8A LOW VF SCHOTTKY BARRIER RECTIFIER

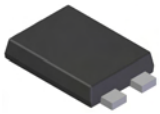
PowerDI®5

Features

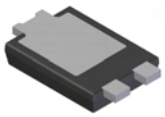
- Guard Ring Die Construction for Transient Protection
- Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- High Forward Surge Current Capability
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **"Green" Molding Compound (No Br, Sb)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

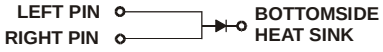
- Case: PowerDI®5
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 e3
- Polarity: See Diagram
- Weight: 0.094 grams (approximate)



Top View



Bottom View



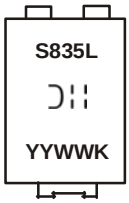
Note: Pins Left & Right must be electrically connected at the printed circuit board.

Ordering Information (Note 2)

Part Number	Case	Packaging
PDS835L-13	PowerDI®5	5000/Tape & Reel

Notes: 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see *EU Directive 2002/95/EC Annex Notes.*
2. For packaging details, go to our website at http://www.diodes.com.

Marking Information



S835L = Product type marking code
= Manufacturers' code marking
YYWW = Date code marking
YY = Last two digits of year (ex: 04 for 2004)
WW = Week code (01 - 53)
K = Factory Designator

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Maximum Ratings @T_A = 25°C unless otherwise specified

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

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	35	V
RMS Reverse Voltage	$V_{R(RMS)}$	25	V
Average Rectified Output Current (See also figure 5)	I_O	8	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	120	A

Thermal Characteristics

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance Junction to Soldering Point	$R_{\theta JS}$	—	3.0	°C/W
Thermal Resistance Junction to Ambient Air (Note 3) T_A = 25°C	$R_{\theta JA}$	100	—	°C/W
Thermal Resistance Junction to Ambient Air (Note 4) T_A = 25°C	$R_{\theta JA}$	65	—	°C/W
Thermal Resistance Junction to Ambient Air (Note 5) T_A = 25°C	$R_{\theta JA}$	45	—	°C/W
Operating Temperature Range	T_J	-65 to +125		°C
Storage Temperature Range	T_{STG}	-65 to +150		°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	35	—	—	V	I_R = 1mA
Forward Voltage	V_F	— —	0.46 —	0.51 0.41	V	I_F = 8A, T_S = 25°C I_F = 8A, T_S = 125°C
Reverse Leakage Current (Note 6)	I_R	— —	0.05 7	1.4 35	mA	T_S = 25°C, V_R = 35V T_S = 100°C, V_R = 35V

Notes:
3. FR-4 PCB, 2 oz. Copper, minimum recommended pad layout per http://www.diodes.com
4. Polymide PCB, 2 oz. Copper, minimum recommended pad layout per http://www.diodes.com.
5. Polymide PCB, 2 oz. Copper. Cathode pad dimensions 9.4mm x 7.2mm. Anode pad dimensions 2.7mm x 1.6mm.
6. Short duration pulse test used to minimize self-heating effect.

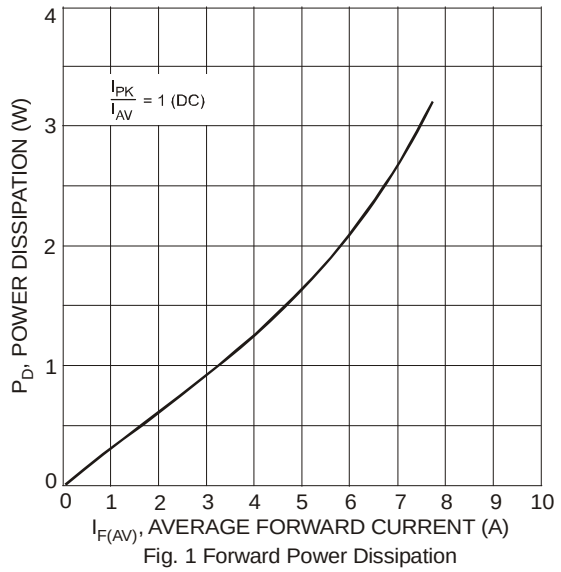


Fig. 1 Forward Power Dissipation

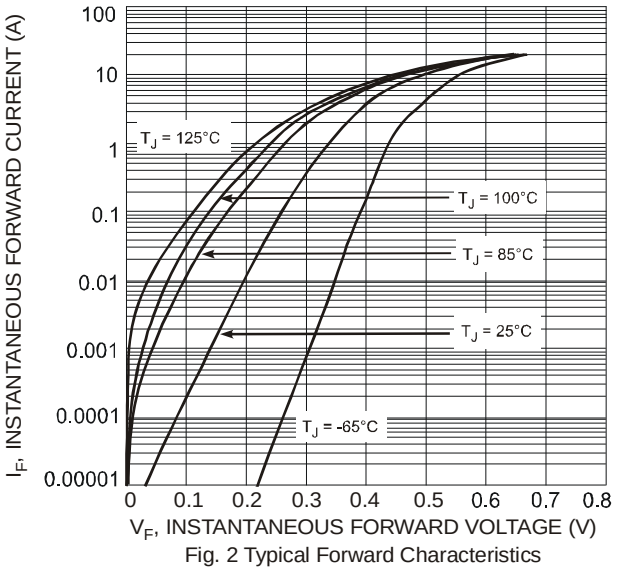


Fig. 2 Typical Forward Characteristics

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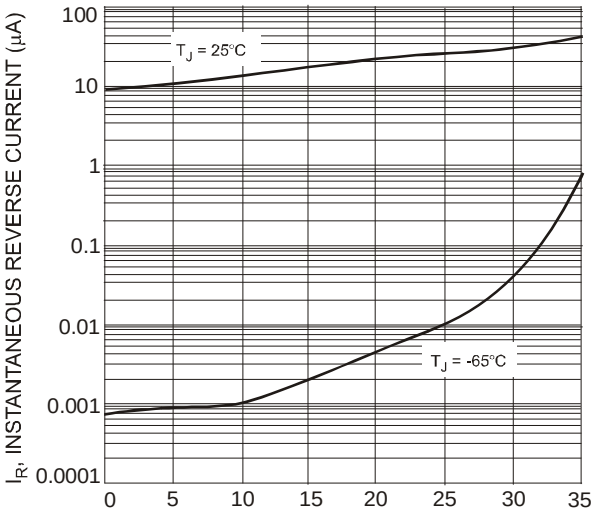


Fig. 3 Typical Reverse Characteristics

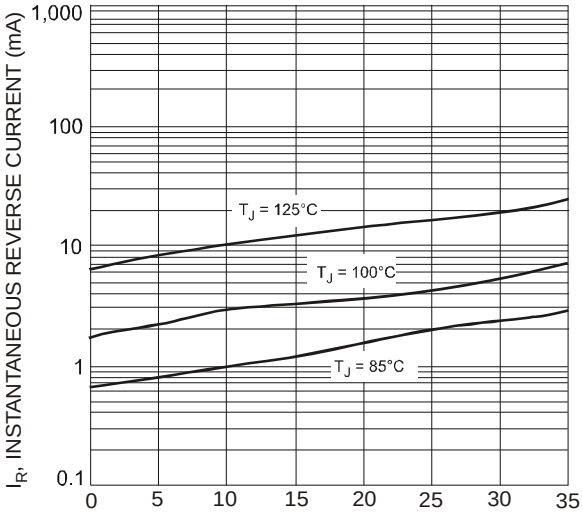


Fig. 4 Typical Reverse Characteristics

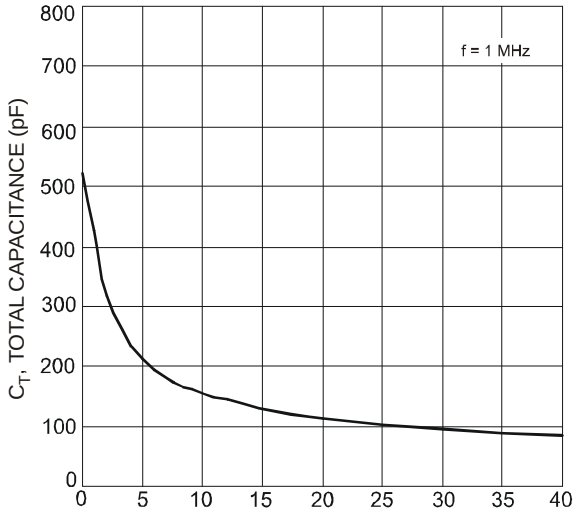


Fig. 5 Total Capacitance vs. Reverse Voltage

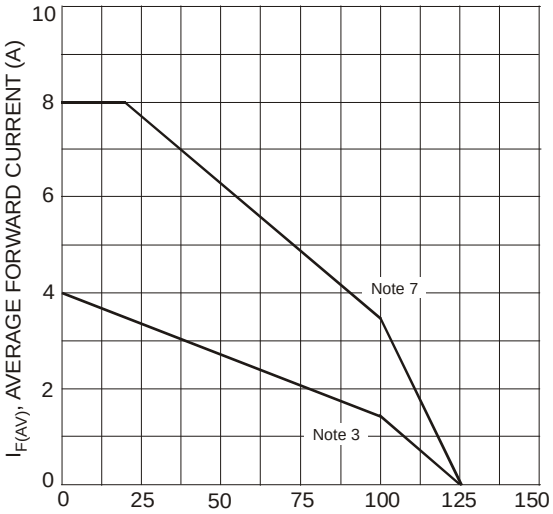


Fig. 6 Forward Current Derating Curve

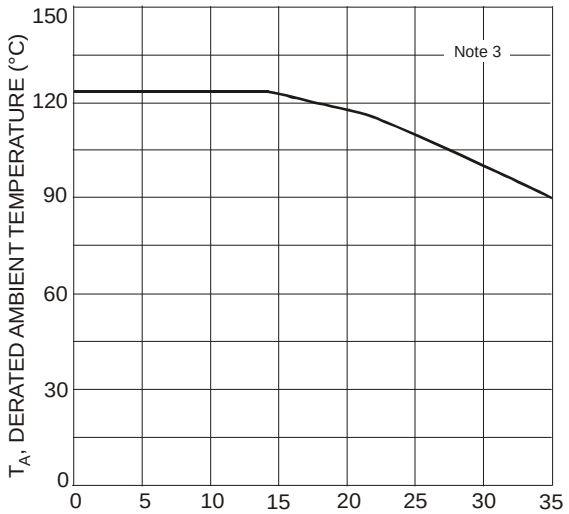


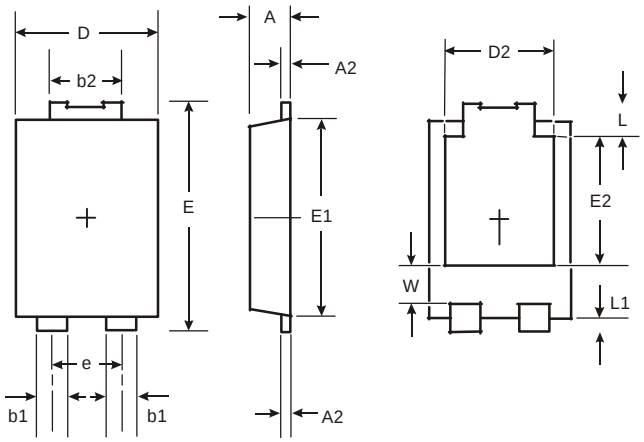
Fig. 7 Operating Temperature Derating

Notes: 7. Polymide PCB, 2 oz. Copper. Cathode pad dimensions 18.8mm x 14.4mm. Anode pad dimensions 5.6mm x 3.0mm.

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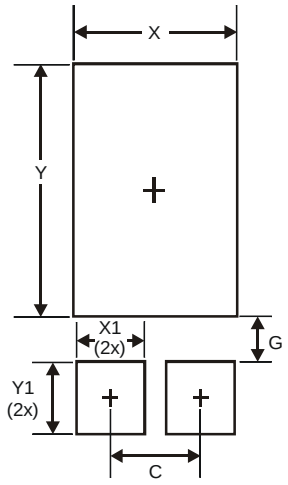
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Package Outline Dimensions



PowerDI®5		
Dim	**Min**	**Max**
A	1.05	1.15
A2	0.33	0.43
b1	0.80	0.99
b2	1.70	1.88
D	3.90	4.05
D2	3.054 Typ	
E	6.40	6.60
e	1.84 Typ	
E1	5.30	5.45
E2	3.549 Typ	
L	0.75	0.95
L1	0.50	0.65
W	1.10	1.41
All Dimensions in mm		

Suggested Pad Layout



Dimensions	Value (in mm)
C	1.840
G	0.852
X	3.360
X1	1.390
Y	4.860
Y1	1.400

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2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

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