



# PD3Z284C2V4 - PD3Z284C39



0.5W SURFACE MOUNT ZENER DIODE  
*PowerDI 323*

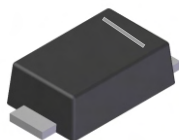
NEW PRODUCT

## Features

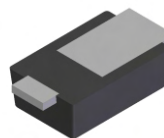
- Planar Die Construction
- Ultra-Small Surface Mount Package
- Lead Free By Design, RoHS Compliant (Note 1)**
- "Green" Molding Compound (No Br, Sb)**
- Qualified to AEC-Q101 Standards for High Reliability**

## 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
- Polarity: Cathode Band
- Marking: Date Code & Type Code, See Page 3
- Weight: 0.005 grams (approximate)



TOP VIEW



BOTTOM VIEW

## Maximum Ratings @ T<sub>A</sub> = 25 C unless otherwise specified

Table 1

Characteristic	Symbol	Value	Unit
Forward Voltage @ I <sub>F</sub> = 10mA @ I <sub>F</sub> = 100mA	V <sub>F</sub>	0.9 1.1	V
Power Dissipation (Note 2)	P <sub>d</sub>	500	mW
Thermal Resistance, Junction to Ambient Air (Note 2)	R <sub>JA</sub>	250	C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-65 to +150	C

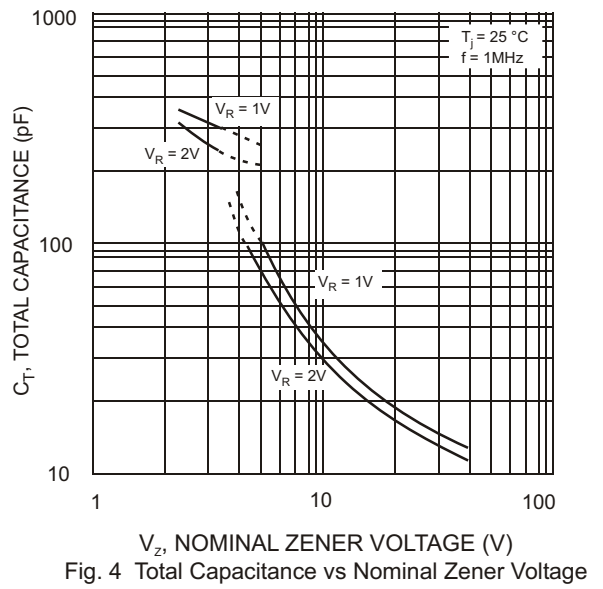
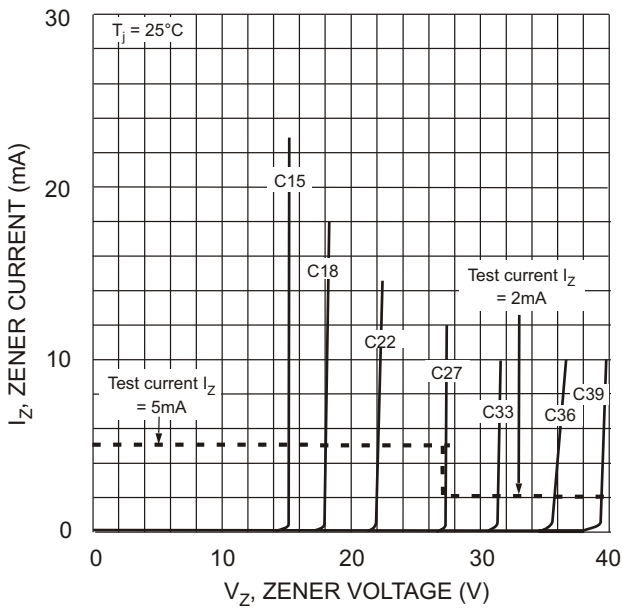
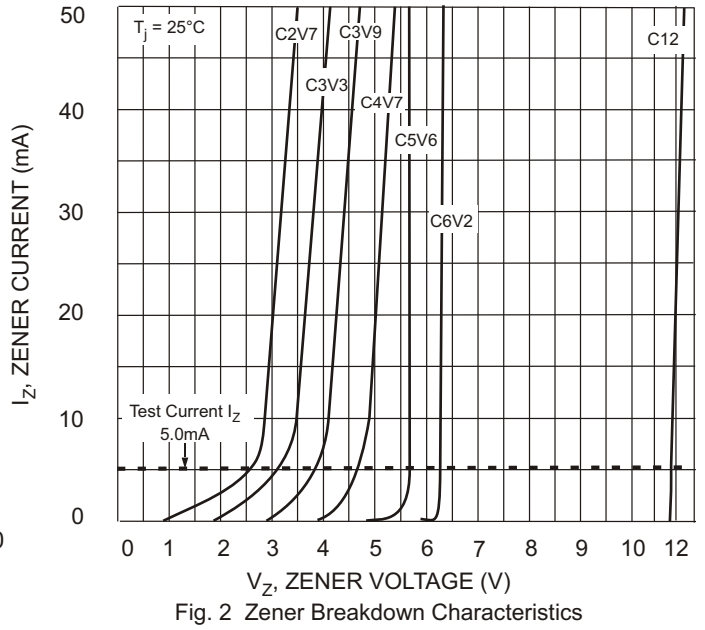
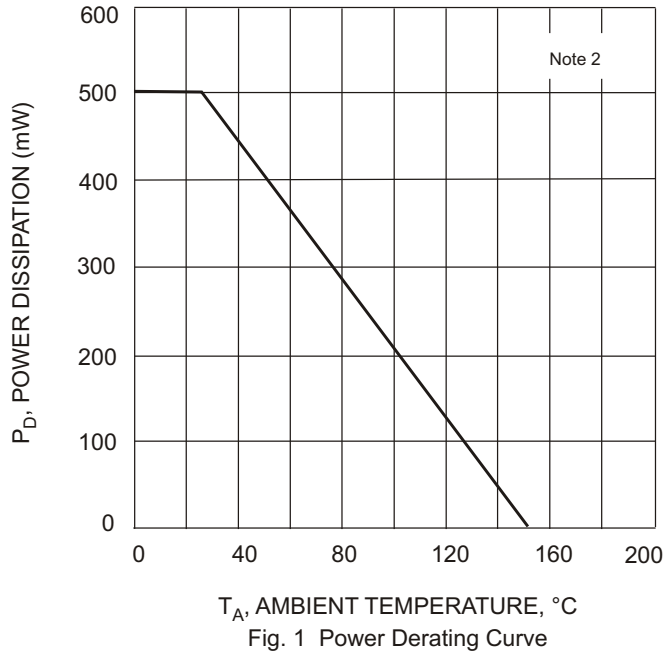
- Notes:
1. No purposefully added lead.
  2. Part mounted on polyimide PC board with recommended pad layout, as per <http://www.diodes.com/datasheets/ap02001.pdf>.

**Electrical Characteristics** @ T<sub>A</sub> = 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 <sub>ZT</sub> = 5mA mV/ °C	
		V <sub>Z</sub> @ I <sub>ZT</sub>			I <sub>ZT</sub>	Z <sub>ZT</sub> @ I <sub>ZT</sub>	Z <sub>ZK</sub> @ I <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>R</sub>	V <sub>R</sub>	Min	Max
		Nom (V)	Min (V)	Max (V)	(mA)			mA	µA	V		
PD3Z284C2V4	06	2.4	2.20	2.60	5	100	400	1.0	50	1.0	-3.5	0
PD3Z284C2V7	08	2.7	2.5	2.9	5	100	450	1.0	20	1.0	-3.5	0
PD3Z284C3V0	0A	3.0	2.8	3.2	5	95	500	1.0	10	1.0	-3.5	0
PD3Z284C3V3	0B	3.3	3.1	3.5	5	95	500	1.0	5	1.0	-3.5	0
PD3Z284C3V6	0C	3.6	3.4	3.8	5	90	500	1.0	5	1.0	-3.5	0
PD3Z284C3V9	0D	3.9	3.7	4.1	5	90	500	1.0	3	1.0	-3.5	0
PD3Z284C4V3	0E	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0
PD3Z284C4V7	0F	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2
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
PD3Z284C13	0T	13	12.4	14.1	5	10	170	1.0	0.1	8.0	7.0	11.0
PD3Z284C15	0V	15	13.8	15.6	5	15	200	1.0	0.1	10.5	9.2	13.0
PD3Z284C16	0W	16	15.3	17.1	5	20	200	1.0	0.1	11.2	10.4	14.0
PD3Z284C18	0Y	18	16.8	19.1	5	20	225	1.0	0.1	12.6	12.4	16.0
PD3Z284C20	0Z	20	18.8	21.2	5	20	225	1.0	0.1	14.0	14.4	18.0
PD3Z284C22	11	22	20.8	23.3	5	25	250	1.0	0.1	15.4	16.4	20.0
PD3Z284C24	12	24	22.8	25.6	5	30	250	1.0	0.1	16.8	18.4	22.0
PD3Z284C27	14	27	25.1	28.9	2	40	250	0.5	0.1	18.9	21.4	25.3
PD3Z284C30	16	30	28.0	32.0	2	40	250	0.5	0.1	21.0	24.4	29.4
PD3Z284C33	17	33	31.0	35.0	2	40	275	0.5	0.1	23.1	27.4	33.4
PD3Z284C36	18	36	34.0	38.0	2	60	300	0.5	0.1	25.2	30.4	37.4
PD3Z284C39	19	39	37.0	41.0	2	75	300	0.5	0.1	27.3	33.4	41.2

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



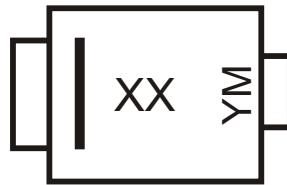
**Ordering Information** (Note 5 & 6)

**Table 3**

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

- Notes: 5. \*Add "-7" to the appropriate type number in Table 1 above example: 6.2V Zener = PD3Z284C6V2-7.  
6. For Packaging Details, go to our website at: <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



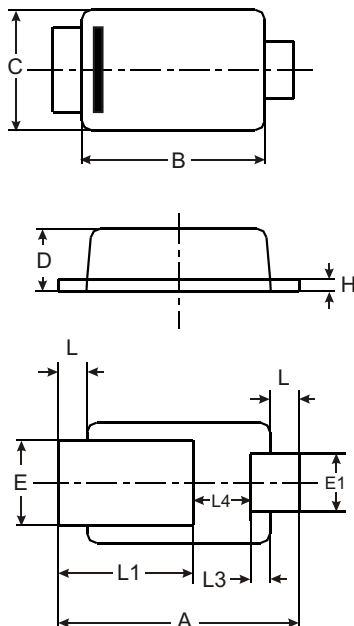
XX = Product Type Marking Code (See Table 2)  
YM = Date Code Marking  
Y = Year (ex. T = 2006)  
M = Month (ex. 9 = September)

Date Code Key

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

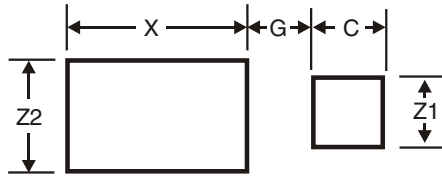
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

**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)
<b>Z1</b>	0.8
<b>Z2</b>	1.1
<b>G</b>	0.5
<b>X</b>	2.0
<b>C</b>	0.8

**IMPORTANT NOTICE**

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

**LIFE SUPPORT**

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.