



PD3Z284C5V1 - PD3Z284C12



0.5W SURFACE MOUNT ZENER DIODE
PowerDI™ 323

NEW PRODUCT

Features

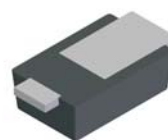
- Planar Die Construction
- Ultra-Small Surface Mount Package
- Lead Free Finish, RoHS Compliant (Note 1)
- "Green" Molding Compound (No Br, Sb)
- Qualified to AEC-Q101 Standards for High Reliability

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



TOP VIEW



BOTTOM VIEW

Maximum Ratings @ T_A = 25°C unless otherwise specified

Table 1

Characteristic	Symbol	Value	Unit
Forward Voltage @ I _F = 10mA @ I _F = 100mA	V _F	0.9 1.1	V
Power Dissipation (Note 2)	P _d	500	mW
Thermal Resistance, Junction to Ambient Air (Note 2)	R _{θJA}	250	°C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-65 to +150	°C

- Notes: 1. RoHS revision 13.2.2003. High Temperature Solder Exemption Applied, see *EU Directive Annex Note 7*.
2. Part mounted on FR-4 PC board with recommended pad layout, as per <http://www.diodes.com/datasheets/ap02001.pdf>.

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Table 2

Type Number	Marking Code	Zener Voltage Range (Note 3)				Maximum Zener Impedance (Note 4)			Maximum Reverse Current (Note 3)		Temperature Coefficient of Zener Voltage @ I _{ZT} = 5mA mV/°C	
		V _Z @ I _{ZT}			I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R	V _R	Min	Max
		Nom (V)	Min (V)	Max (V)	(mA)	Ω	mA	uA	V			
PD3Z284C5V1	Z0G, 0G	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2
PD3Z284C5V6	Z0H, 0H	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2.0	2.5
PD3Z284C6V2	Z0K, 0K	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7
PD3Z284C6V8	Z0L, 0L	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5
PD3Z284C7V5	Z0M, 0M	7.5	7.0	7.9	5	10	80	1.0	1	5.0	2.5	5.3
PD3Z284C8V2	Z0N, 0N	8.2	7.7	8.7	5	10	80	1.0	0.7	5.0	3.2	6.2
PD3Z284C9V1	Z0P, 0P	9.1	8.5	9.6	5	10	100	1.0	0.5	6.0	3.8	7.0
PD3Z284C10	Z0Q, 0Q	10	9.4	10.6	5	10	150	1.0	0.2	7.0	4.5	8.0
PD3Z284C11	Z0R, 0R	11	10.4	11.6	5	10	150	1.0	0.1	8.0	5.4	9.0
PD3Z284C12	Z0S, 0S	12	11.4	12.7	5	10	150	1.0	0.1	8.0	6.0	10.0

- Notes: 3. Short duration test pulse used to minimize self-heating effect.
4. f = 1kHz.

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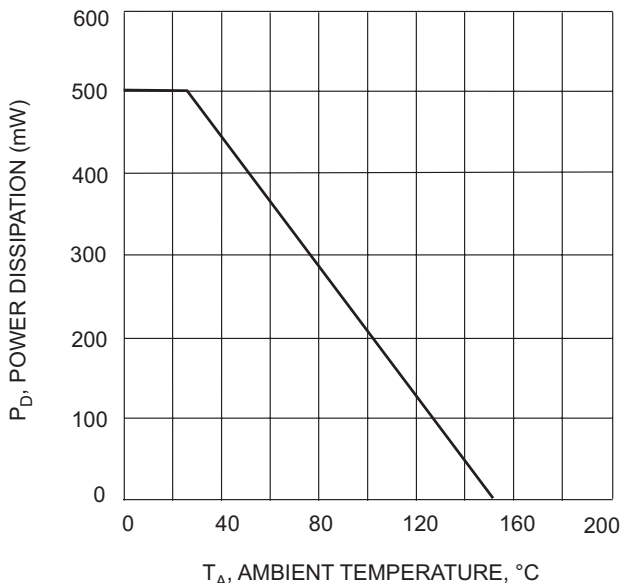


Fig. 1 Power Derating Curve

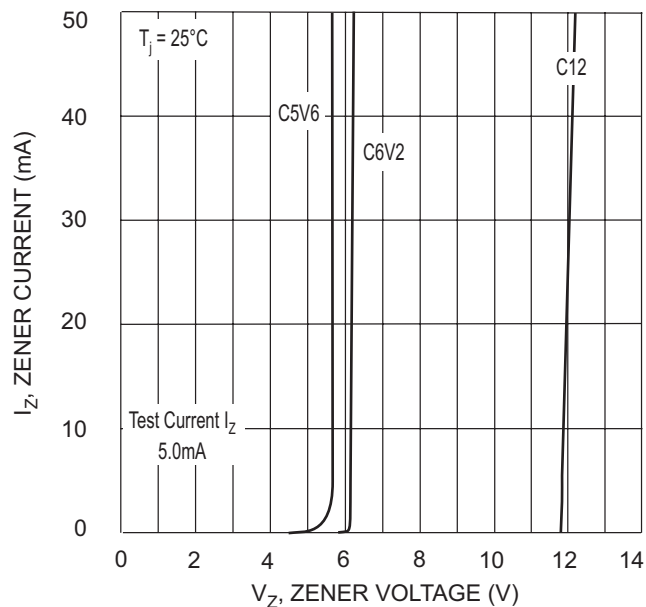


Fig. 2 Zener Breakdown Characteristics

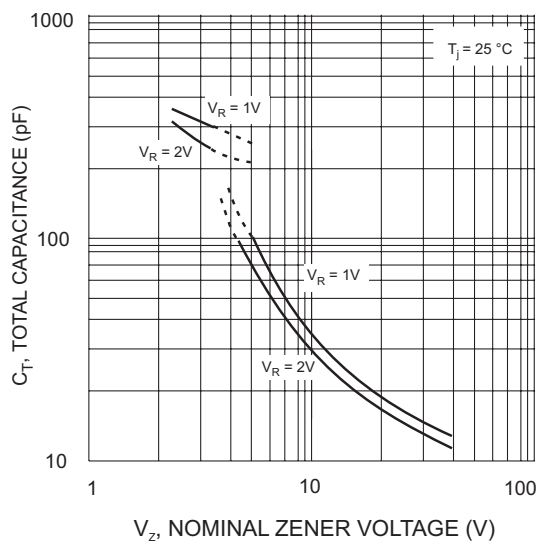


Fig. 3 Total Capacitance vs Nominal Zener Voltage

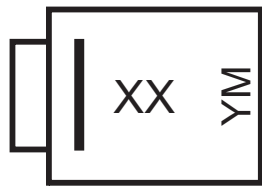
Ordering Information (Note 5)

Table 3

Device	Packaging	Shipping
(Type Number)-7*	PowerDI™ 323	3000/Tape & Reel

- Notes:
- *Add "-7" to the appropriate type number in Table 1 above example: 6.2V Zener = PD3Z284C6V2-7.
 - For Packaging Details, go to our website at: <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



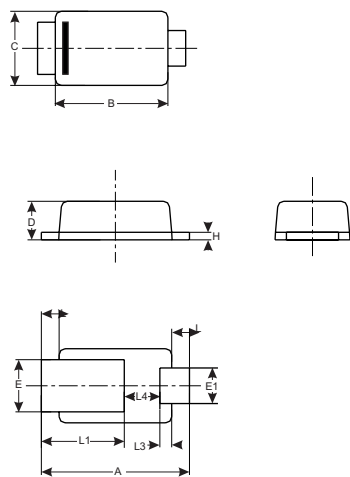
XX = Product Type Marking Code (See Table 2)
 YM = Date Code Marking
 Y = Year (ex. T = 2006)
 M = Month (ex. 9 = September)

Date Code Key

Year	2006	2007	2008	2009	2010	2011	2012
Code	T	U	V	W	X	Y	Z

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

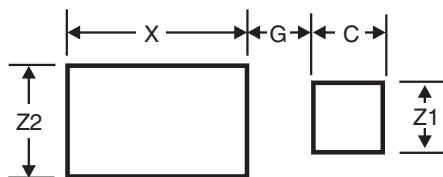
Package Outline Dimensions



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)
Z1	0.8
Z2	1.1
G	0.5
X	2.0
C	0.8

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