



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Features

- Guard Ring Die Construction for Transient Protection
- High Surge Capability
- Lead Free Finish, RoHS Compliant (Note 1)**
- "Green" Molding Compound (No Br, Sb)
- Ultra-Small Surface Mount Package
- 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-020D
- Polarity: Cathode Band
- Terminals: Finish - Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 (e3)
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.006 grams (approximate)



Top View



Bottom View

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}		
Working Peak Reverse Voltage	V_{RWM}	20	V
DC Blocking Voltage	V_R		
Average Forward Current (See also figure 4)	$I_{F(AV)}$	2.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	33	A

Thermal Characteristics

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance Junction to Soldering Point	$R_{\theta JS}$	—	6	°C/W
Thermal Resistance Junction to Ambient Air (Note 2)	$R_{\theta JA}$	170	—	°C/W
Thermal Resistance Junction to Ambient Air (Note 3)	$R_{\theta JA}$	144	—	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +125		°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	V_F	—	—	0.44	V	$I_F = 1.0\text{A}, T_A = 25^\circ\text{C}$
		—	0.42	0.49		$I_F = 2.0\text{A}, T_A = 25^\circ\text{C}$
		—	—	0.36		$I_F = 1.0\text{A}, T_A = 125^\circ\text{C}$
		—	0.35	0.47		$I_F = 2.0\text{A}, T_A = 125^\circ\text{C}$
Leakage Current (Note 4)	I_R	—	30	160	μA	$V_R = 20\text{V}, T_A = 25^\circ\text{C}$
		—	11	30	mA	$V_R = 20\text{V}, T_A = 125^\circ\text{C}$
Total Capacitance	C_T	—	46	—	pF	$V_R = 10\text{V}, f = 1.0\text{MHz}$

Notes: 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.

2. FR-4 PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com/datasheets/ap02001.pdf>.

3. Polyimide PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com/datasheets/ap02001.pdf>.

4. Short duration pulse test to minimize self-heating effect.

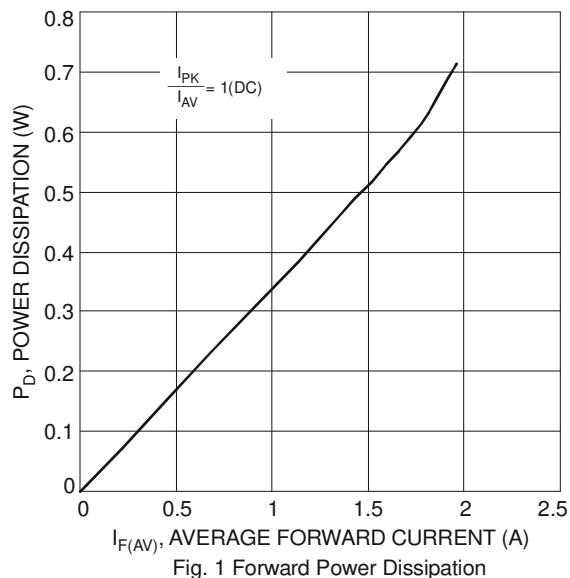


Fig. 1 Forward Power Dissipation

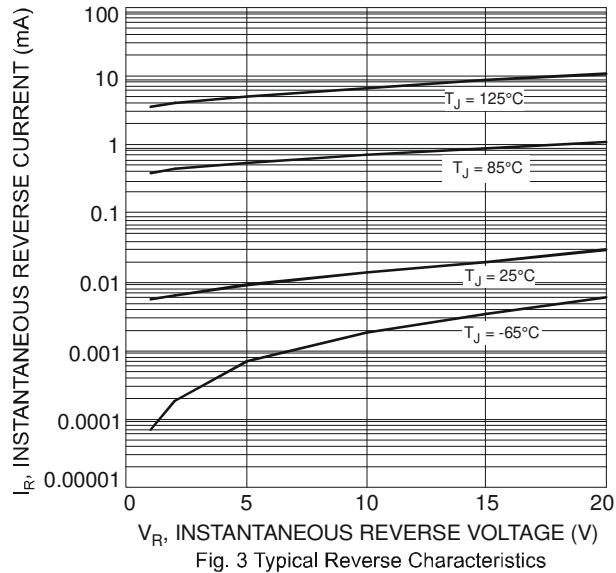


Fig. 3 Typical Reverse Characteristics

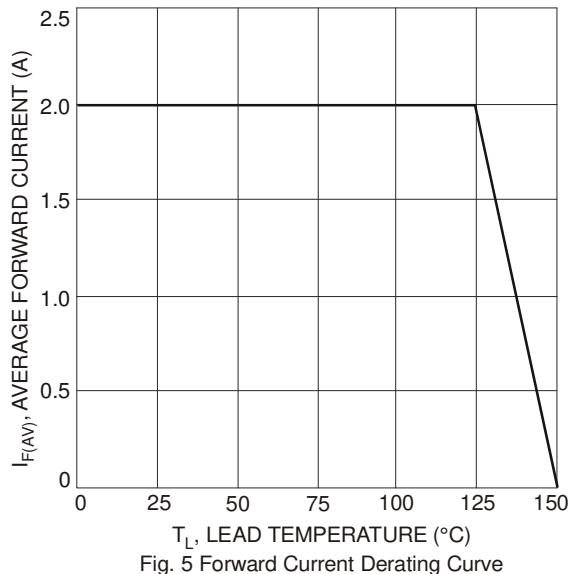


Fig. 5 Forward Current Derating Curve

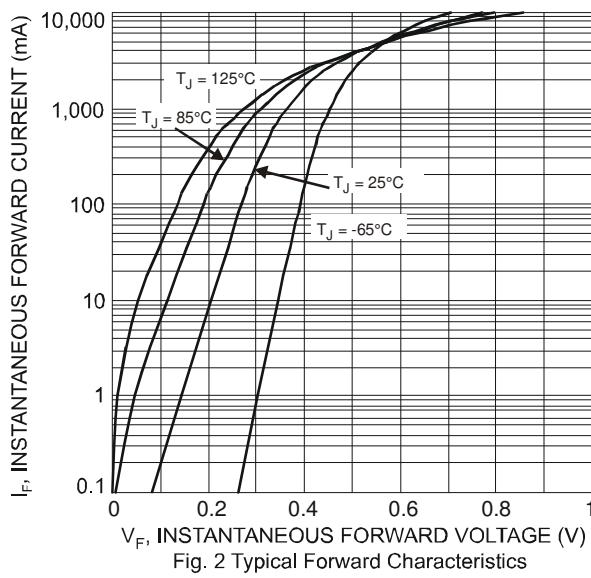


Fig. 2 Typical Forward Characteristics

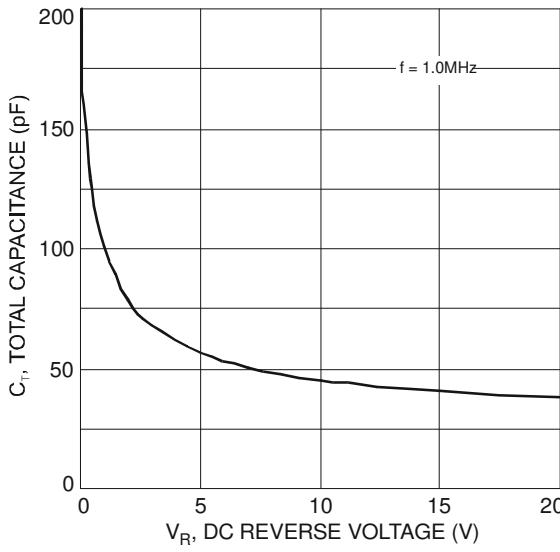


Fig. 4 Total Capacitance vs. Reverse Voltage

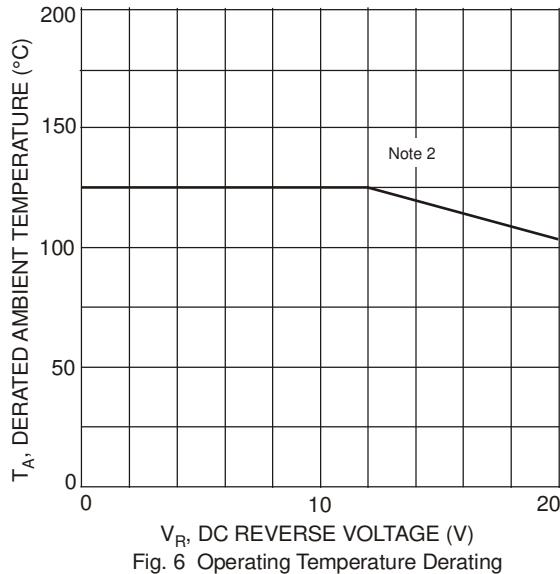


Fig. 6 Operating Temperature Derating

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PD3S220L

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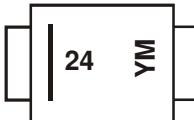
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Ordering Information (Note 5)

Part Number	Case	Packaging
PD3S220L-7	PowerDI®323	3000/Tape & Reel

Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information

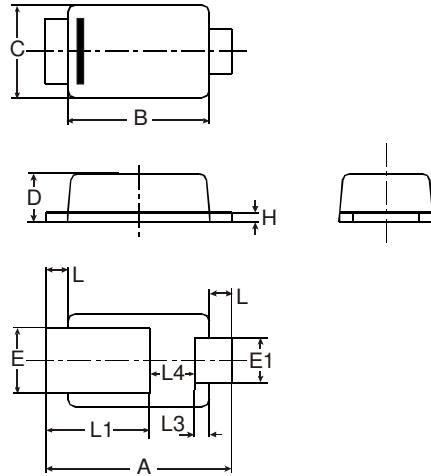


24 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: W = 2009)
 M = Month (ex: 9 = September)

Date Code Key

Year	2009	2010	2011	2012	2013	2014	2015					
Code	W	X	Y	Z	A	B	C					
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

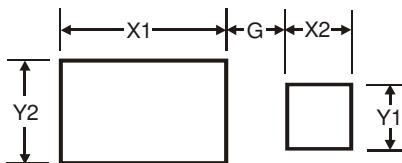
Package Outline Dimensions



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
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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