



3.0A SURFACE MOUNT FAST BRIDGE RECTIFIER

Product Summary (@ TA = +25°C)

V _{RRM} (V)	I _O (A)	V _{FM} (V)	I _R (μA)
1000, 800, 600,	3.0	1.3	-
400, 200, 100	3.0	1.3	ວ

Features and Benefits

- Glass Passivated Die Construction
- Miniature Package Saves Space on PC Boards
- Low Leakage Current
- Ideal for SMT Manufacturing
- Low Forward Voltage Drop
- Fast Recovery Time for Higher Efficiency
- Surge Overload Rating to 100A Peak
- 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 or your local Diodes representative. https://www.diodes.com/quality/product-definitions/

Description and Applications

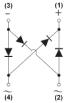
Suitable for AC to DC bridge full wave rectification for SMPS, LED lighting, adapters, battery chargers, home appliances, office equipment, and telecommunication applications.

Mechanical Data

- Case: DBF
- 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



Internal Schematic

August 2021

Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
RDBF310-13	Commercial	DBF	3,000/Tape & Reel
RDBF38-13	Commercial	DBF	3,000/Tape & Reel
RDBF36-13	Commercial	DBF	3,000/Tape & Reel
RDBF34-13	Commercial	DBF	3,000/Tape & Reel
RDBF32-13	Commercial	DBF	3,000/Tape & Reel
RDBF31-13	Commercial	DBF	3,000/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 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



RDBF3x(x) = Product Type Marking CodeThe 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	0	Ν	D

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

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

Characteristic		Symbol	RDBF31	RDBF32	RDBF34	RDBF36	RDBF38	RDBF310	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		$egin{array}{c} V_{RRM} \ V_{R} \end{array}$	100	200	400	600	800	1000	V
RMS Reverse Voltage		$V_{R(RMS)}$	70	140	280	420	560	700	V
Average Rectified Output Current (Note 5) @T _C =+120°C		lο	3.0					Α	
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load		I _{FSM}	100					Α	
I ² t Rating for Fusing (1ms < t < 8.3ms)		l ² t	41.5						A ² S
Maximum Forward Voltage (Per Element) @I _F =2.5A		V_{FM}	1.3					V	
Maximum Reverse Recovery Time (Note 7)		t _{RR}		150		250	5	00	ns
Peak Reverse Current @T _A =+25°C I _R 5.0 At Rated DC Blocking Voltage @T _A =+125°C 500					μA				
Typical Total Capacitance (Per Element) (Note 8)		Ст			4	5			pF

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Ambient (Note 6) (Per Element)	$R_{\theta JA}$	15	°C/W
Typical Thermal Resistance, Junction to Case (Per Element)	R _{θJC}	5	°C/W
Operating and Storage Temperature Range	T _{J,} T _{STG}	-55 to +150	°C

Notes:

- 5. Device mounted on glass epoxy PC board with 1.3mm² solder pad. 6. Device mounted on 15mmx12mmx1.6mm Al pad attach 195mmx110mmx10mm steel plate. 7. Reverse recovery test conditions: I_F =0.5A, I_R =1.0A, I_R =0.25A 8. Measured at 1.0MHz and applied reverse voltage of 4.0V D.C.



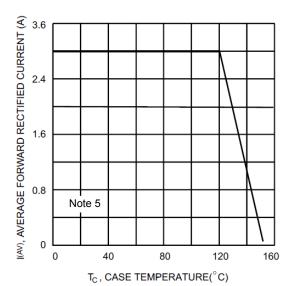
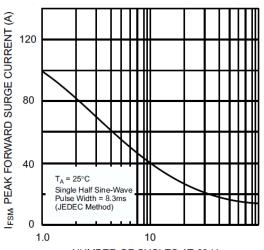
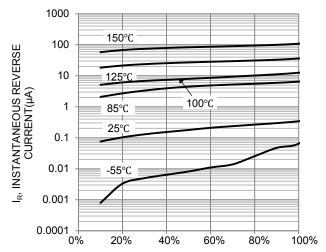


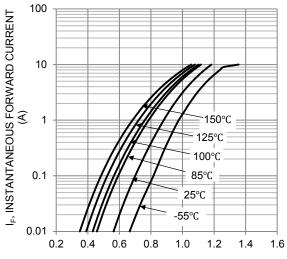
Fig. 1 Output Current Derating Curve



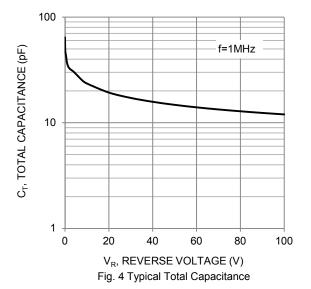
NUMBER OF CYCLES AT 60 Hz Fig.3 Maximum Non-Repetitive Surge Current



V_R, PERCENTAGE RATED PEAK REVERSE VOLTAGE (%) Fig.5 Typical Reverse Characteristics



V_F, INSTANTANEOUS FORWARD VOLTAGE (V) Fig. 2 Typical Forward Characteristics (Per Leg)

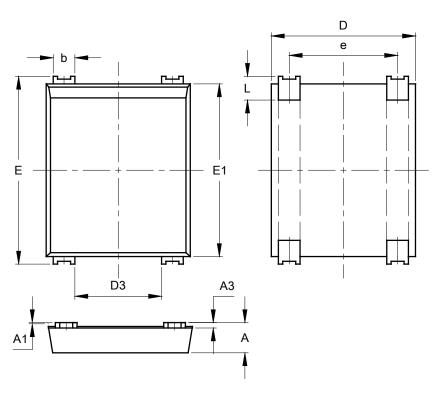




Package Outline Dimensions

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



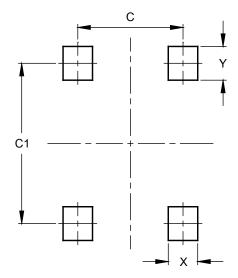


Dim	Min	Max			
Α	1.30	1.50			
A1	0.04	0.12			
A 3	0.15	0.35			
b	0.80	1.20			
D	6.45	6.85			
D3	3.80	4.20			
Е	8.50	8.90			
E1	7.50 8.20				
е	4.80	5.20			
L	L 0.50 1.5				
All dimensions in mm					

Suggested Pad Layout

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

DBF



Dimensions	Value (in mm)
C	5.00
C1	7.60
Х	1.40
Υ	1 60



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