

## Features

- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- **Lead Free Finish/RoHS Compliant (Note 1)**
- **"Green" Molding Compound (No Br, Sb)**
- **Ultra-Small Surface Mount Package**

## 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
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 **e3**
- Polarity: Cathode Band
- Weight: 0.005 grams (approximate)



Top View

## Ordering Information (Note 2)

Part Number	Case	Packaging
PDS3S0230-7	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



36 = Product Type Marking Code  
YM = Date Code Marking  
Y = Year (ex: T = 2006)  
M = Month (ex: 9 = September)

### Date Code Key

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	T	U	V	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

**Maximum Ratings** @ $T_A = 25^\circ\text{C}$  unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	30	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Continuous Forward Current	$I_{FM}$	200	mA
Repetitive Peak Forward Current	$I_{FRM}$	300	mA
Non-Repetitive Peak Forward Surge Current @ $t_p < 10\text{ms}$	$I_{FSM}$	600	mA

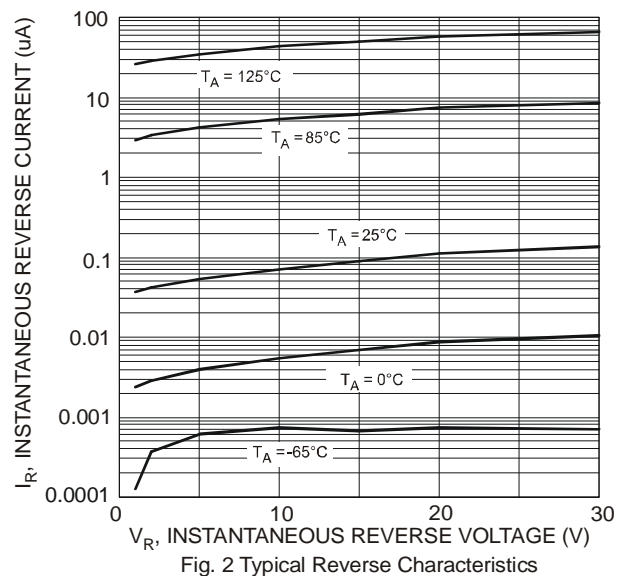
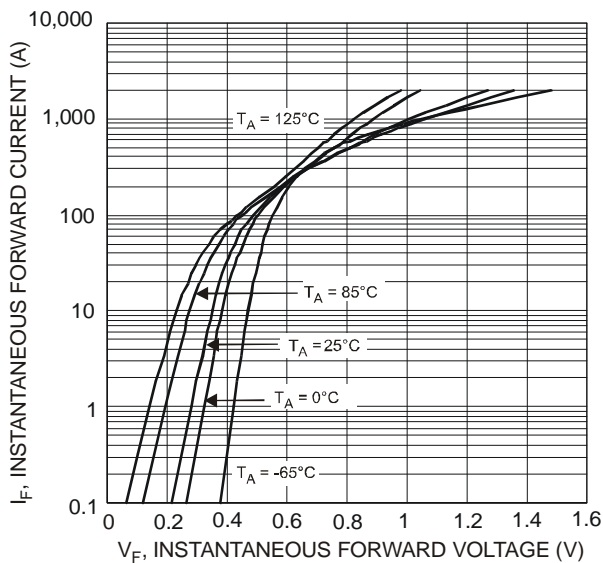
**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Ambient Air (Note 3)	$R_{\theta JA}$	242	$^\circ\text{C/W}$
Operating Temperature Range	$T_J$	-65 to +125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +150	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 4)	$V_{(BR)}$	30	—	—	V	$I_{RS} = 100\mu\text{A}$
Forward Voltage	$V_F$	—	217 280 350 400 485	240 320 400 500 800	mV	$I_F = 0.1\text{mA}$ $I_F = 1\text{mA}$ $I_F = 10\text{mA}$ $I_F = 30\text{mA}$ $I_F = 100\text{mA}$
Leakage Current (Note 4)	$I_R$	—	—	2.0	$\mu\text{A}$	$V_R = 25\text{V}$
Total Capacitance	$C_T$	—	10.7	—	pF	$V_R = 1.0\text{V}$ , $f = 1.0\text{MHz}$
Reverse Recovery Time	$t_{rr}$	—	—	5.0	ns	$I_F = 10\text{mA}$ through $I_R = 10\text{mA}$ to $I_R = 1.0\text{mA}$ , $R_L = 100\Omega$

Notes: 3. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com>.  $T_A = 25^\circ\text{C}$ .  
4. Short duration pulse test used to minimize self-heating effect.



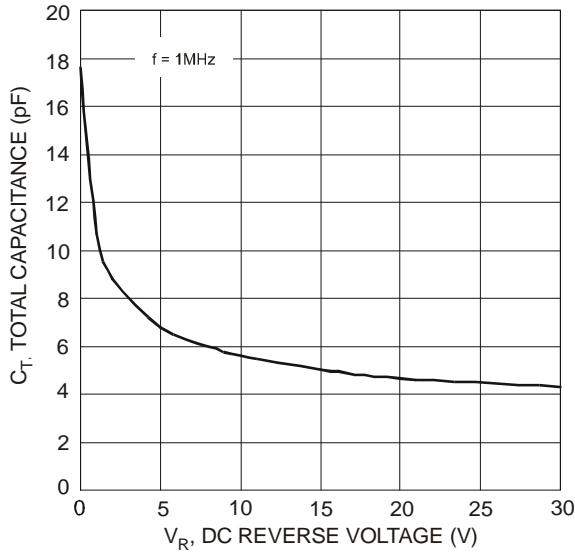


Fig. 3 Total Capacitance vs. Reverse Voltage

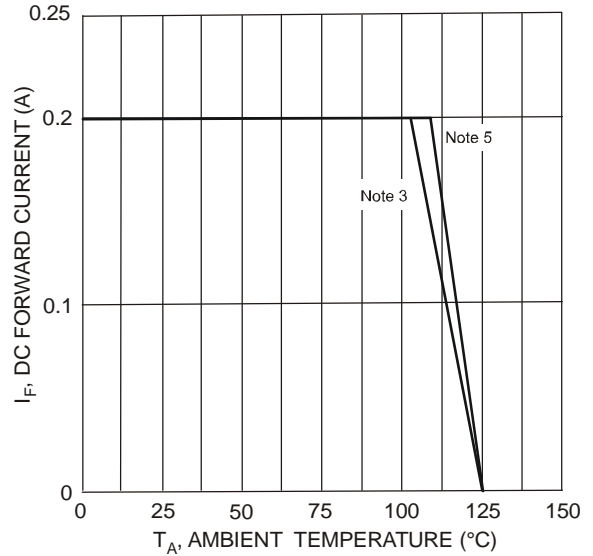


Fig. 4 DC Forward Current Derating

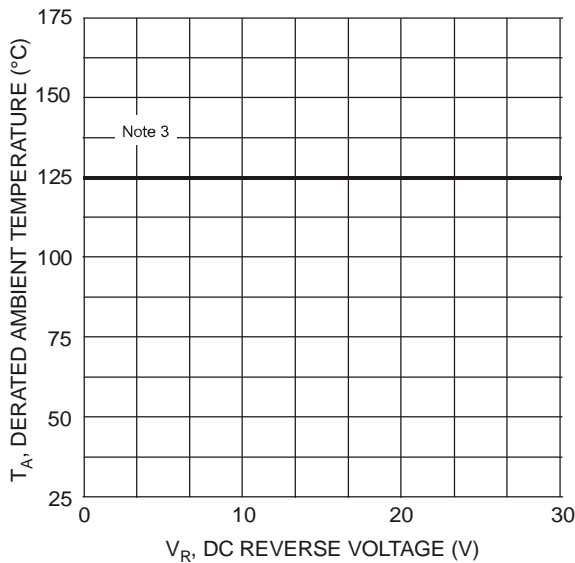


Fig. 5 Operating Temperature Derating

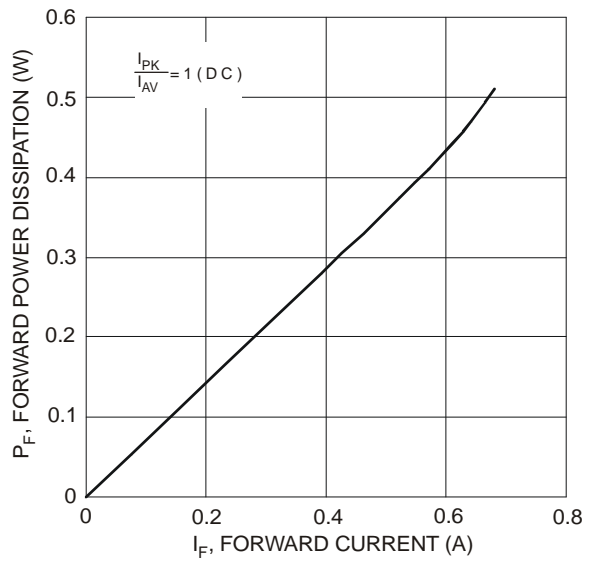
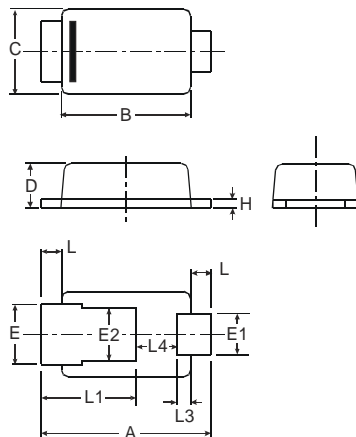


Fig. 6 Forward Power Dissipation

Notes: 5. Polyimide PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com>.

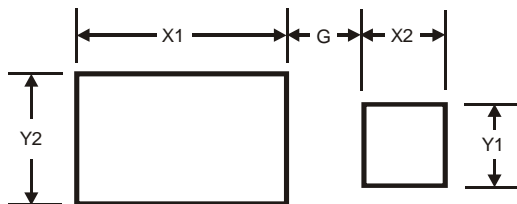
## Package Outline Dimensions



POWERDI <sup>®</sup> 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
<b>All Dimensions in mm</b>			

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## 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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