

Features

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

Mechanical Data

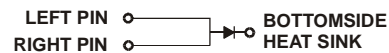
- Case: PowerDI®5
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 Ⓔ3
- Polarity: See Diagram
- Marking 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	mA	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.

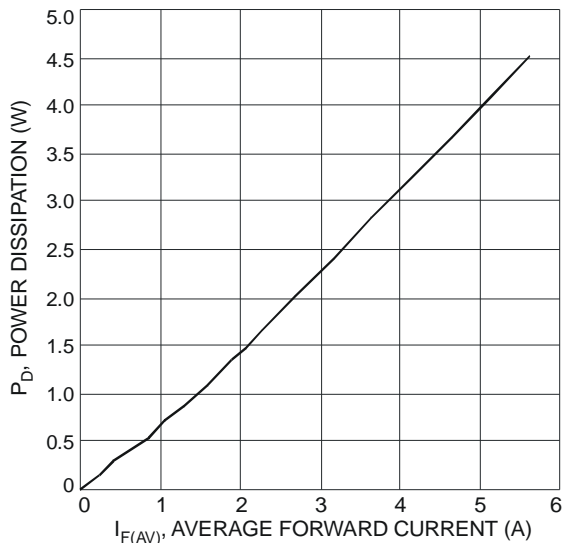


Fig. 1 Forward Power Dissipation

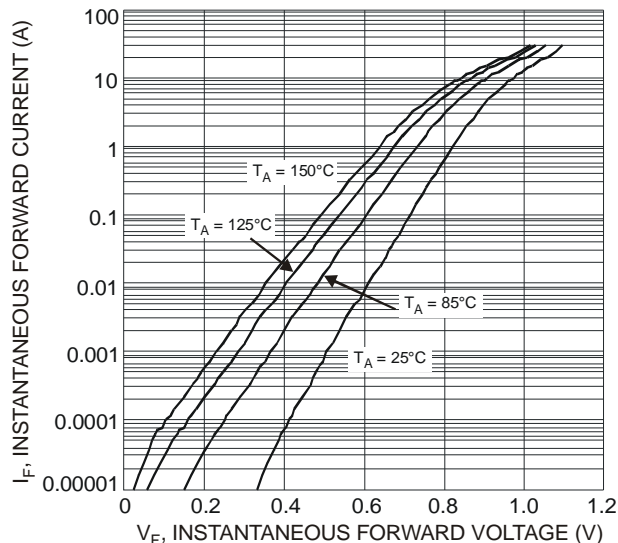


Fig. 2 Typical Forward Characteristics

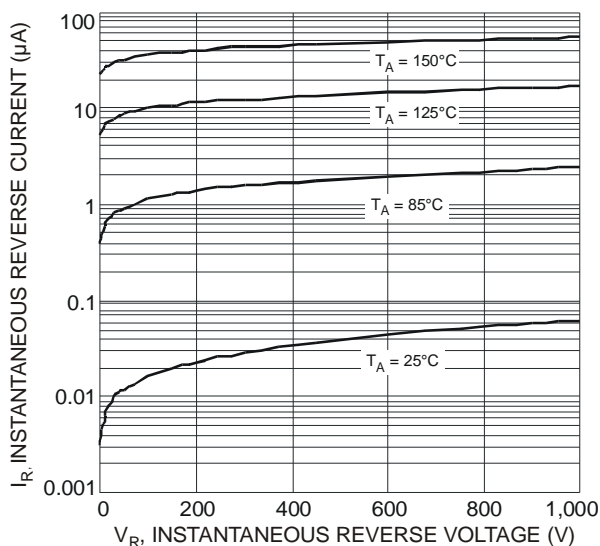


Fig. 3 Typical Reverse Characteristics

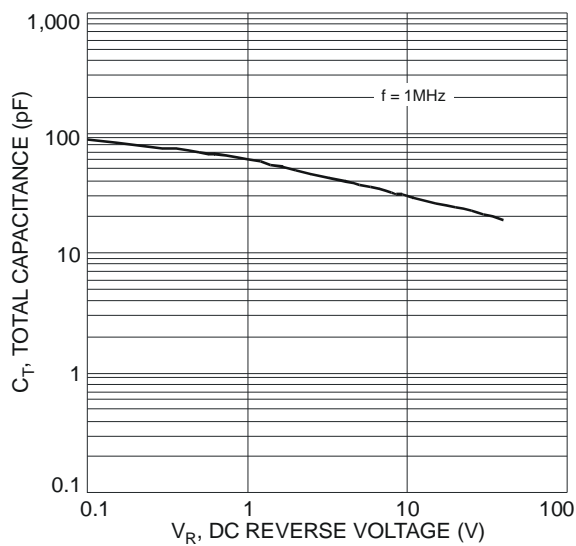


Fig. 4 Total Capacitance vs. Reverse Voltage

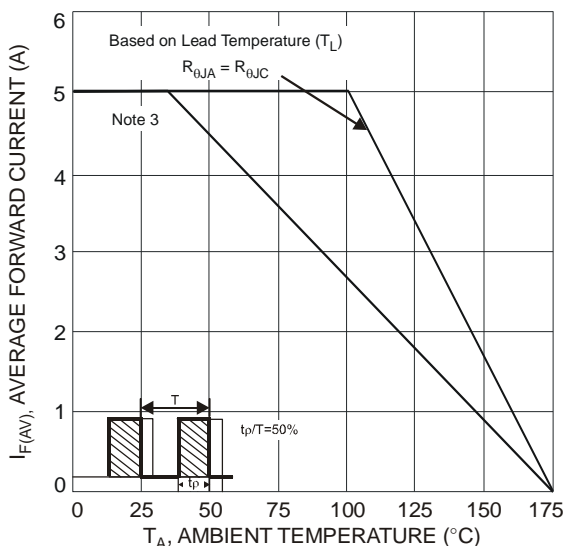


Fig. 5 Forward Current Derating Curve

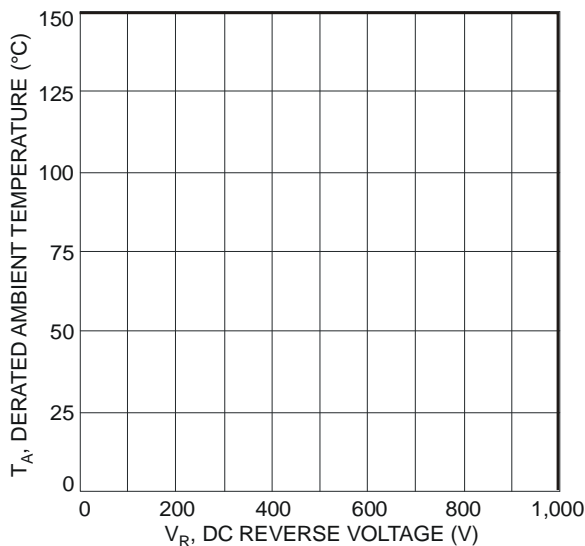


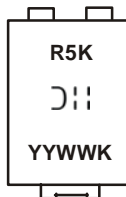
Fig. 6 Operating Temperature Derating

Ordering Information (Note 4)

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

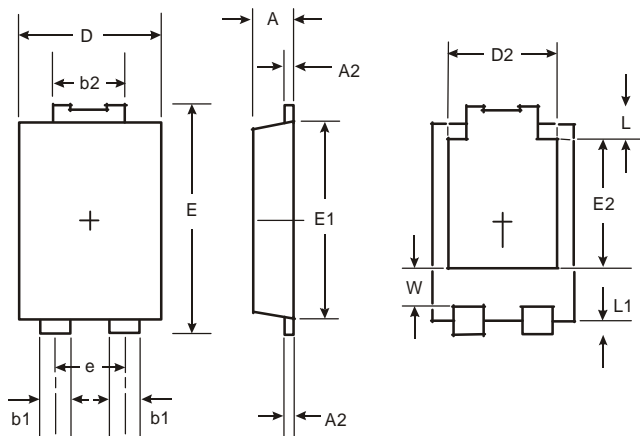
Notes: 4. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



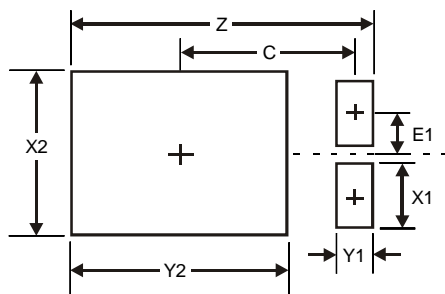
R5K = Product Type Marking Code
 DII = Manufacturers' code marking
 YYWW = Date code marking
 YY = Last two digits of year (ex: 09 for 2009)
 WW = Week code 01 to 52
 K = Factory Designator

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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