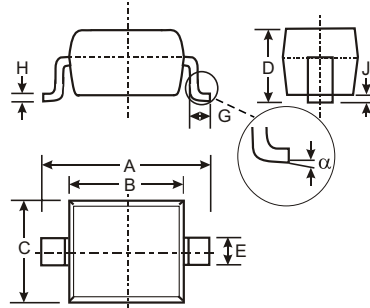


Features

- Very Sharp Breakdown Characteristics
- Very Tight Tolerance on V_Z
- Ideally Suited for Automated Assembly Processes
- Very Low Leakage Current

Mechanical Data

- Case: SOD-323, 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: 0.004 grams (approx.)



SOD-323		
Dim	Min	Max
A	2.30	2.70
B	1.60	1.80
C	1.20	1.40
D	1.05 Typical	
E	0.25	0.35
G	0.20	0.40
H	0.10	0.15
J	0.05 Typical	
α	0°	8°
All Dimensions in mm		

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Forward Voltage @ $I_F = 10\text{mA}$	V_F	0.9	V
Power Dissipation (Note 2)	P_d	200	mW
Thermal Resistance, Junction to Ambient Air (Note 2)	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150	$^\circ\text{C}$

- Notes:
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 FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.

Ordering Information (Note 3)

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

* Example: The part number for the 6.2 Volt device would be DDZ9691S-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)

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Table 1

Type Number	Type Code	Zener Voltage Range (Note 4)				Maximum Reverse Leakage Current (Note 5)	
		V _Z @ I _{ZT}			I _{ZT}	I _R @ V _R	
		Nom (V)	Min (V)	Max (V)	μA	μA	V
DDZ9682S	HA	2.7	2.565	2.835	50	1	1
DDZ9683S	HB	3.0	2.85	3.15	50	0.8	1
DDZ9684S	HC	3.3	3.13	3.47	50	7.5	1.5
DDZ9685S	HD	3.6	3.42	3.78	50	7.5	2
DDZ9686S	HE	3.9	3.70	4.10	50	5	2
DDZ9687S	HF	4.3	4.09	4.52	50	4	2
DDZ9688S	HG	4.7	4.47	4.94	50	5	3
DDZ9689S	HH	5.1	4.85	5.36	50	5	3
DDZ9690S	HJ	5.6	5.32	5.88	50	2	4
DDZ9691S	HK	6.2	5.89	6.51	50	1	5
DDZ9692S	HL	6.8	6.46	7.14	50	0.1	5.1
DDZ9693S	HM	7.5	7.13	7.88	50	0.1	5.7
DDZ9694S	HN	8.2	7.79	8.61	50	0.1	6.2
DDZ9696S	HP	9.1	8.65	9.56	50	0.1	6.9
DDZ9697S	HQ	10	9.50	10.50	50	0.1	7.6
DDZ9698S	HR	11	10.45	11.55	50	0.05	8.4
DDZ9699S	HS	12	11.40	12.60	50	0.05	9.1
DDZ9700S	HT	13	12.35	13.65	50	0.05	9.8
DDZ9701S	HU	14	13.30	14.70	50	0.05	10.6
DDZ9702S	HV	15	14.25	15.75	50	0.05	11.4
DDZ9703S	HW	16	15.20	16.80	50	0.05	12.1
DDZ9705S	HY	18	17.10	18.90	50	0.05	13.6
DDZ9707S	MD	20	19.00	21.00	50	0.05	15.2
DDZ9708S	ME	22	20.90	23.10	50	0.05	16.7
DDZ9709S	MF	24	22.80	25.20	50	0.05	18.2
DDZ9711S	MH	27	25.65	28.35	50	0.05	20.4
DDZ9712S	MJ	28	26.60	29.40	50	0.05	21.2
DDZ9713S	MK	30	28.50	31.50	50	0.05	22.8
DDZ9714S	ML	33	31.35	34.65	50	0.05	25.0
DDZ9715S	MM	36	34.20	37.80	50	0.05	27.3
DDZ9716S	MN	39	37.05	40.95	50	0.05	29.6

Notes: 4. Nominal Zener voltage is measured with the device junction in thermal equilibrium at T_T = 30°C ±1°C.
5. Short duration pulse test used to minimize self-heating effect.

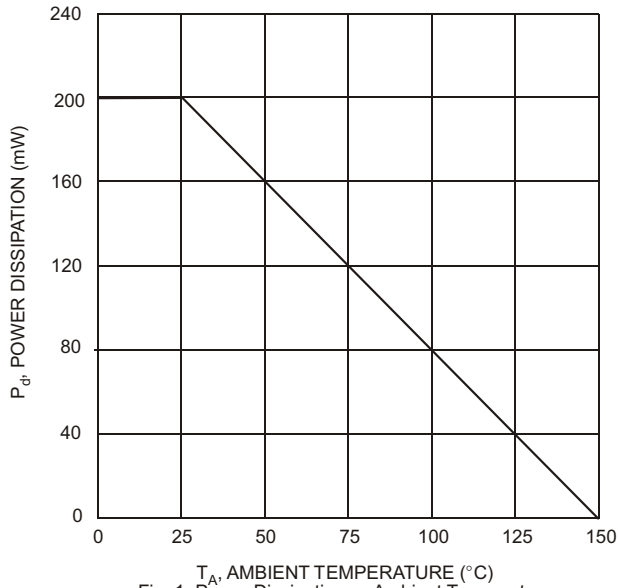


Fig. 1 Power Dissipation vs Ambient Temperature

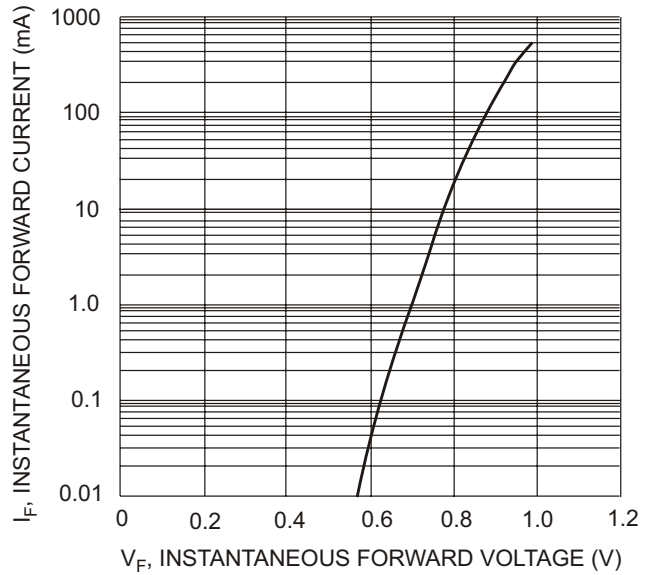


Fig. 2 Typical Forward Characteristics

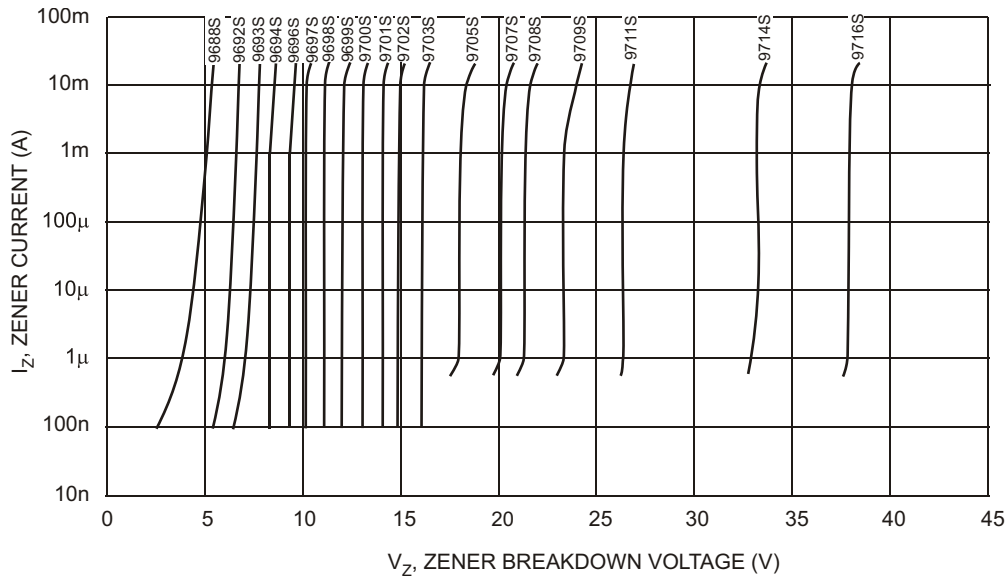


Fig. 3 Typical Reverse Characteristics

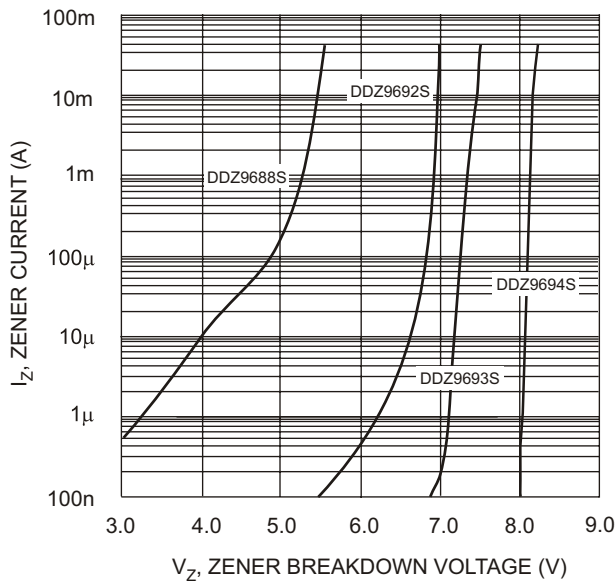


Fig. 4 Typical Reverse Characteristics, DDZ9688S - DDZ9694S

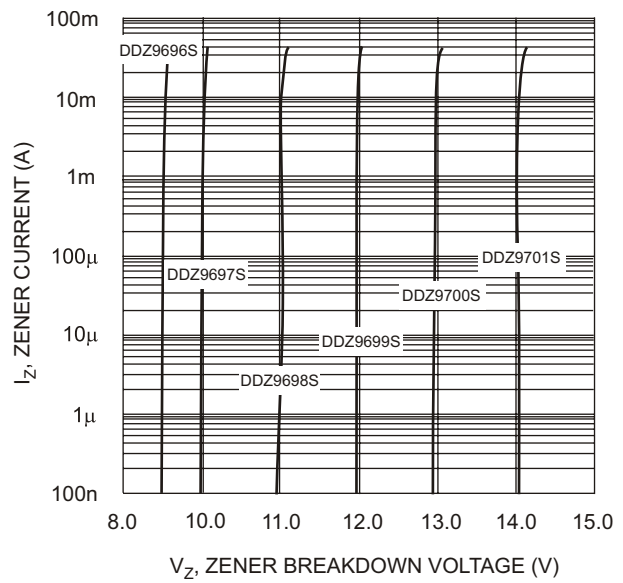


Fig. 5 Typical Reverse Characteristics, DDZ9696S - DDZ9701S

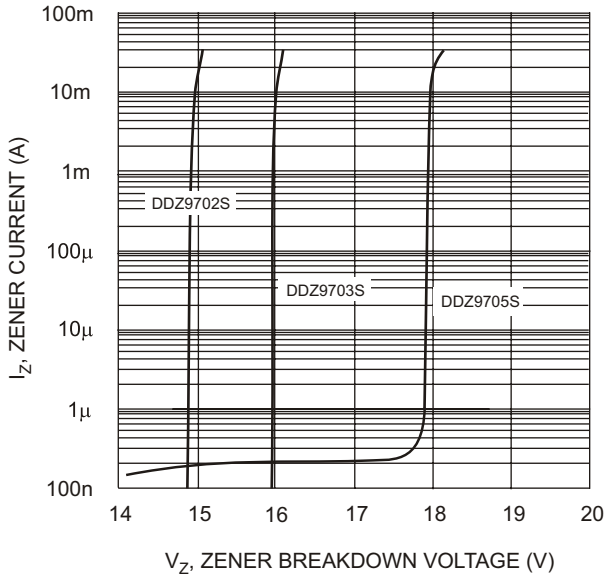


Fig. 6 Typical Reverse Characteristics, DDZ9702S - DDZ9705S

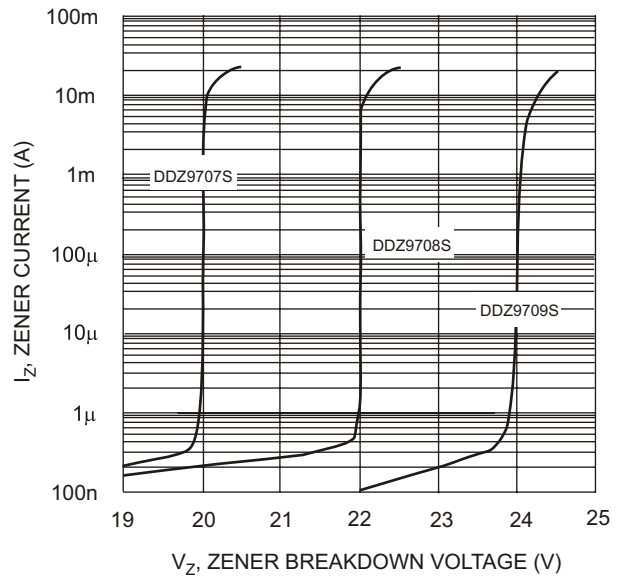


Fig. 7 Typical Reverse Characteristics, DDZ9707S - DDZ9709S

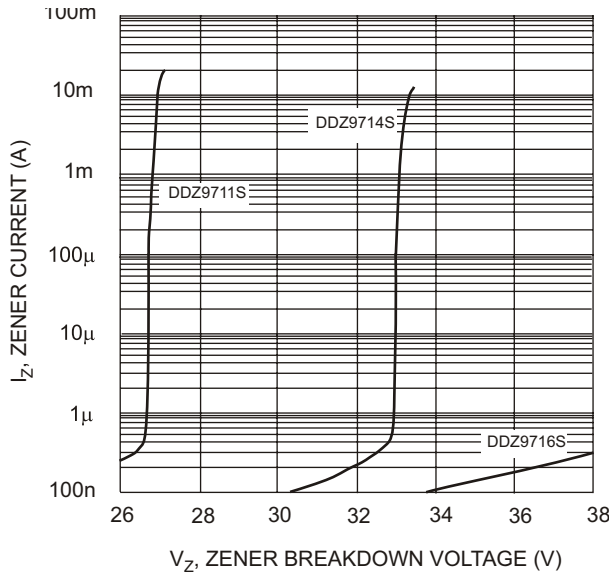


Fig. 8 Typical Reverse Characteristics, DDZ9711S - DDZ9715S

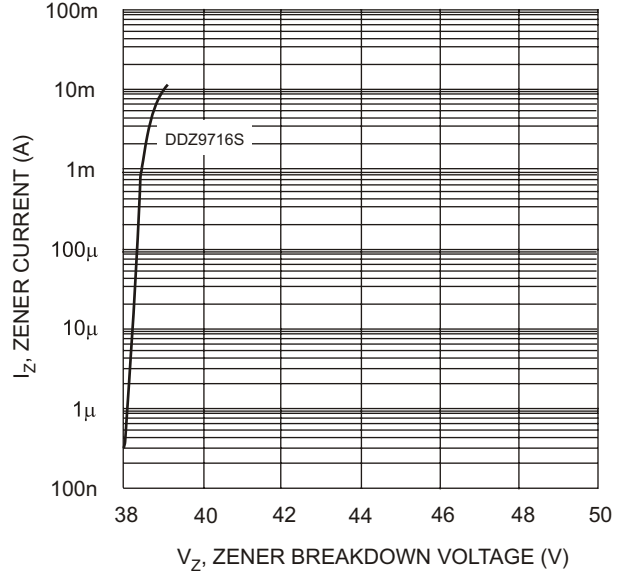


Fig. 9 Typical Reverse Characteristics, DDZ9716S

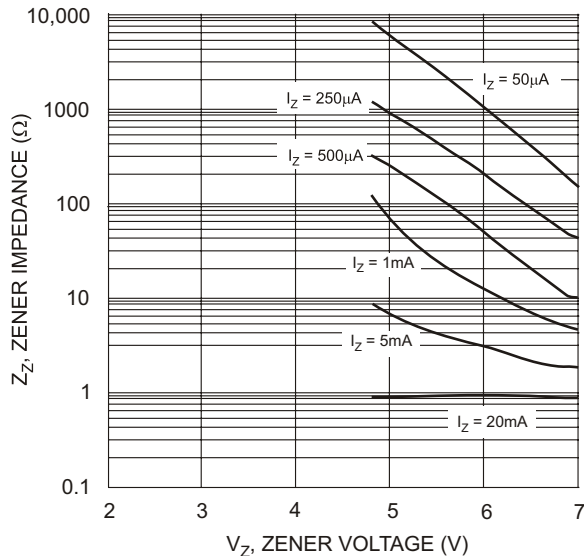


Fig. 10 Typical Zener Impedance Characteristics, DDZ9688S - DDZ9692S

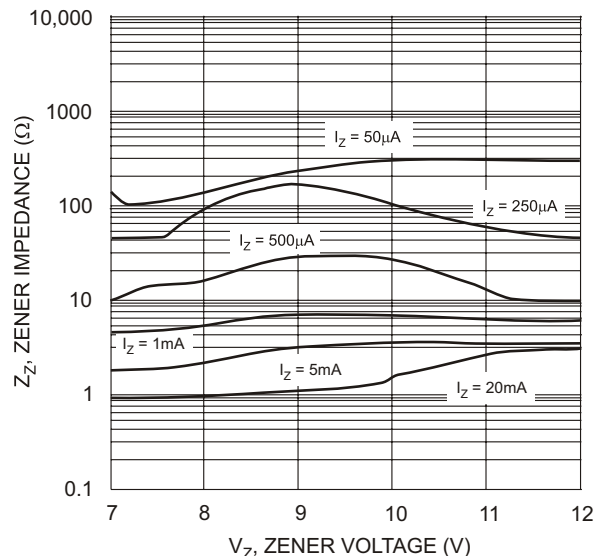


Fig. 11 Typical Zener Impedance Characteristics, DDZ9693S - DDZ9699S

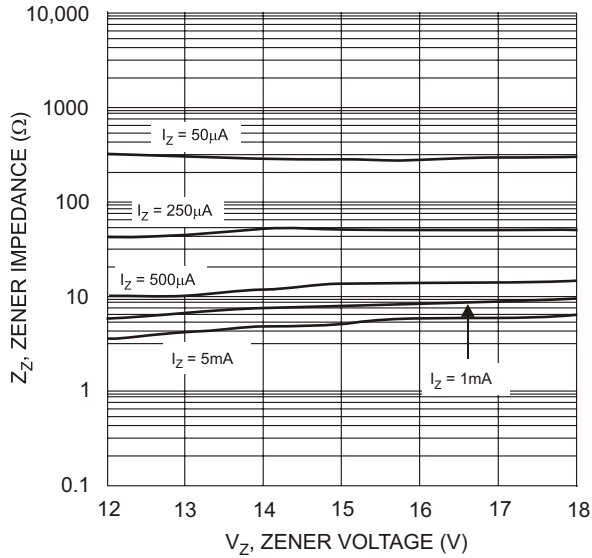


Fig. 12 Typical Zener Impedance Characteristics, DDZ9699S - DDZ9705S

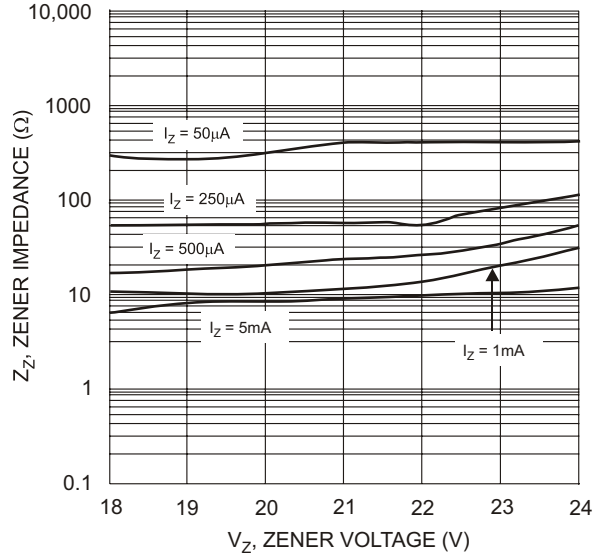


Fig. 13 Typical Zener Impedance Characteristics, DDZ9705S - DDZ9709S

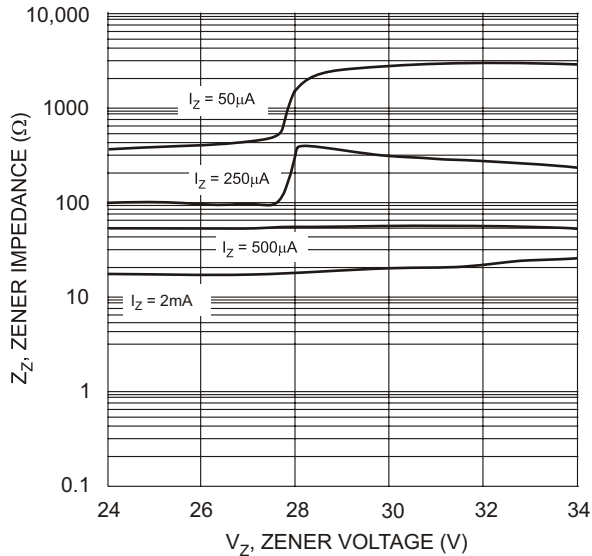


Fig. 14 Typical Zener Impedance Characteristics, DDZ9709S - DDZ9714S

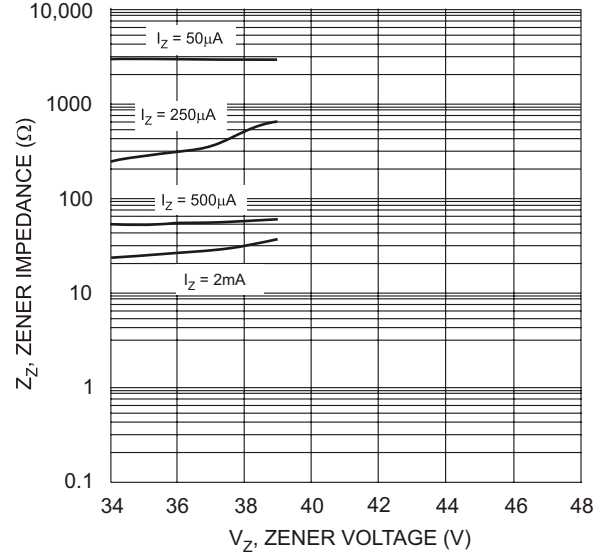


Fig. 15 Typical Zener Impedance Characteristics, DDZ9715S - DDZ9717S

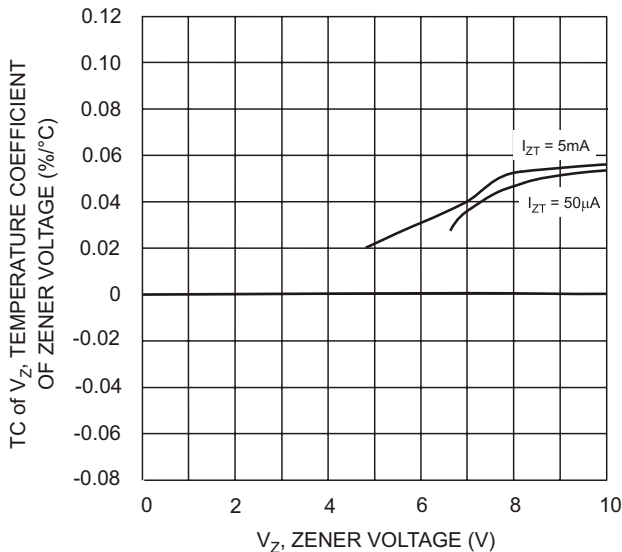


Fig. 16 Typical Temperature Coefficient of Zener Voltage vs. Zener Voltage, DDZ9692S - DDZ9697S

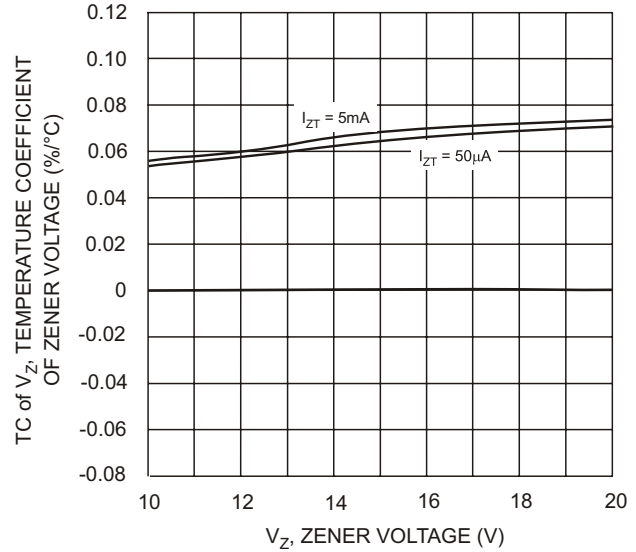


Fig. 17 Typical Temperature Coefficient of Zener Voltage vs. Zener Voltage, DDZ9697S - DDZ9707S

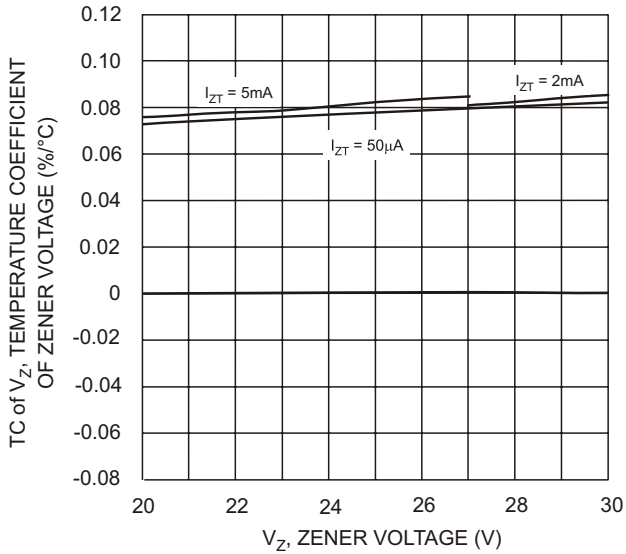


Fig. 18 Typical Temperature Coefficient of Zener Voltage, DDZ9707S - DDZ9713S

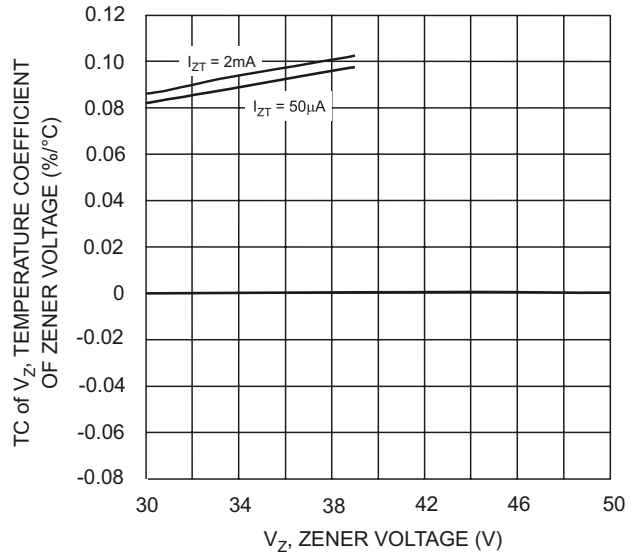


Fig. 19 Typical Temperature Coefficient of Zener Voltage, DDZ9713S - DDZ9717S

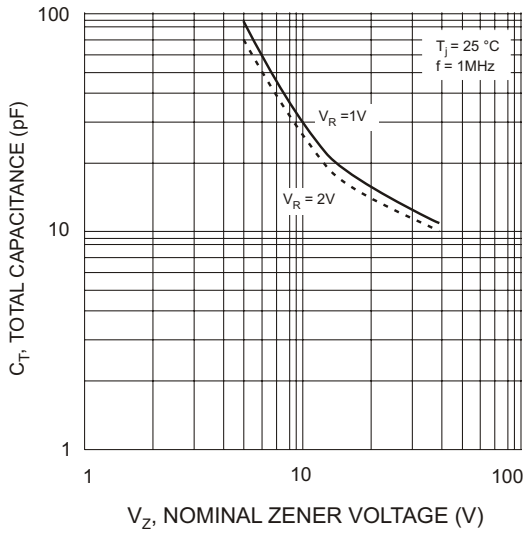


Fig. 20 Total Capacitance vs Nominal Zener Voltage