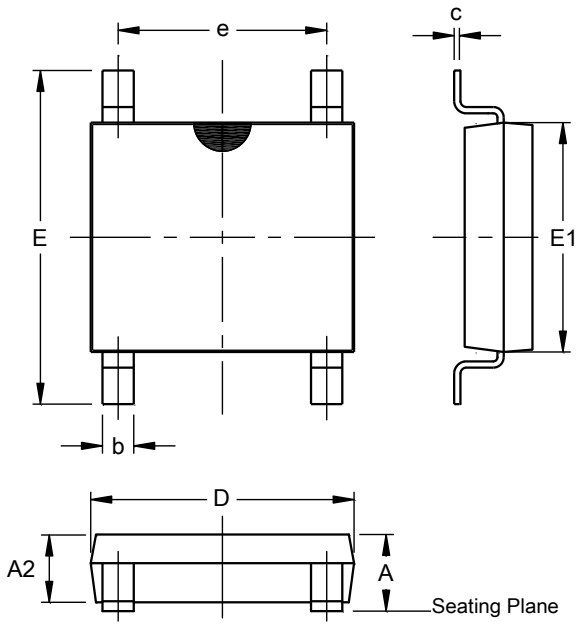
Package Outline Dimensions

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

SOPA-4 (Type B)

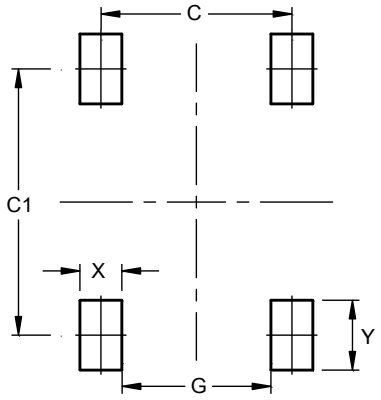


SOPA-4 (Type B)			
Dim	**Min**	**Max**	**Typ**
A	1.15	1.30	--
A2	1.00	1.25	--
b	0.50	0.70	--
c	0.15	0.25	--
D	4.80	5.30	--
E	6.00	6.80	--
E1	4.20	4.60	--
e	3.80	4.20	--
All Dimensions in mm			

Suggested Pad Layout

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

SOPA-4 (Type B)



Dimensions	Value (in mm)
C	4.10
C1	5.72
G	3.20
X	0.90
Y	1.50

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