



PD3S0230

# SURFACE MOUNT SCHOTTKY BARRIER DIODE POWERDI®323

### **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 63
- 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	20	08	2009	2010	2011	2012	2 20	13	2014	2015
Code	Т	U	\	/	W	Χ	Υ	Z		A	В	С
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D



# Maximum Ratings @TA = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	30	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Continuous Forward Current	I <sub>FM</sub>	200	mA
Repetitive Peak Forward Current	I <sub>FRM</sub>	300	mA
Non-Repetitive Peak Forward Surge Current @ t <sub>p</sub> < 10ms	I <sub>FSM</sub>	600	mA

# **Thermal Characteristics**

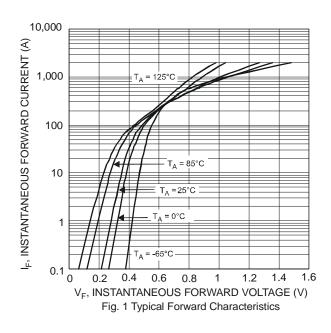
Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Ambient Air (Note 3)	$R_{ heta JA}$	242	°C/W
Operating Temperature Range	TJ	-65 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +150	°C

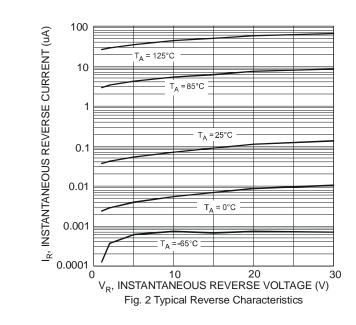
# Electrical Characteristics @TA = 25°C unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 4)	$V_{(BR)R}$	30	_	_	V	$I_{RS} = 100 \mu A$
Forward Voltage	VF	_	217 280 350 400 485	240 320 400 500 800	mV	I <sub>F</sub> = 0.1mA I <sub>F</sub> = 1mA I <sub>F</sub> = 10mA I <sub>F</sub> = 30mA I <sub>F</sub> = 100mA
Leakage Current (Note 4)	$I_R$	_	_	2.0	μΑ	V <sub>R</sub> = 25V
Total Capacitance	Ст	_	10.7	_	pF	$V_R = 1.0V, f = 1.0MHz$
Reverse Recovery Time	t <sub>rr</sub>	_	_	5.0	ns	$I_F = 10$ mA through $I_R = 10$ mA to $I_R = 1.0$ mA, $R_L = 100$ Ω

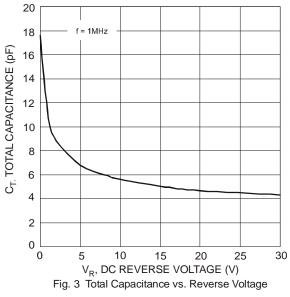
Notes:

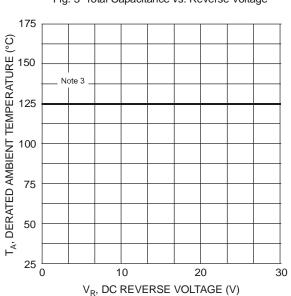
- 3. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com. TA = 25°C.
- 4. Short duration pulse test used to minimize self-heating effect.

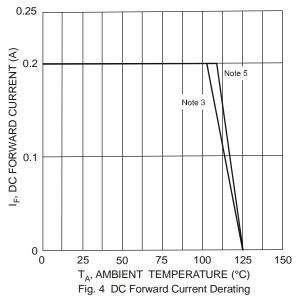


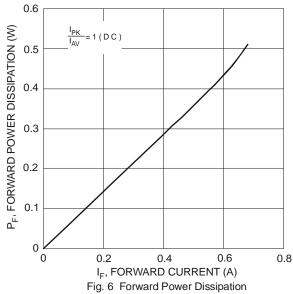








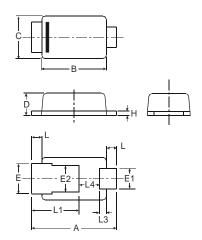




Notes: 5. Polymide PCB, 2 oz. Copper, minimum recommended pad layout per http://www.diodes.com.

Fig. 5 Operating Temperature Derating

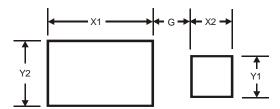
# **Package Outline Dimensions**



POWERDI®323							
Dim	Min	Max	Тур				
Α	2.40	2.60	2.50				
В	1.85	1.95	1.90				
C	1.20	1.30	1.25				
D	0.60	0.70	0.65				
Е	0.78	0.98	0.88				
E1	0.50	0.70	0.60				
E2	0.60	1.00	0.80				
Н	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 D	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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