DDZ3V3A - DDZ43

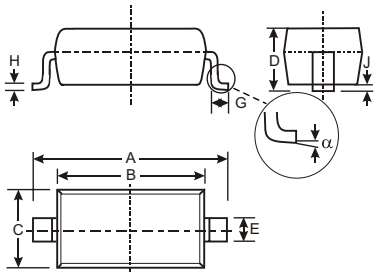
SURFACE MOUNT PRECISION ZENER DIODE

SPICE MODELS: DDZ5V1B DDZ5V6B DDZ6V2B DDZ6V8C DDZ7V5C DDZ8V2C DDZ9V1C DDZ10C DDZ11C DDZ12C DDZ13B DDZ14 DDZ15 DDZ16 DDZ18C DDZ20C DDZ22D DDZ24C DDZ27D DDZ30D DDZ33 DDZ36 DDZ39F DDZ43

NEW PRODUCT

Features

- Very Sharp Breakdown Characteristics
- 500mW Power Dissipation on Ceramic PCB
- Very Tight Tolerance on V_Z
- Ideally Suited for Automated Assembly Processes
- Very Low Leakage Current
- Lead Free Product



SOD-123		
Dim	**Min**	**Max**
A	3.55	3.85
B	2.55	2.85
C	1.40	1.70
D	—	1.35
E	0.55 Typical	
G	0.25	—
H	0.11 Typical	
J	—	0.10
α	0°	8°
All Dimensions in mm		

Mechanical Data

- Case: SOD-123, Plastic
- Plastic Material: UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Finish - Matte Tin Solderable per MIL-STD-202, Method 208 (Note 1)
- Polarity: Cathode Band
- Marking: See Below
- Weight: 0.01 grams (approx.)

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Forward Voltage @ I_F = 10mA	V_F	0.9	V
Power Dissipation (Note 2)	P_d	500	mW
Thermal Resistance, Junction to Ambient Air (Note 2)	$R_{\theta JA}$	305	°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150	°C

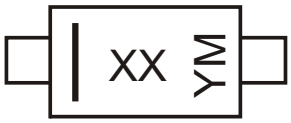
Note: 1. If lead-bearing terminal plating is required, please contact your Diodes Inc. sales representative for availability and minimum order details.
2. Device mounted on ceramic PCB; 7.6mm x 9.4mm x 0.87mm with pad areas 25mm^2.

Ordering Information (Note 3)

Device	Packaging	Shipping
DDZ(V_Z Rank)-7*	SOD-123	3000/Tape & Reel

* Example: The part number for the 6.2 Volt device would be DDZ6V2B-7.
Note : 3. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



XX = Product Type Marking Code (See Table 1)
YM = Date Code Marking
Y = Year (ex: P = 2003)
M = Month (ex: 9 = September)

Date Code Key

Year	2003	2004	2005	2006	2007	2008	2009
Code	P	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

NEW PRODUCT

Electrical Characteristics @ T_A = 25°C unless otherwise specified — Table 1

Type Number	Marking Code	Zener Voltage Range (Notes 4,5)			Maximum Zener Impedance (Note 6)			Maximum Reverse Current (Note 7)	
		V_Z @ I_{ZT}		I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R	@ V_R
		Min (V)	Max (V)	mA	Ω		mA	uA	V
DDZ3V3A	GG	3.16	3.38	20	70	1000	1	20	1.0
DDZ3V6B	KH	3.600	3.845	20	60	1000	1	10	1.0
DDZ3V9B	KJ	3.89	4.16	20	50	1000	1	5	1.0
DDZ4V3B	KK	4.17	4.43	20	40	1000	1	5	1.0
DDZ4V7B	KL	4.55	4.80	20	25	900	1	5	1.0
DDZ5V1B	KM	4.94	5.20	20	17	480	1	5	1.5
DDZ5V6B	KN	5.45	5.73	20	11	400	1	0.5	2.5
DDZ6V2B	KO	5.96	6.27	20	7	150	1	0.5	4.0
DDZ6V8B	KP	6.49	6.83	20	5	150	0.5	0.1	5.0
DDZ6V8C	YP	6.66	7.01	20	5	150	0.5	0.1	5.0
DDZ7V5B	KQ	7.07	7.45	20	6	120	0.5	0.1	6.0
DDZ7V5C	YQ	7.29	7.67	20	6	120	0.5	0.1	6.0
DDZ8V2B	KR	7.78	8.19	20	8	120	0.5	0.1	6.5
DDZ8V2C	YR	8.03	8.45	20	8	120	0.5	0.1	6.5
DDZ9V1B	KS	8.57	9.01	20	8	120	0.5	0.1	7.0
DDZ9V1C	YS	8.83	9.30	20	8	120	0.5	0.1	7.0
DDZ10B	KT	9.41	9.90	20	8	120	0.5	0.1	8.0
DDZ10C	YT	9.70	10.20	20	8	120	0.5	0.1	8.0
DDZ11B	KU	10.50	11.05	10	10	120	0.5	0.1	8.4
DDZ11C	YU	10.82	11.38	10	10	120	0.5	0.1	8.4
DDZ12B	KV	11.44	12.03	10	12	110	0.5	0.1	9.1
DDZ12C	YV	11.74	12.35	10	12	110	0.5	0.1	9.1
DDZ13B	KW	12.55	13.21	10	14	110	0.5	0.1	10.0
DDZ14	GX	13.44	14.13	10	16	110	0.5	0.05	11.0
DDZ14B	KX	13.89	14.62	10	16	110	0.5	0.05	11.0
DDZ15	GY	14.80	15.57	10	18	150	0.5	0.05	12.0
DDZ16B	KY	15.25	16.04	10	18	150	0.5	0.05	12.0
DDZ16	YY	15.69	16.51	10	18	150	0.5	0.05	12.0
DDZ17	KZ	16.82	17.70	10	23	150	0.5	0.05	14.0
DDZ18C	YZ	17.42	18.33	10	23	150	0.5	0.05	14.0
DDZ19	ZJ	18.63	19.59	10	28	200	0.5	0.05	15.0
DDZ20C	PJ	19.23	20.22	10	28	200	0.5	0.05	15.0
DDZ21	ZK	20.64	21.71	5	30	200	0.5	0.05	17.0
DDZ22D	2K	21.52	22.63	5	30	200	0.5	0.05	17.0
DDZ23	ZL	22.61	23.77	5	35	200	0.5	0.05	19.0
DDZ24C	PL	23.12	24.31	5	35	200	0.5	0.05	19.0
DDZ26	ZM	24.97	26.26	5	45	250	0.5	0.05	21.0
DDZ27D	2M	26.29	27.64	5	45	250	0.5	0.05	21.0
DDZ28	ZN	27.70	29.13	5	55	250	0.5	0.05	23.0
DDZ30D	2N	29.02	30.51	5	55	250	0.5	0.05	23.0
DDZ31	ZO	30.32	31.88	5	65	250	0.5	0.05	25.0
DDZ33	RP	32.14	33.79	5	75	250	0.5	0.05	27.0
DDZ34	ZP	32.79	34.49	5	75	250	0.5	0.05	27.0
DDZ36	ZQ	35.36	37.19	5	85	250	0.5	0.05	30.0
DDZ39F	5Q	38.14	40.11	5	85	250	0.5	0.05	30.0
DDZ43	ZR	42.14	43.86	5	90	—	—	0.05	33.0

Notes: 4. The Zener voltage is measured 40ms after power is supplied.
5. For inquiries on tighter tolerances, or alternate nominal zener voltages, please contact your Diodes Inc. sales representative for availability and minimum order details.
6. f = 1kHz.
7. Short duration pulse test used to minimize self-heating effect.

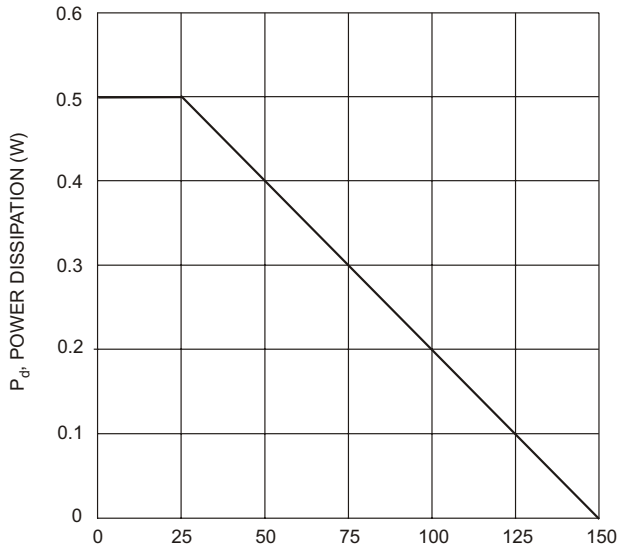


Fig. 1 Power Dissipation vs Ambient Temperature

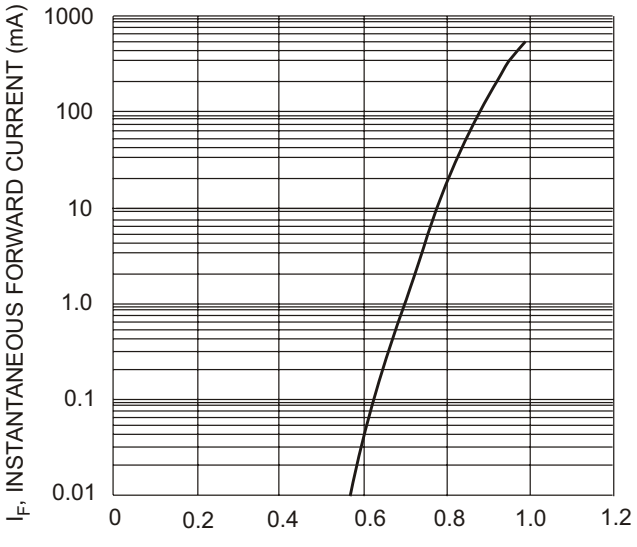


Fig. 2 Typical Forward Characteristics

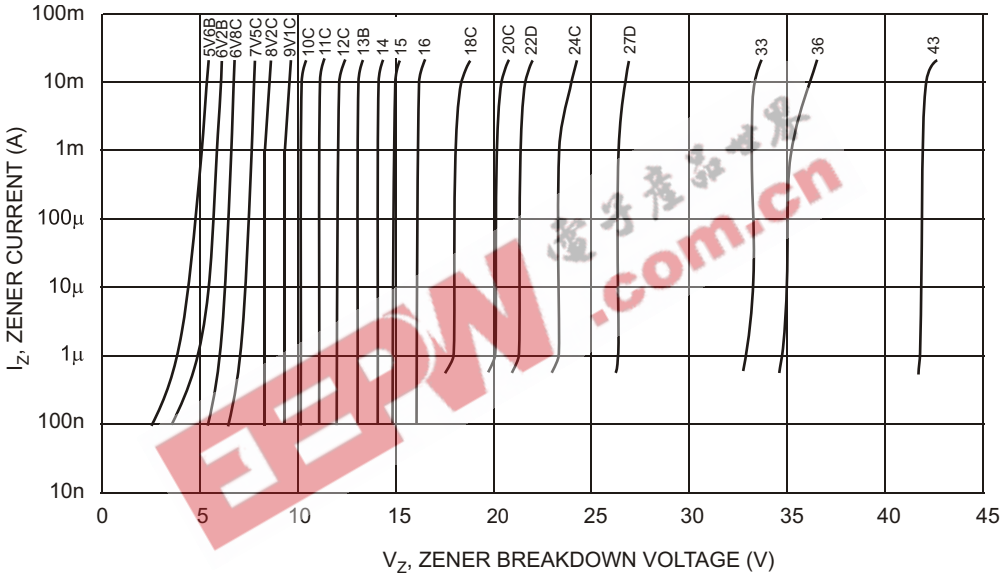


Fig. 3 Typical Reverse Characteristics

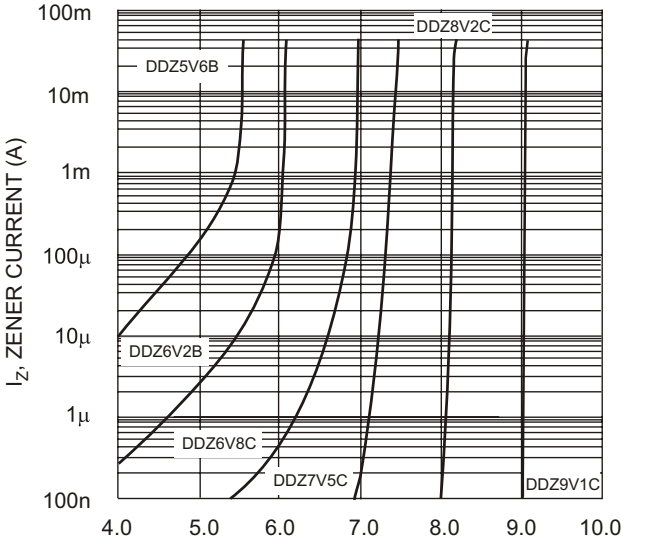


Fig. 4 Typical Reverse Characteristics, DDZ5V6B - DDZ9V1C

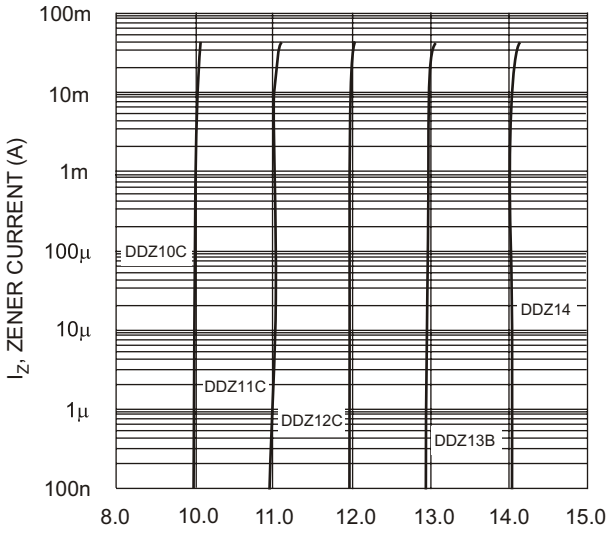


Fig. 5 Typical Reverse Characteristics, DDZ10C - DDZ14

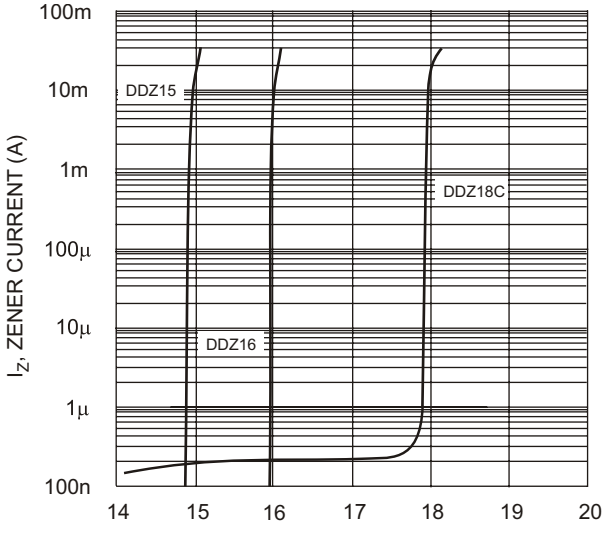


Fig. 6 Typical Reverse Characteristics, DDZ15 - DDZ18C

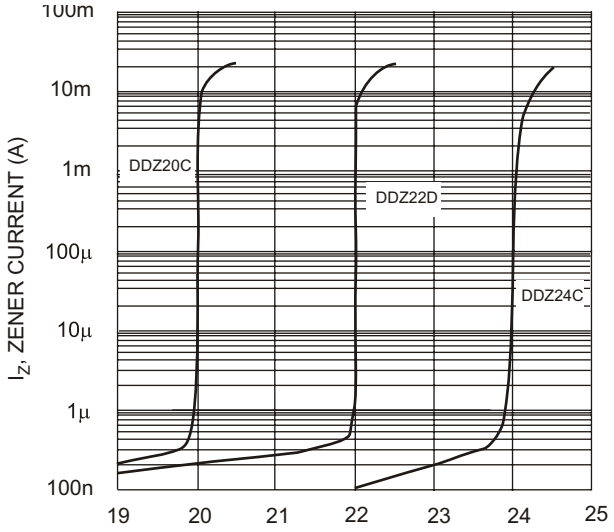


Fig. 7 Typical Reverse Characteristics, DDZ20C - DDZ24C

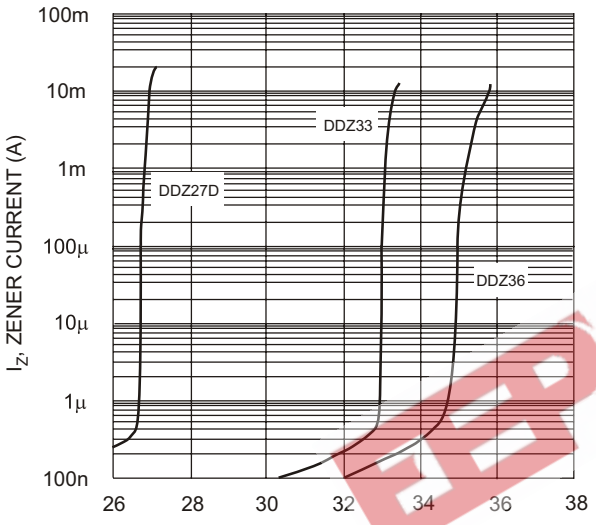


Fig. 8 Typical Reverse Characteristics, DDZ27D - DDZ36

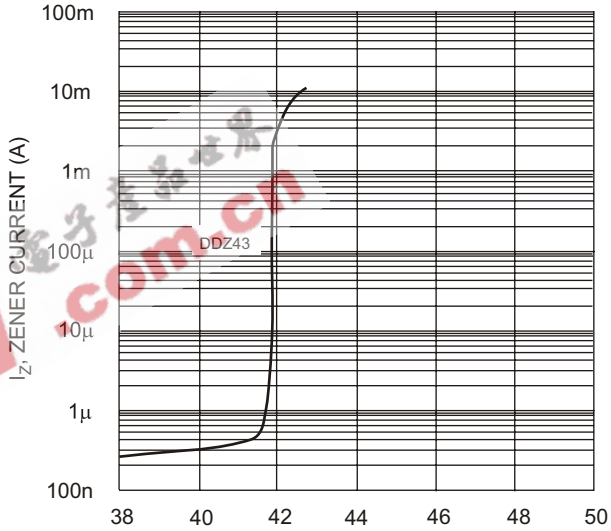


Fig. 9 Typical Reverse Characteristics, DDZ43

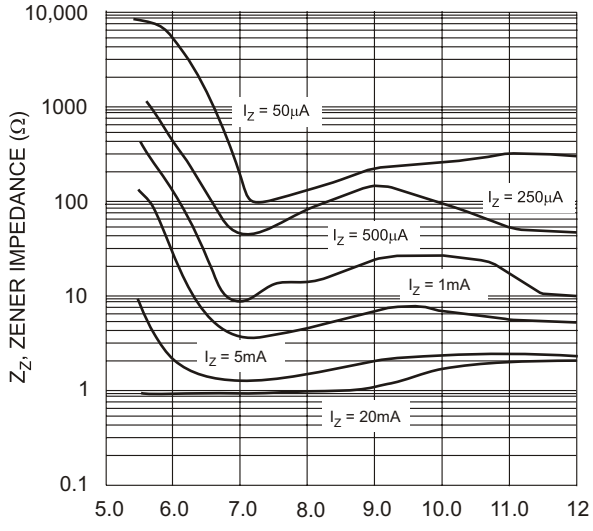


Fig. 10 Typical Zener Impedance Characteristics, DDZ5V6B - DDZ12C

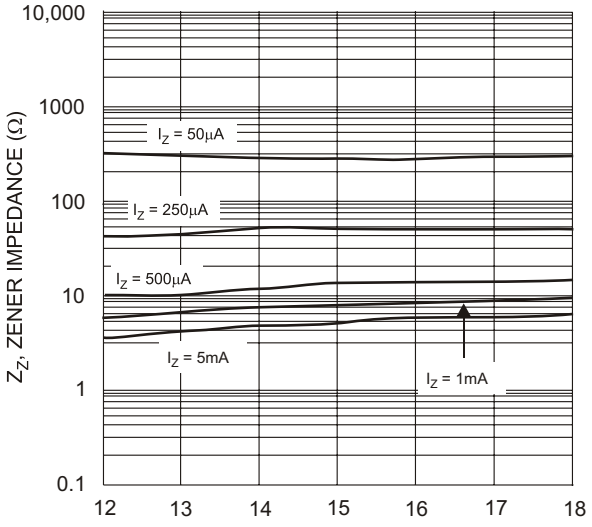


Fig. 11 Typical Zener Impedance Characteristics, DDZ12C - DDZ18C

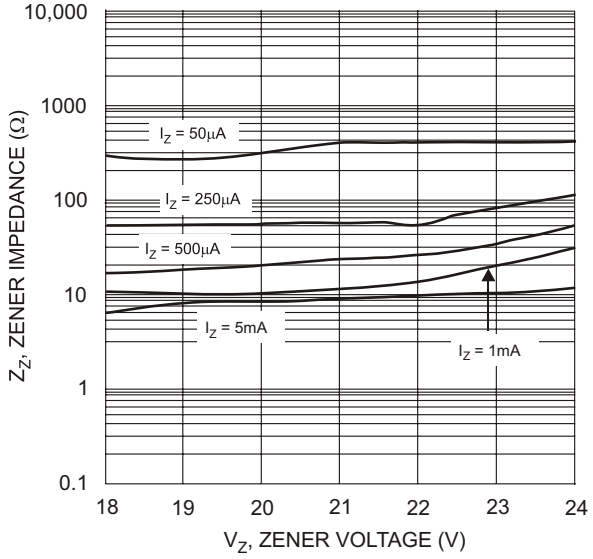


Fig. 12 Typical Zener Impedance Characteristics, DDZ18C - DDZ24C

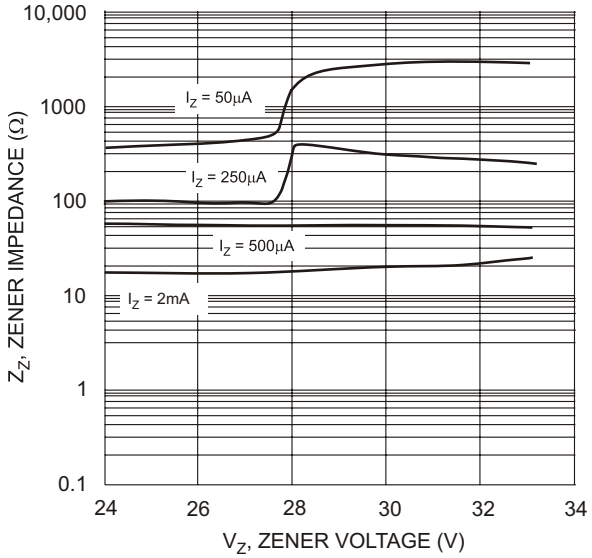


Fig. 13 Typical Zener Impedance Characteristics, DDZ24C - DDZ33

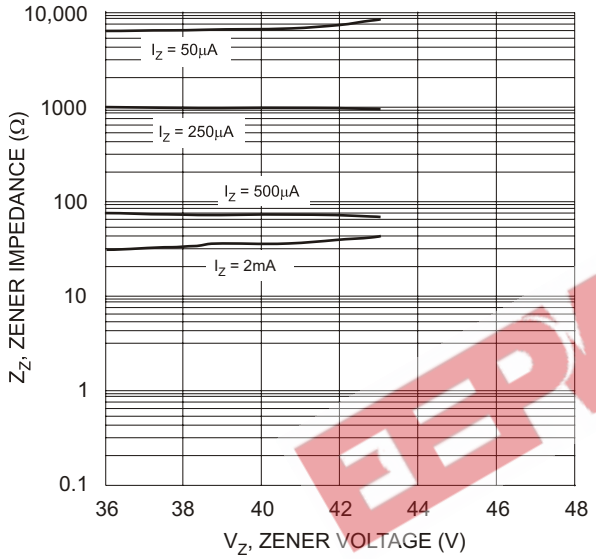


Fig. 14 Typical Zener Impedance Characteristics, DDZ36 - DDZ43

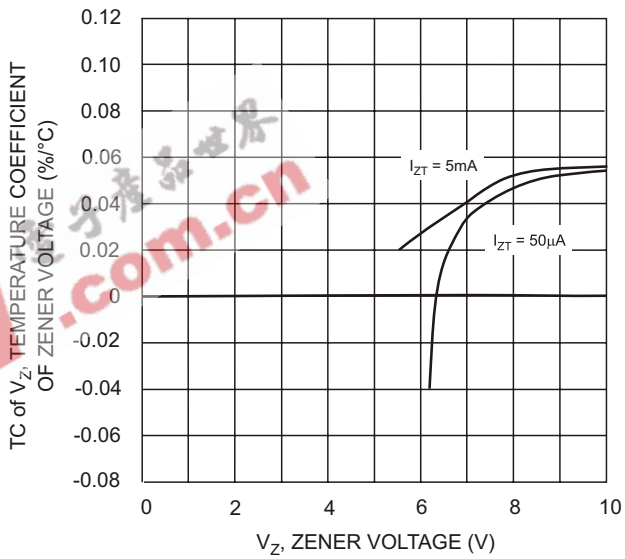


Fig. 15 Typical Temperature Coefficient of Zener Voltage vs. Zener Voltage, DDZ6V2B-DDZ10C

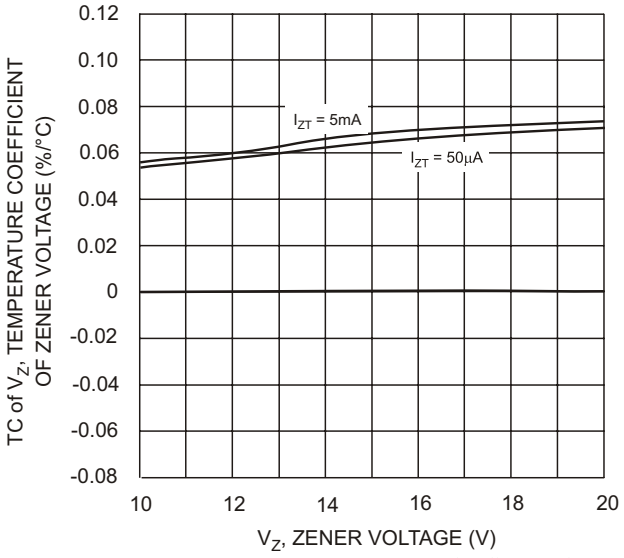


Fig. 16 Typical Temperature Coefficient of Zener Voltage vs. Zener Voltage, DDZ10C-DDZ20C

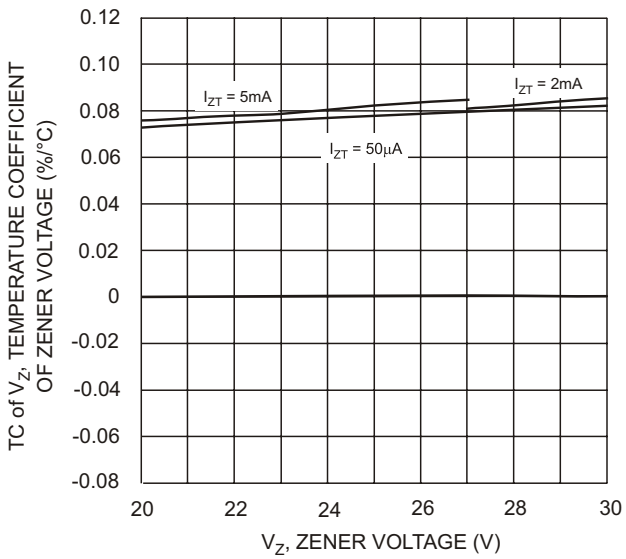


Fig. 17 Typical Temperature Coefficient of Zener Voltage, DDZ20C-DDZ30D

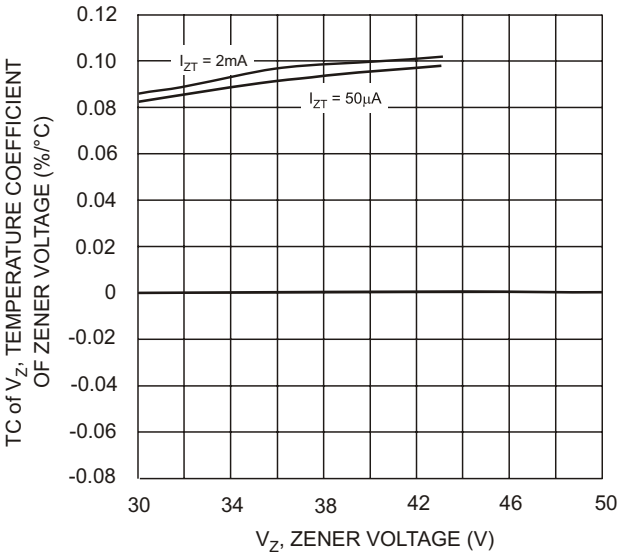


Fig. 18 Typical Temperature Coefficient of Zener Voltage, DDZ30D-DDZ43

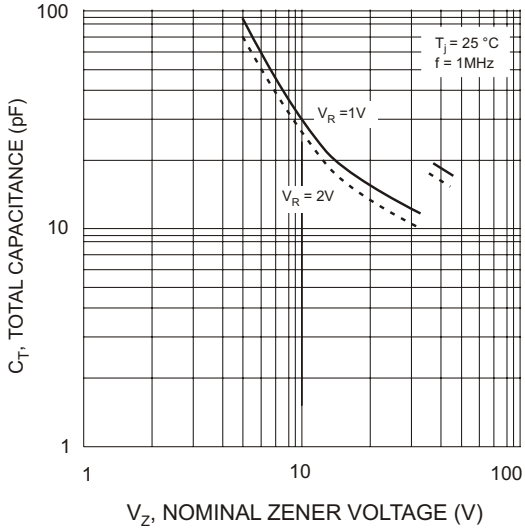


Fig. 19 Total Capacitance vs Nominal Zener Voltage