



# DFLZ5V1 - DFLZ39

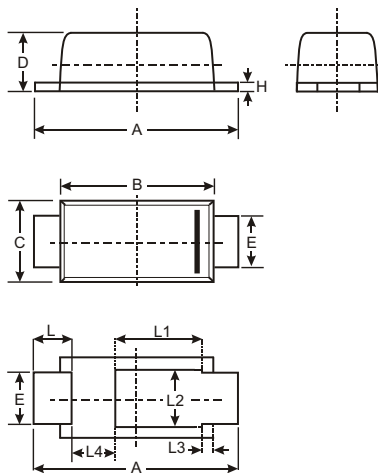
1.0W SURFACE MOUNT POWER ZENER DIODE  
PowerDI 123

## Features

- 1W Power Dissipation on FR-4 PCB
- Lead Free Finish, RoHS Compliant (Note 2)
- "Green" Molding Compound (No Br, Sb)
- Qualified to AEC-Q101 Standards for High Reliability

## Mechanical Data

- Case: PowerDI 123
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminal Connections: Cathode Band
- Terminals: Finish - Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 (E3)
- Marking & Type Code Information: See Electrical Specifications Table and Page 3
- Ordering Information: See Last Page
- Weight: 0.01 grams (approximate)



PowerDI 123			
Dim	Min	Max	Typ
A	3.50	3.90	3.70
B	2.60	3.00	2.80
C	1.63	1.93	1.78
D	0.93	1.00	0.98
E	0.85	1.25	1.00
H	0.15	0.25	0.20
L	0.45	0.85	0.65
L1	—	—	1.35
L2	—	—	1.10
L3	—	—	0.20
L4	0.90	1.30	1.05
All Dimensions in mm			

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

Characteristic	Symbol	Value	Unit
Forward Voltage @ I <sub>F</sub> = 200mA	V <sub>F</sub>	1.2	V
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	C

## Thermal Characteristics @ T<sub>A</sub> = 25 C unless otherwise specified

Characteristic	Symbol	Typ	Max	Unit
Power Dissipation (Note 1)	P <sub>D</sub>		1.0	W
Thermal Resistance, Junction to Ambient Air (Note 1)	R <sub>JA</sub>	110		C/W
Thermal Resistance, Junction to Soldering Point (Note 3)	R <sub>JS</sub>		9	C/W

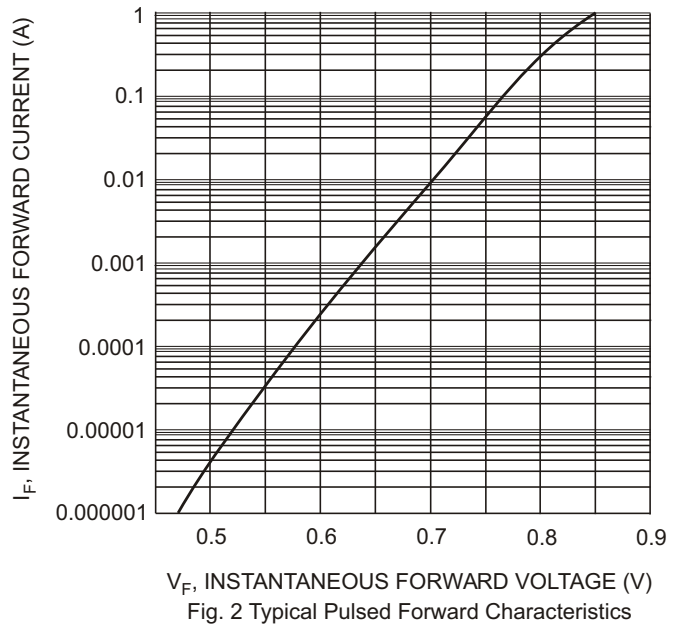
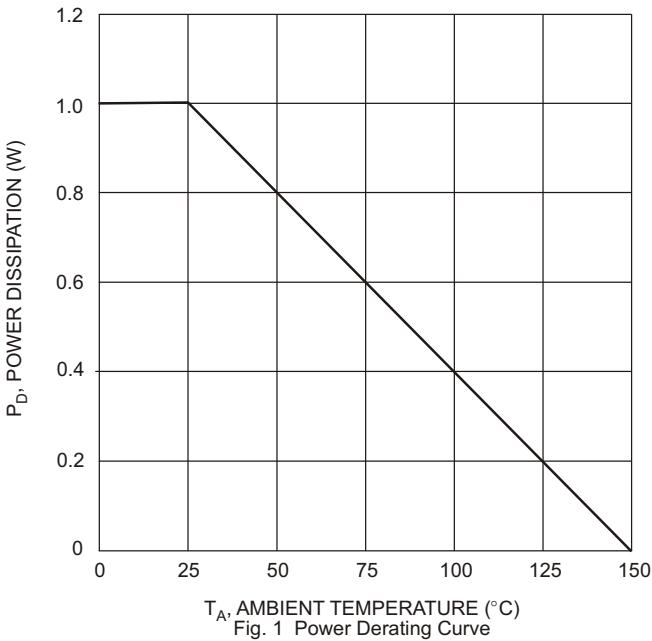
- Notes:
- Device mounted on 1" x 1", FR-4 PCB; 2 oz. Cu pad layout as shown on Diodes Inc. suggested pad layout document AP02001.pdf.
  - RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.
  - Theoretical R<sub>JS</sub> calculated from the top center of the die straight down to the PCB/cathode tab solder junction.

NEW PRODUCT

**Electrical Characteristics** @ T<sub>A</sub> = 25 C unless otherwise specified

Type Number	Marking Codes	Zener Voltage Range (Note 4)				Zener Impedance		Maximum Reverse Current (Note 4)		Typical Temperature Coefficient @ I <sub>ZTC</sub> %/C	
		V <sub>Z</sub> @ I <sub>ZT</sub>			I <sub>ZT</sub>	Z <sub>ZT</sub> @ I <sub>ZT</sub>		I <sub>R</sub>	@ V <sub>R</sub>	Min	Max
		Nom (V)	Min (V)	Max (V)	mA	Typ ( )	Max ( )	A	V		
DFLZ5V1	FHK	5.1	4.8	5.4	100	2	6	2.5	1	-0.08	-0.2
DFLZ5V6	FHL	5.6	5.2	6.0	100	1	4	10	2	-0.04	0.04
DFLZ6V2	FHN	6.2	5.8	6.6	100	1	3	5	2	-0.01	0.06
DFLZ6V8	FHO	6.8	6.4	7.2	100	1	3	5	3	0	0.07
DFLZ7V5	FHQ	7.5	7.0	7.9	100	1	2	5	3	0	0.07
DFLZ8V2	FHR	8.2	7.7	8.7	100	1	2	5	3	0.03	0.08
DFLZ9V1	FHT	9.1	8.5	9.6	50	1	4	5	5	0.03	0.08
DFLZ10	FHU	10	9.4	10.6	50	1	4	5	7.5	0.05	0.09
DFLZ11	FHV	11	10.4	11.6	50	1	7	4	8.2	0.05	0.1
DFLZ12	FHW	12	11.4	12.7	50	1	7	3	9.1	0.05	0.1
DFLZ13	FHX	13	12.4	14.1	50	1	10	2	10	0.05	0.1
DFLZ15	FHZ	15	13.8	15.6	50	1	10	1	11	0.05	0.1
DFLZ16	FJA	16	15.3	17.1	25	1	15	1	12	0.06	0.11
DFLZ18	FJF	18	16.8	19.1	25	2	15	1	13	0.06	0.11
DFLZ20	FJG	20	18.8	21.2	25	3	15	1	15	0.06	0.11
DFLZ22	FJK	22	20.8	23.3	25	3	15	1	16	0.06	0.11
DFLZ24	FJL	24	22.8	25.6	25	2	15	1	18	0.06	0.11
DFLZ27	FJN	27	25.1	28.9	25	3	15	1	20	0.06	0.11
DFLZ30	FJQ	30	28	32	25	8	15	1	22	0.06	0.11
DFLZ33	FJR	33	31	35	25	5	15	1	24	0.06	0.11
DFLZ36	FJS	36	34	38	10	5	40	1	27	0.06	0.11
DFLZ39	FJT	39	37	41	10	5	40	1	30	0.06	0.11

Notes: 4. Pulse test to minimize self-heating.



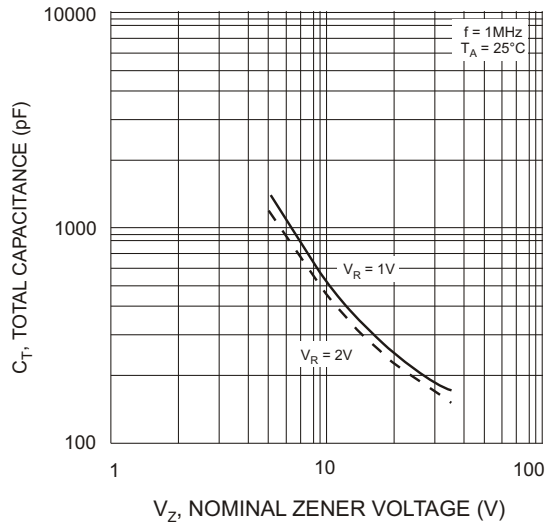


Fig. 3 Total Capacitance vs Nominal Zener Voltage

**Ordering Information** (Note 5)

Device	Packaging	Shipping
(Type Number)-7*	PowerDI 123	3000/Tape & Reel

\* Add "-7" to the appropriate type number in Table 1 above example: 6.2V Zener = DFLZ6V2-7.

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

**Marking Information**



FXX = Product Type Marking Code (See Marking Codes on Page 2)  
 YM = Date Code Marking  
 Y = Year (ex: R = 2004)  
 M = Month (ex: 9 = September)

Date Code Key

Year		2004	2005	2006	2007	2008	2009
Code		R	S	T	U	V	W

Month	Jan	Feb	March	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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