

Product Summary (@T_A = +25°C)

V _{RRM} (V)	I _O (A)	V _{FM} (V)	I _R (μA)
1000,800,600, 400,200,100	2.5	1.3	5

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.

Features and Benefits

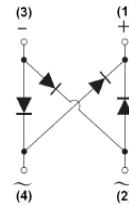
- Glass Passivated Die Construction
- Miniature Package Saves Space on PC Boards
- Fast Recovery Time for Higher Efficiency
- Low Leakage Current
- Ideal for SMT Manufacturing
- Low Forward Voltage Drop
- Surge Overload Rating to 75A Peak
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

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

Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
RDBF2510-13	Commercial	DBF	3,000/Tape & Reel
RDBF258-13	Commercial	DBF	3,000/Tape & Reel
RDBF256-13	Commercial	DBF	3,000/Tape & Reel
RDBF254-13	Commercial	DBF	3,000/Tape & Reel
RDBF252-13	Commercial	DBF	3,000/Tape & Reel
RDBF251-13	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

RDBF25(x) = Product Type Marking Code

D11 = 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

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%.

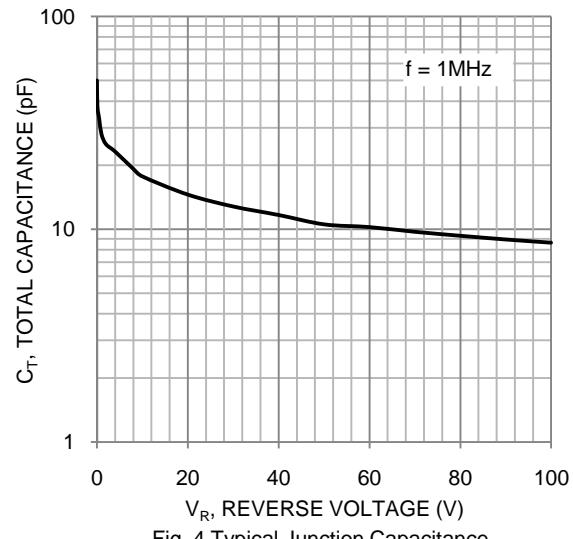
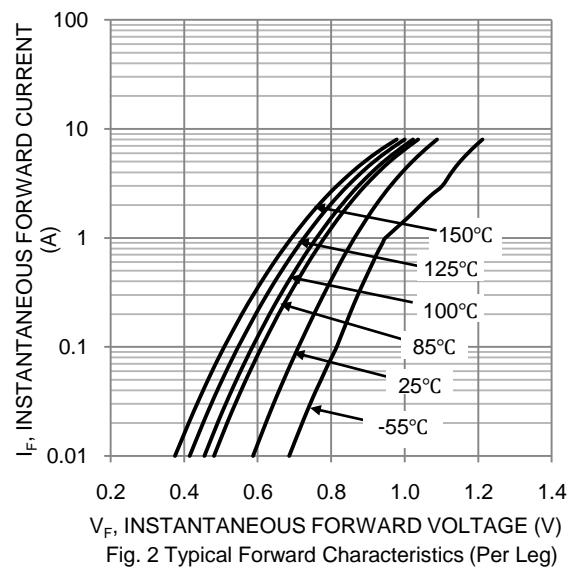
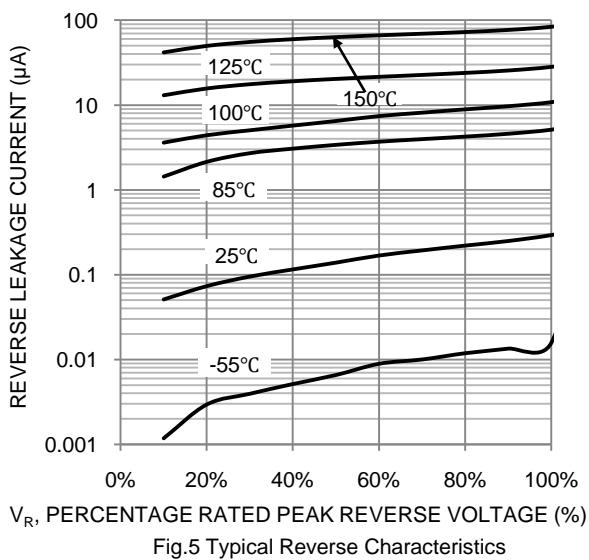
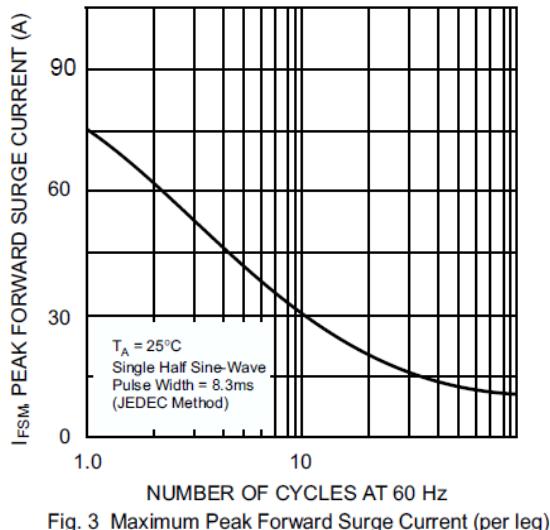
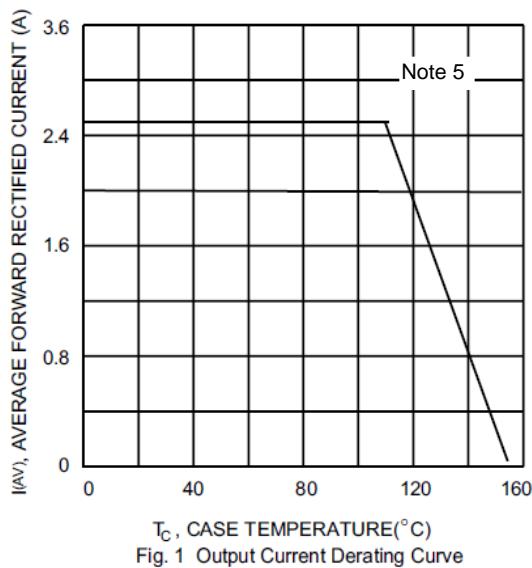
Characteristic	Symbol	RDBF251	RDBF252	RDBF254	RDBF256	RDBF258	RDBF2510	Unit
Peak Repetitive Reverse Voltage	V _{RRM}							
Working Peak Reverse Voltage	V _{RWM}	100	200	400	600	800	1000	V
DC Blocking Voltage	V _R							
RMS Reverse Voltage	V _{R(RMS)}	70	140	280	420	560	700	V
Average Rectified Output Current (Note 5) @ T _C = +110°C	I _o			2.5				A
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}				75			A
I ² t Rating for Fusing (1ms < t < 8.3ms)	I ² t			23.34				A ² S
Max Forward Voltage (Per Element) @ I _F =2.5A	V _{FM}			1.3				V
Maximum Reverse Recovery Time (Note 7)	t _{RR}		150		250		500	ns
Peak Reverse Current @T _A =+25°C At Rated DC Blocking Voltage @T _A =+125°C (Note 8)	I _R			5.0	500			μA
Total Capacitance (Per Element) (Note 9)	C _T			30				pF

Thermal Characteristics

Characteristic	Symbol	Value		Unit
Typical Thermal Resistance, Junction to Ambient (Note 6) (Per Element)	R _{θJA}	35		°C/W
Typical Thermal Resistance, Junction to Case (Per Element)	R _{θJC}	7.8		°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150		°C

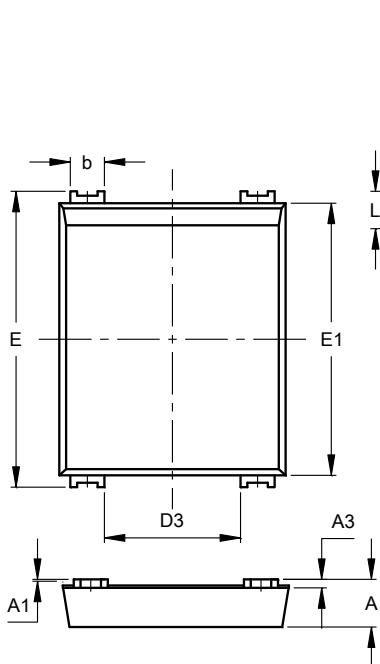
Notes:

5. Device mounted on glass epoxy PC board with 1.3mm² solder pad.
6. Device mounted on glass epoxy substrate with 1oz/ft², 30mmx30mm copper pad per pin.
7. Measured with I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A.
8. Short duration pulse test used to minimize self-heating effect.
9. Measured with V_R = 4.0VDC, f = 1MHz



Package Outline Dimensions

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

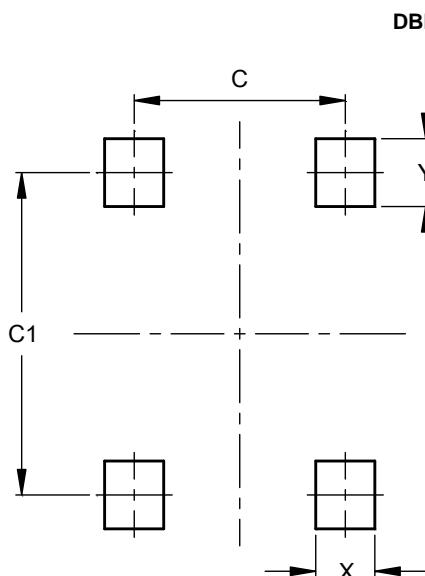


DBF			
Dim	Min	Max	Typ
A	1.30	1.50	--
A1	0.04	0.12	--
A3	0.15	0.35	--
b	0.80	1.20	--
D	6.45	6.85	--
D3	3.80	4.20	--
E	8.50	8.90	--
E1	7.80	8.20	--
e	4.80	5.20	--
L	0.80	1.40	--
L1	0.30	0.40	--

All Dimensions in mm

Suggested Pad Layout

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



Dimensions	Value (in mm)
C	5.00
C1	7.60
X	1.40
Y	1.60

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