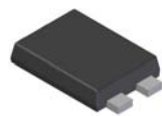


Features

- Glass Passivated Die Construction
- Low Leakage Current
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **"Green" Molding Compound (No Br, Sb)**

Mechanical Data

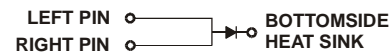
- Case: PowerDI[®]5
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 ⁽³⁾
- Polarity: See Diagram
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.096 grams (approximate)



Top View



Bottom View



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

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	V _{RRM}	750	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _R		
Average Rectified Output Current	I _O	5	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	160	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Lead	R _{θJL}	3	°C/W
Typical Thermal Resistance Junction to Ambient (Note 3)	R _{θJA}	28	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +175	°C

Electrical Characteristics @_{T_A} = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	V _F	—	0.91	0.99	V	I _F = 5A, T _S = 25°C
		—	—	0.87		I _F = 5A, T _S = 125°C
Reverse Leakage Current (Note 2)	I _R	—	—	10	μA	V _R = 750V, T _J = 25°C
		—	—	0.3		V _R = 750V, T _J = 125°C
Typical Reverse Recovery Time	t _{rr}	—	3	—	μs	I _F = 0.5A, I _R = 1.0A, I _{rr} = 0.25A

- Notes:
1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. Please visit our website at http://www.diodes.com/products/lead_free.html.
 2. Short duration pulse test used to minimize self-heating effect.
 3. Device mounted on Polyimide PCB, with 16X recommended pad layout.

PowerDI is a registered trademark of Diodes Incorporated.

PDR5K

Document number: DS31979 Rev. 1 - 2

1 of 4

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October 2009

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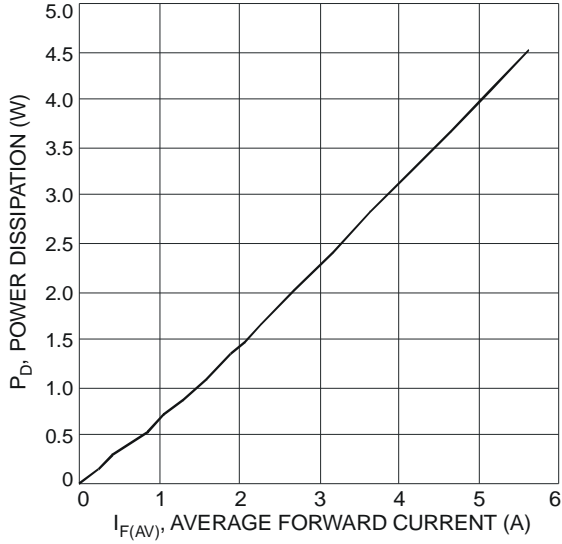


Fig. 1 Forward Power Dissipation

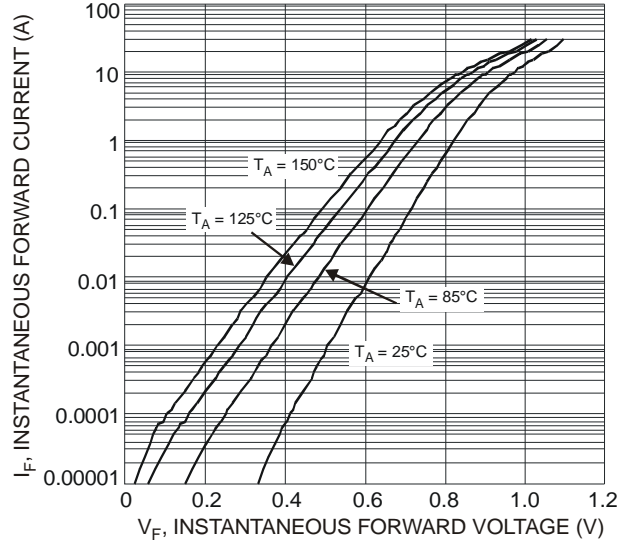


Fig. 2 Typical Forward Characteristics

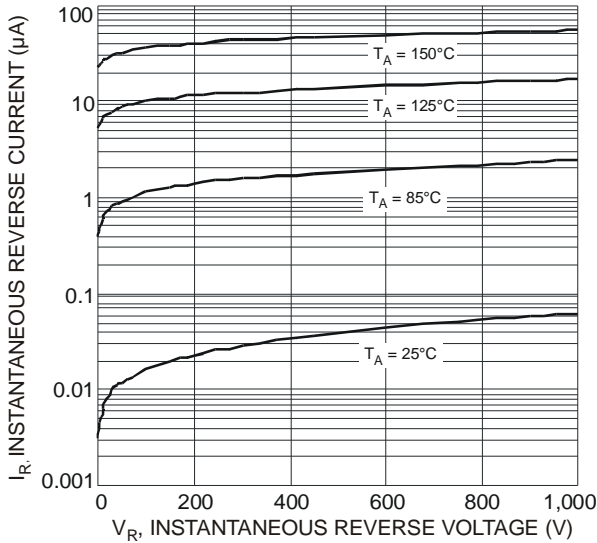


Fig. 3 Typical Reverse Characteristics

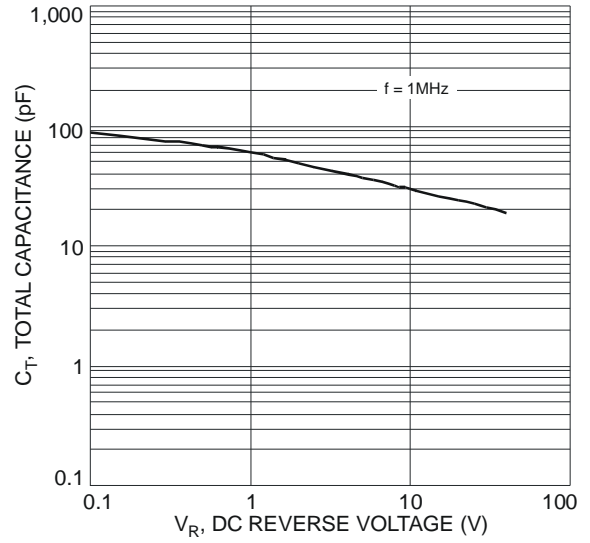


Fig. 4 Total Capacitance vs. Reverse Voltage

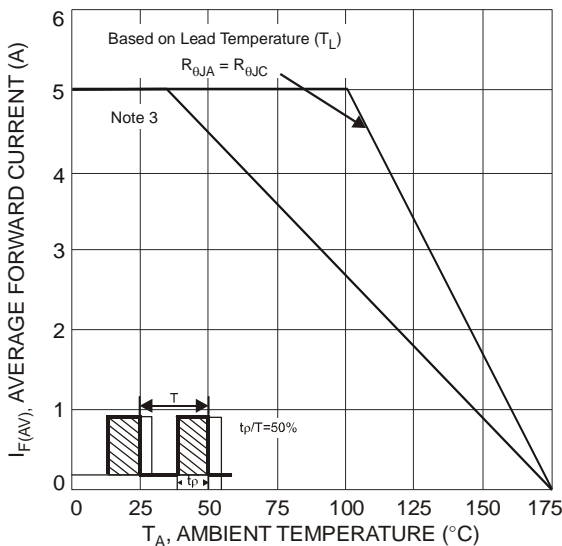


Fig. 5 Forward Current Derating Curve

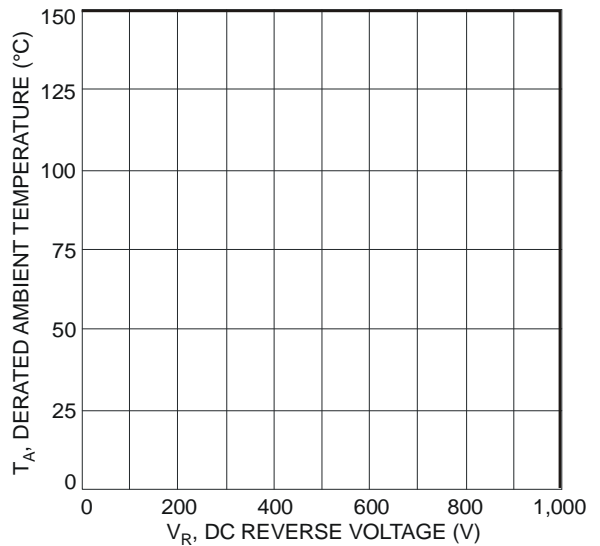


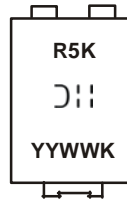
Fig. 6 Operating Temperature Derating

Ordering Information (Note 4)

Part Number	Case	Packaging
PDR5K-13	PowerDI [®] 5	5000/Tape & Reel

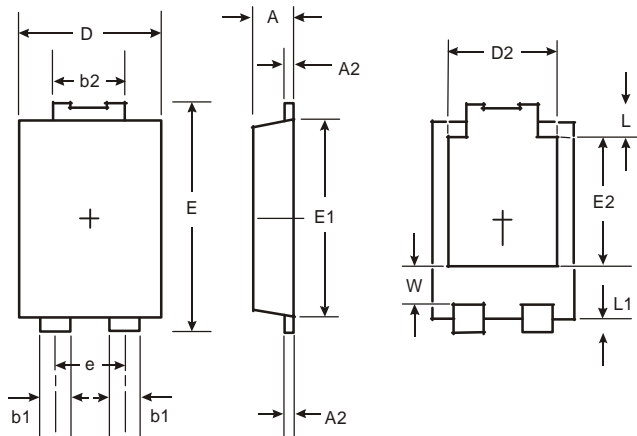
Notes: 4. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



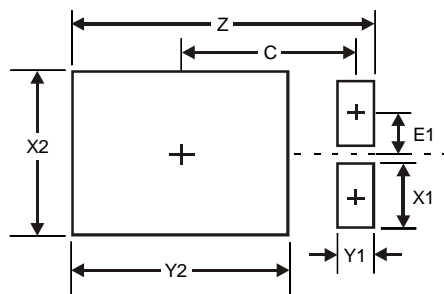
R5K = Product Type Marking Code
 DII = Manufacturers' code marking
 YYWW = Date code marking
 YY = Last two digits of year (ex: 09 for 2009)
 WW = Week code 01 to 52
 K = Factory Designator

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)
Z	6.6
X1	1.4
X2	3.6
Y1	0.8
Y2	4.7
C	3.87
E1	0.9

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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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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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