

Features

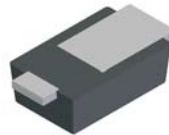
- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- **Lead Free Finish/RoHS Compliant (Note 1)**
- **"Green" Molding Compound (No Br, Sb)**
- **Ultra-Small Surface Mount Package**

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-020C
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 (E3)
- Polarity: Cathode Band
- Marking: Date Code & Type Code, See Page 2
- Type Code: 36
- Weight: 0.005 grams (approximate)
- Ordering Information: See Page 3



TOP VIEW



BOTTOM VIEW

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	30	V
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 < 10ms	I _{FSM}	600	mA
Thermal Resistance, Junction to Ambient Air (Note 2)	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 3)	V _{(BR)R}	30	—	—	V	I _{RS} = 100μA
Forward Voltage	V _F	—	217 280 350 400 485	240 320 400 500 800	mV	I _F = 0.1mA I _F = 1mA I _F = 10mA I _F = 30mA I _F = 100mA
Leakage Current (Note 3)	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:
1. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7*.
 2. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>. T_A = 25°C.
 3. Short duration test pulse used to minimize self-heating effect.

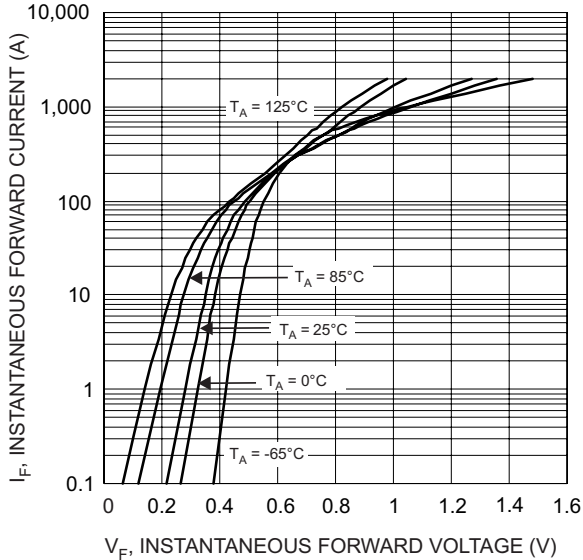


Fig. 1 Typical Forward Characteristics

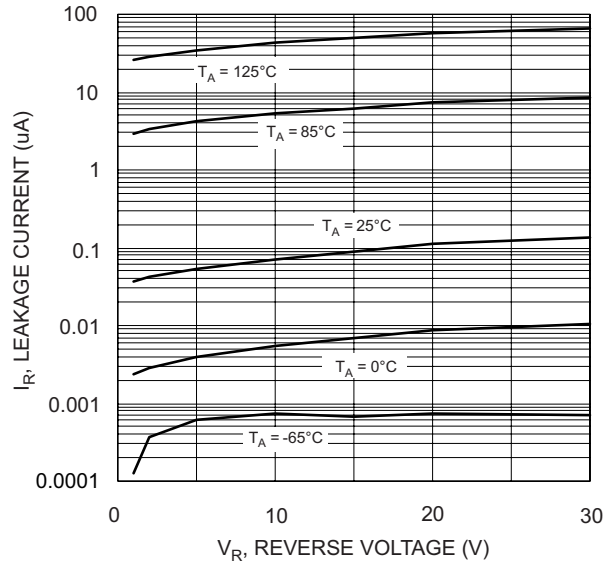


Fig. 2 Typical Reverse Characteristics

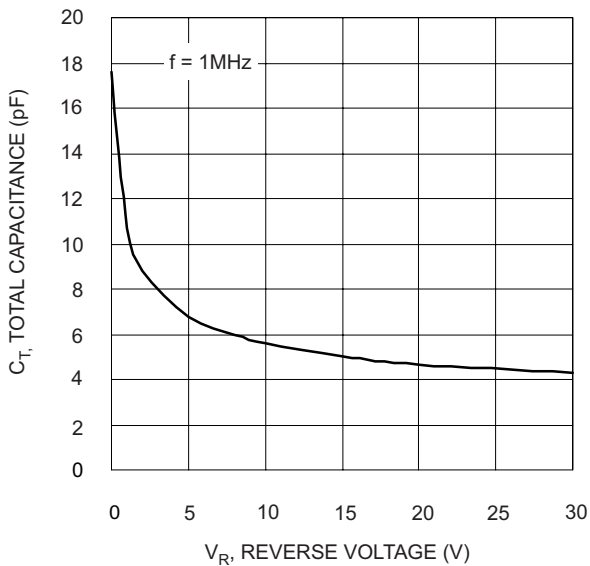


Fig. 3 Typical Total Capacitance

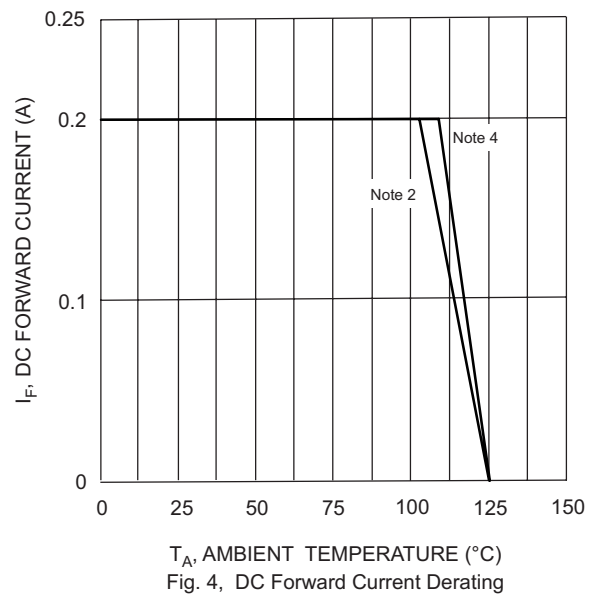


Fig. 4, DC Forward Current Derating

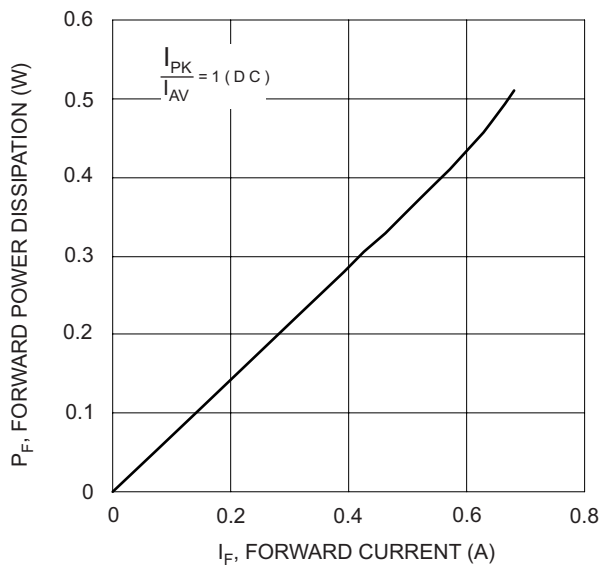


Fig. 5 Forward Power Dissipation

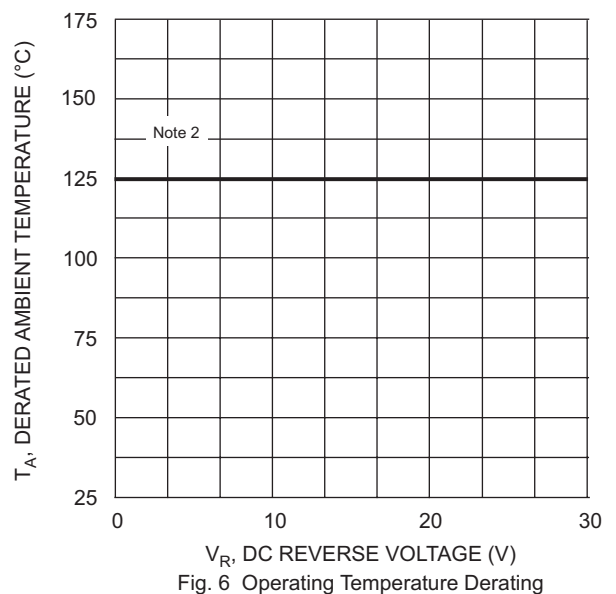
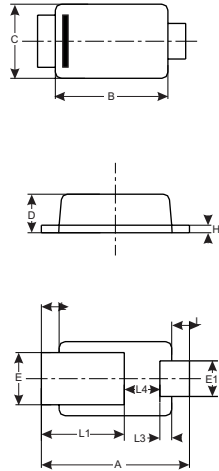


Fig. 6 Operating Temperature Derating

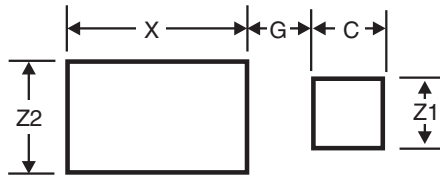
Notes: 4. Polyimide PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com/datasheets/ap02001.pdf>.

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



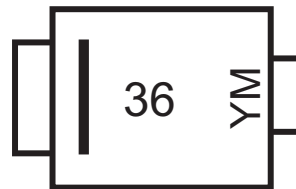
Dimensions	Value (in mm)
Z1	0.8
Z2	1.1
G	0.5
X	2.0
C	0.8

Ordering Information (Note 5)

Device	Packaging	Shipping
PD3S0230-7	Power DI™323	3,000/Tape & Reel

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

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
Code	T	U	V	W

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

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