

Product Summary

V_R (V)	I_F (mA)	$V_{F\text{ MAX}}$ (V) @ +25°C	$I_{R\text{ MAX}}$ (μA) @ +25°C
30	100	0.485	2.0

Description and Applications

This Schottky barrier rectifier has been designed to meet the Low forward voltage applications. It is ideally suited to use as :

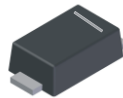
- Polarity Protection Diode
- Re-circulating Diode
- Switching Diode

Features and Benefits

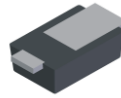
- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

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
- Polarity: Cathode Band
- Terminals: Finish - Matte Tin Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.005 grams (Approximate)



Top View



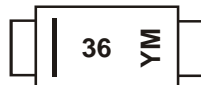
Bottom View

Ordering Information (Note 4)

Part Number	Case	Packaging
PD3S0230-7	POWERDI [®] 323	3000/Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

Marking Information



36 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: D = 2016)
 M = Month (ex: 9 = September)

Date Code Key

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Code	Y	Z	A	B	C	D	E	F	G	H

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°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		
Continuous Forward Current	I _{FM}	200	mA
Repetitive Peak Forward Current	I _{FRM}	300	mA
Non-Repetitive Peak Forward Surge Current @ t _p < 10ms	I _{FSM}	600	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Ambient Air (Note 5)	R _{θJA}	242	°C/W
Operating Temperature Range	T _J	-65 to +125	°C
Storage Temperature Range	T _{STG}	-65 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	V _{(BR)R}	30	—	—	V	I _R = 100μA
Forward Voltage	V _F	—	217	240	mV	I _F = 0.1mA
			280	320		I _F = 1mA
			350	400		I _F = 10mA
			400	500		I _F = 30mA
			485	800		I _F = 100mA
Leakage Current (Note 7)	I _R	—	—	2.0	μA	V _R = 25V
Total Capacitance	C _T	—	10.7	—	pF	V _R = 1.0V, f = 1.0MHz
Reverse Recovery Time	t _{rr}	—	—	5.0	ns	I _F = 10mA through I _R = 10mA to I _R = 1.0mA, R _L = 100Ω

- Notes:
- 5. 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°C.
 - 6. Polyimide PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com>.
 - 7. Short duration pulse test used to minimize self-heating effect.

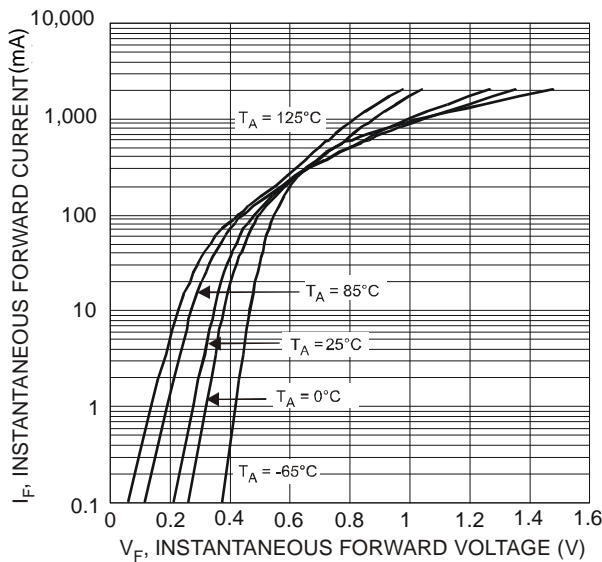


Fig. 1 Typical Forward Characteristics

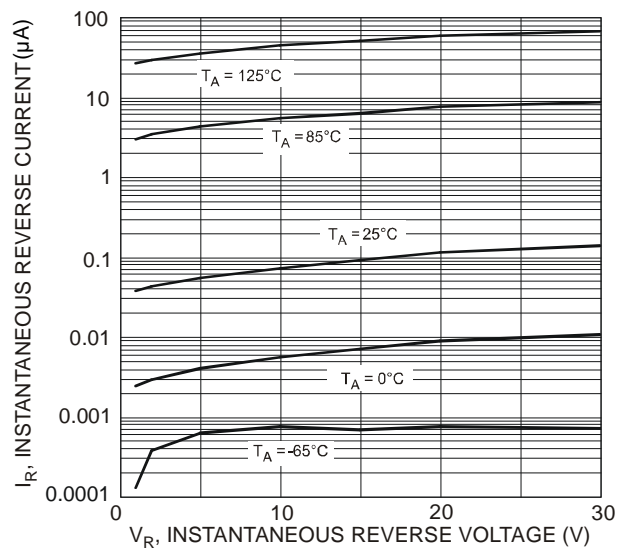


Fig. 2 Typical Reverse Characteristics

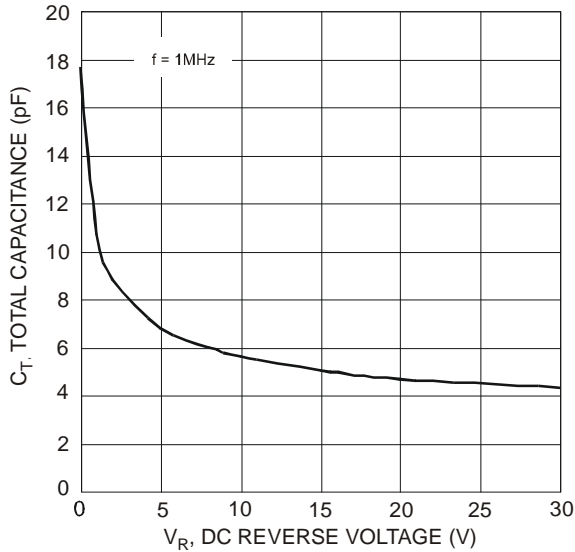


Fig. 3 Total Capacitance vs. Reverse Voltage

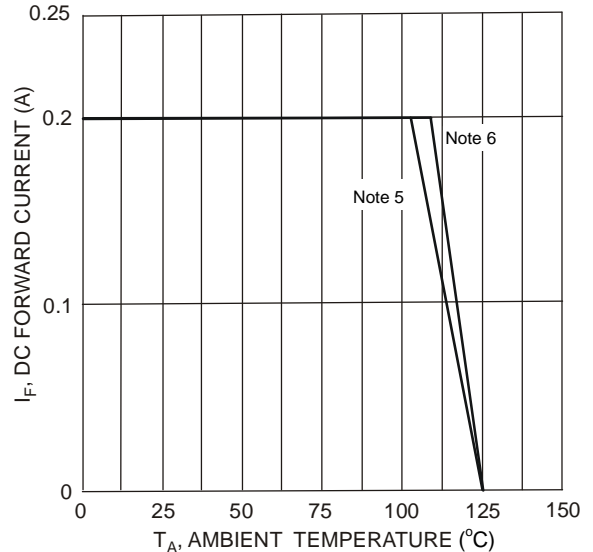


Fig. 4 DC Forward Current Derating

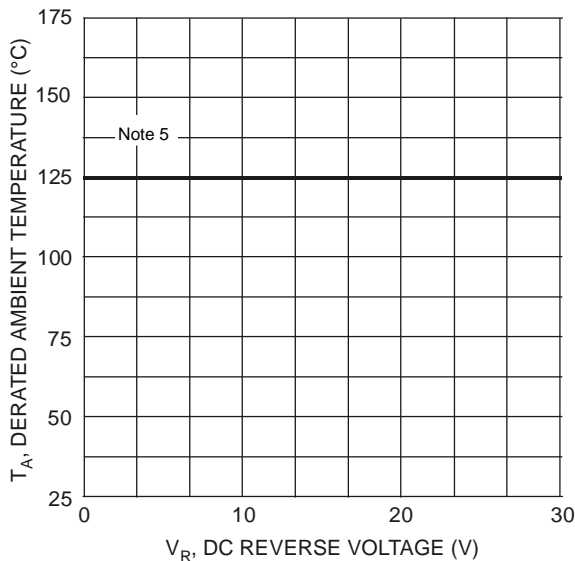


Fig. 5 Operating Temperature Derating

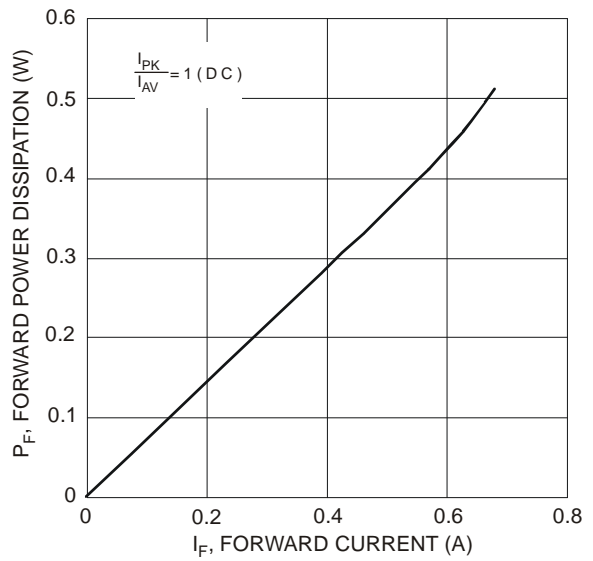
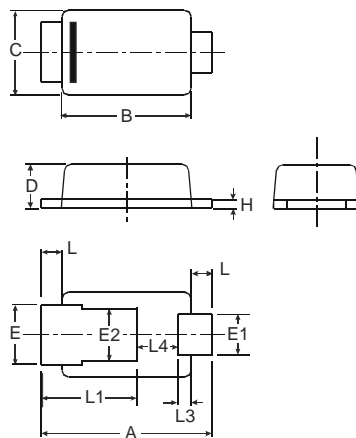


Fig. 6 Forward Power Dissipation

Package Outline Dimensions

Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.

POWERDI[®]323

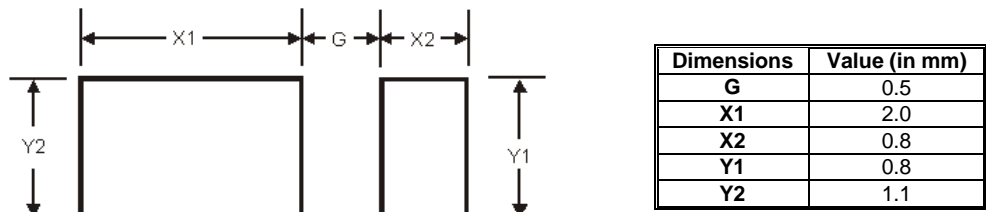


POWERDI [®] 323			
Dim	Min	Max	Typ
A	2.40	2.60	2.50
B	1.85	1.95	1.90
C	1.20	1.30	1.25
D	0.60	0.70	0.65
E	0.78	0.98	0.88
E1	0.50	0.70	0.60
E2	0.60	1.00	0.80
H	0.08	0.18	0.13
L	0.20	0.40	0.30
L1	—	—	1.40
L3	—	—	0.20
L4	0.40	0.80	0.60
All Dimensions in mm			

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.

POWERDI[®]323



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