

Features

- Ultra-Small Surface Mount Package
- Low Leakage Current
- Soft, Fast Switching 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[®]323
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Band
- Terminals: Finish – Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.006 grams (approximate)



Top View



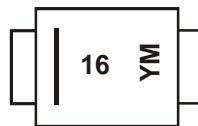
Bottom View

Ordering Information (Note 2)

Part Number	Case	Packaging
PD3R1600-7	POWERDI [®] 323	3000/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



16 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: V = 2008)
 M = Month (ex: 9 = September)

Date Code Key

Year	2011	2012	2013	2014	2015	2016
Code	Y	Z	A	B	C	D

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 @ $T_A = 25^\circ\text{C}$ 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}	600	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
Average Rectified Output Current (see figure 4)	I_O	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	20	A

Thermal Characteristics

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance, Junction to Ambient Air (Note 3)	$R_{\theta JA}$	125	—	$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175		$^\circ\text{C}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	V_F	—	0.94	—	V	$I_F = 0.5\text{A}$
		—	—	1.1		$I_F = 1.0\text{A}$
		—	—	0.98		$I_F = 1.0\text{A}, T_J = 125^\circ\text{C}$
Leakage Current (Note 4)	I_R	—	—	1	μA	$V_R = 600\text{V}$
		—	—	50		$V_R = 600\text{V}, T_J = 125^\circ\text{C}$
Typical Reverse Recovery Time	t_{rr}	—	530	—	ns	$I_F = 0.5\text{A}, I_R = 1.0\text{A}, I_{rr} = 0.25\text{A}$

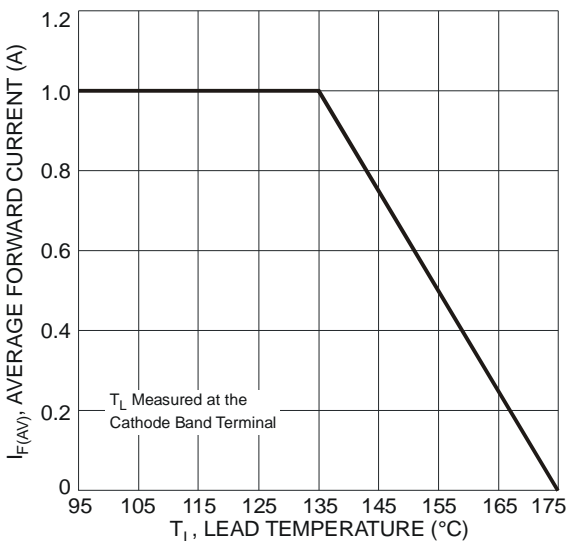
 Notes: 3. Polyimide PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com>. $T_A = 25^\circ\text{C}$.
 4. Short duration pulse test used to minimize self-heating effect.


Fig. 1 Forward Current Derating Curve

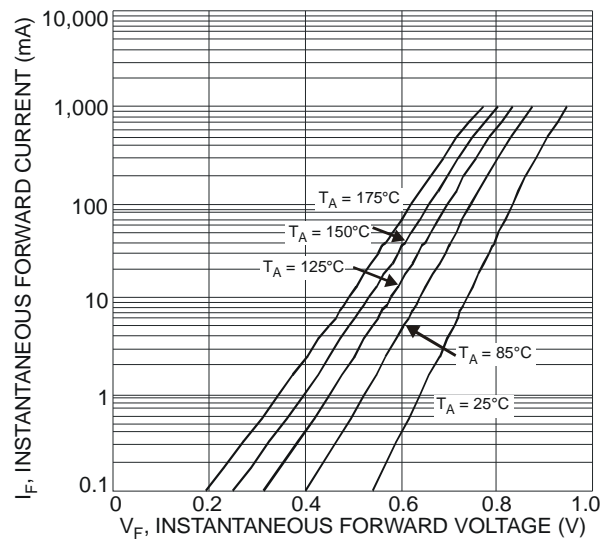


Fig. 2 Typical Forward Characteristics

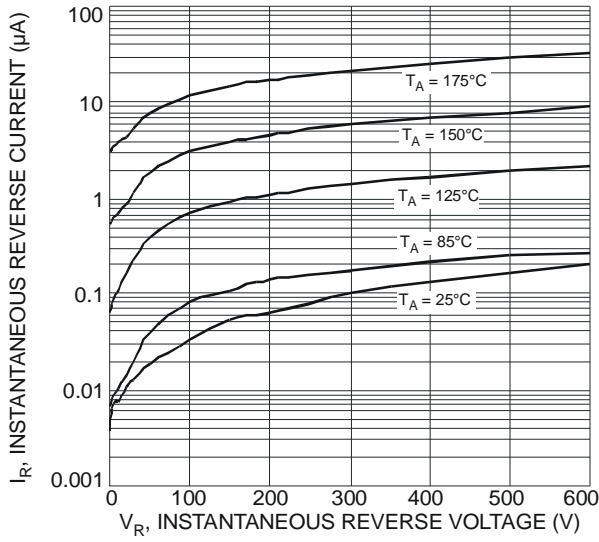
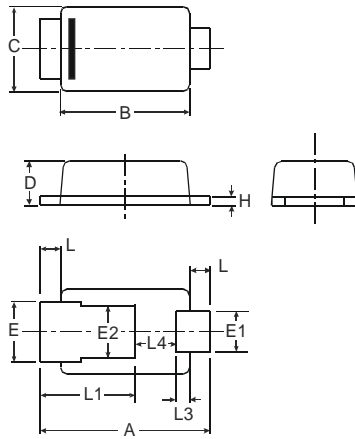


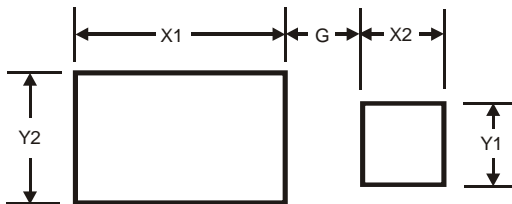
Fig. 3 Typical Reverse Characteristics

Package Outline Dimensions



POWERDI [®] 323			
Dim	Min	Max	Typ
A	2.40	2.60	2.50
B	1.85	1.95	1.90
C	1.20	1.30	1.25
D	0.60	0.70	0.65
E	0.78	0.98	0.88
E1	0.50	0.70	0.60
E2	0.60	1.00	0.80
H	0.08	0.18	0.13
L	0.20	0.40	0.30
L1	—	—	1.40
L3	—	—	0.20
L4	0.40	0.80	0.60
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
G	0.5
X1	2.0
X2	0.8
Y1	0.8
Y2	1.1

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