

Electrical Characteristics

Part number	Marking code	Zener voltage range ¹⁾		Dynamic resistance		Test current	Temp. coefficient	Reverse voltage	Admissible zener current ⁴⁾	
		V_Z at I_{ZT1}		r_{zj} at I_{ZT1}	r_{zj} at I_{ZT2}	I_{ZT1}	at I_{ZT1}	V_R at $I_R = 100$ nA,	I_Z at $T_{amb} = 45$ °C,	I_Z at $T_{amb} = 25$ °C,
		V		Ω		mA	α_{VZ} ($10^{-4}/^{\circ}\text{C}$)	V	mA	
		min.	max.							
BZT52C2V4-V	W1	2.2	2.6	85	600	5	- 9 to - 4	-	-	-
BZT52C2V7-V	W2	2.5	2.9	75 (< 83)	< 500	5	- 9 to - 4	-	113	134
BZT52C3V0-V	W3	2.8	3.2	80 (< 95)	< 500	5	- 9 to - 3	-	98	118
BZT52C3V3-V	W4	3.1	3.5	80 (< 95)	< 500	5	- 8 to - 3	-	92	109
BZT52C3V6-V	W5	3.4	3.8	80 (< 95)	< 500	5	- 8 to - 3	-	85	100
BZT52C3V9-V	W6	3.7	4.1	80 (< 95)	< 500	5	- 7 to - 3	-	77	92
BZT52C4V3-V	W7	4	4.6	80 (< 95)	< 500	5	- 6 to - 1	-	71	84
BZT52C4V7-V	W8	4.4	5	70 (< 78)	< 500	5	- 5 to +2	-	64	76
BZT52C5V1-V	W9	4.8	5.4	30 (< 60)	< 480	5	- 3 to +4	> 0.8	56	67
BZT52C5V6-V	WA	5.2	6	10 (< 40)	< 400	5	- 2 to +6	> 1	50	59
BZT52C6V2-V	WB	5.8	6.6	4.8 (< 10)	< 200	5	- 1 to +7	> 2	45	54
BZT52C6V8-V	WC	6.4	7.2	4.5 (< 8)	< 150	5	+ 2 to +7	> 3	41	49
BZT52C7V5-V	WD	7	7.9	4 (< 7)	< 50	5	+ 3 to +7	> 5	37	44
BZT52C8V2-V	WE	7.7	8.7	4.5 (< 7)	< 50	5	+ 4 to +7	> 6	34	40
BZT52C9V1-V	WF	8.5	9.6	4.8 (< 10)	< 50	5	+ 5 to +8	> 7	30	36
BZT52C10-V	WG	9.4	10.6	5.2 (< 15)	< 70	5	+ 5 to +8	> 7.5	28	33
BZT52C11-V	WH	10.4	11.6	6 (< 20)	< 70	5	+ 5 to +9	> 8.5	25	30
BZT52C12-V	WI	11.4	12.7	7 (< 20)	< 90	5	+ 6 to +9	> 9	23	28
BZT52C13-V	WK	12.4	14.1	9 (< 25)	< 110	5	+ 7 to +9	> 10	21	25
BZT52C15-V	WL	13.8	15.6	11 (< 30)	< 110	5	+ 7 to +9	> 11	19	23
BZT52C16-V	WM	15.3	17.1	13 (< 40)	< 170	5	+ 8 to +9.5	> 12	17	20
BZT52C18-V	WN	16.8	19.1	18 (< 50)	< 170	5	+ 8 to +9.5	> 14	15	18
BZT52C20-V	WO	18.8	21.2	20 (< 50)	< 220	5	+ 8 to +10	> 15	14	17
BZT52C22-V	WP	20.8	23.3	25 (< 55)	< 220	5	+ 8 to +10	> 17	13	16
BZT52C24-V	WR	22.8	25.6	28 (< 80)	< 220	5	+ 8 to +10	> 18	11	13
BZT52C27-V	WS	25.1	28.9	30 (< 80)	< 250	5	+ 8 to +10	> 20	10	12
BZT52C30-V	WT	28	32	35 (< 80)	< 250	5	+ 8 to +10	> 22.5	9	10
BZT52C33-V	WU	31	35	40 (< 80)	< 250	5	+ 8 to +10	> 25	8	9
BZT52C36-V	WW	34	38	40 (< 90)	< 250	5	+ 8 to +10	> 27	8	9
BZT52C39-V	WX	37	41	50 (< 90)	< 300	5	+ 10 to +12	> 29	7	8
BZT52C43-V	WY	40	46	60 (< 100)	< 700	5	+ 10 to +12	> 32	6	7
BZT52C47-V	WZ	44	50	70 (< 100)	< 750	5	+ 10 to +12	> 35	5	6
BZT52C51-V	X1	48	54	70 (< 100)	< 750	5	+ 10 to +12	> 38	5	6
BZT52C56-V	X2	52	60	< 135 ⁽²⁾	< 1000 ⁽³⁾	2.5	typ. +10 ⁽²⁾	-	-	-
BZT52C62-V	X3	58	66	< 150 ⁽²⁾	< 1000 ⁽³⁾	2.5	typ. +10 ⁽²⁾	-	-	-
BZT52C68-V	X4	64	72	< 200 ⁽²⁾	< 1000 ⁽³⁾	2.5	typ. +10 ⁽²⁾	-	-	-
BZT52C75-V	X5	70	79	< 250 ⁽²⁾	< 1500 ⁽³⁾	2.5	typ. +10 ⁽²⁾	-	-	-

$I_{ZT1} = 5$ mA, $I_{ZT2} = 1$ mA

(1) Measured with pulses $T_p = 5$ ms

(2) = $I_{ZT1} = 2.5$ mA

(3) = $I_{ZT2} = 0.5$ mA

(4) Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics

Part number	Marking code	Zener voltage range ¹⁾		Dynamic resistance		Test current	Temp. coefficient	Reverse voltage	Admissible zener current ⁴⁾	
		V_Z at I_{ZT1}		r_{zj} at I_{ZT1}	r_{zj} at I_{ZT2}	I_{ZT1}	at I_{ZT1}	V_R at $I_R = 100 \text{ nA}$	I_Z at $T_{amb} = 45^\circ\text{C}$	I_Z at $T_{amb} = 25^\circ\text{C}$
		V		Ω		mA	α_{VZ} ($10^{-4}/^\circ\text{C}$)	V	mA	
		min.	max.							
BZT52B2V4-V	W1	2.35	2.45	85	600	5	- 9 to - 4	-	-	-
BZT52B2V7-V	W2	2.65	2.75	75 (< 83)	< 500	5	- 9 to - 4	-	113	134
BZT52B3V0-V	W3	2.94	3.06	80 (< 95)	< 500	5	- 9 to - 3	-	98	118
BZT52B3V3-V	W4	3.23	3.37	80 (< 95)	< 500	5	- 8 to - 3	-	92	109
BZT52B3V6-V	W5	3.53	3.67	80 (< 95)	< 500	5	- 8 to - 3	-	85	100
BZT52B3V9-V	W6	3.82	3.98	80 (< 95)	< 500	5	- 7 to - 3	-	77	92
BZT52B4V3-V	W7	4.21	4.39	80 (< 95)	< 500	5	- 6 to - 1	-	71	84
BZT52B4V7-V	W8	4.61	4.79	70 (< 78)	< 500	5	- 5 to + 2	-	64	76
BZT52B5V1-V	W9	5	5.2	30 (< 60)	< 480	5	- 3 to + 4	> 0.8	56	67
BZT52B5V6-V	WA	5.49	5.71	10 (< 40)	< 400	5	- 2 to + 6	> 1	50	59
BZT52B6V2-V	WB	6.08	6.32	4.8 (< 10)	< 200	5	- 1 to + 7	> 2	45	54
BZT52B6V8-V	WC	6.66	6.94	4.5 (< 8)	< 150	5	+ 2 to + 7	> 3	41	49
BZT52B7V5-V	WD	7.35	7.65	4 (< 7)	< 50	5	+ 3 to + 7	> 5	37	44
BZT52B8V2-V	WE	8.04	8.36	4.5 (< 7)	< 50	5	+ 4 to + 7	> 6	34	40
BZT52B9V1-V	WF	8.92	9.28	4.8 (< 10)	< 50	5	+ 5 to + 8	> 7	30	36
BZT52B10-V	WG	9.8	10.2	5.2 (< 15)	< 70	5	+ 5 to + 8	> 7.5	28	33
BZT52B11-V	WH	10.8	11.2	6 (< 20)	< 70	5	+ 5 to + 9	> 8.5	25	30
BZT52B12-V	WI	11.8	12.2	7 (< 20)	< 90	5	+ 6 to + 9	> 9	23	28
BZT52B13-V	WK	12.7	13.3	9 (< 25)	< 110	5	+ 7 to + 9	> 10	21	25
BZT52B15-V	WL	14.7	15.3	11 (< 30)	< 110	5	+ 7 to + 9	> 11	19	23
BZT52B16-V	WM	15.7	16.3	13 (< 40)	< 170	5	+ 8 to + 9.5	> 12	17	20
BZT52B18-V	WN	17.6	18.4	18 (< 50)	< 170	5	+ 8 to + 9.5	> 14	15	18
BZT52B20-V	WO	19.6	20.4	20 (< 50)	< 220	5	+ 8 to + 10	> 15	14	17
BZT52B22-V	WP	21.6	22.4	25 (< 55)	< 220	5	+ 8 to + 10	> 17	13	16
BZT52B24-V	WR	23.5	24.5	28 (< 80)	< 220	5	+ 8 to + 10	> 18	11	13
BZT52B27-V	WS	26.5	27.5	30 (< 80)	< 250	5	+ 8 to + 10	> 20	10	12
BZT52B30-V	WT	29.4	30.6	35 (< 80)	< 250	5	+ 8 to + 10	> 22.5	9	10
BZT52B33-V	WU	32.3	33.7	40 (< 80)	< 250	5	+ 8 to + 10	> 25	8	9
BZT52B36-V	WW	35.3	36.7	40 (< 90)	< 250	5	+ 8 to + 10	> 27	8	9
BZT52B39-V	WX	38.2	39.8	50 (< 90)	< 300	5	+ 10 to + 12	> 29	7	8
BZT52B43-V	WY	42.1	43.9	60 (< 100)	< 700	5	+ 10 to + 12	> 32	6	7
BZT52B47-V	WZ	46.1	47.9	70 (< 100)	< 750	5	+ 10 to + 12	> 35	5	6
BZT52B51-V	X1	50	52	70 (< 100)	< 750	5	+ 10 to + 12	> 38	5	6
BZT52B56-V	X2	54.9	57.1	< 135 ⁽²⁾	< 1000 ⁽³⁾	2.5	typ. + 10 ⁽²⁾	-	-	-
BZT52B62-V	X3	60.8	63.2	< 150 ⁽²⁾	< 1000 ⁽³⁾	2.5	typ. + 10 ⁽²⁾	-	-	-
BZT52B68-V	X4	66.6	69.4	< 200 ⁽²⁾	< 1000 ⁽³⁾	2.5	typ. + 10 ⁽²⁾	-	-	-
BZT52B75-V	X5	73.5	76.5	< 250 ⁽²⁾	< 1500 ⁽³⁾	2.5	typ. + 10 ⁽²⁾	-	-	-

$I_{ZT1} = 5 \text{ mA}$, $I_{ZT2} = 1 \text{ mA}$

¹⁾ Measured with pulses $T_p = 5 \text{ ms}$

²⁾ $I_{ZT1} = 2.5 \text{ mA}$

³⁾ $I_{ZT2} = 0.5 \text{ mA}$

⁴⁾ Valid provided that electrodes are kept at ambient temperature.

Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

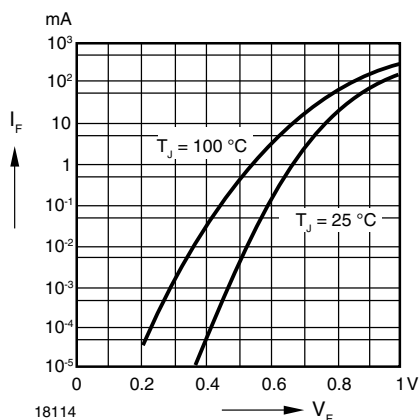


Figure 1. Forward characteristics

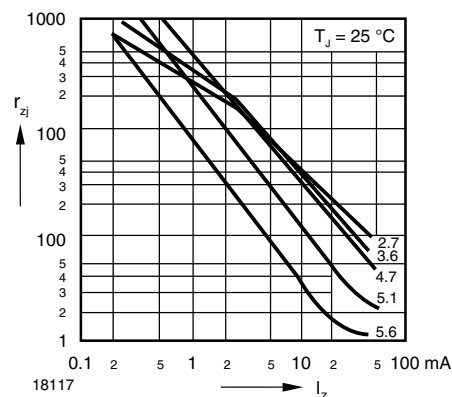


Figure 4. Dynamic Resistance vs. Zener Current

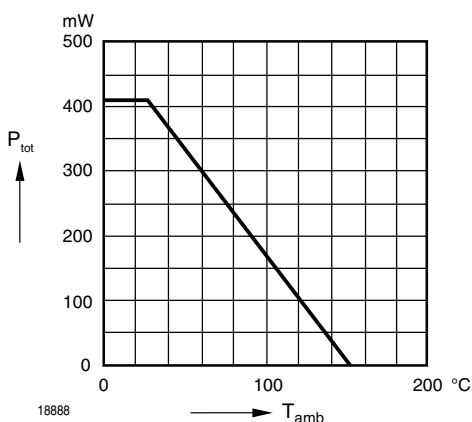


Figure 2. Admissible Power Dissipation vs. Ambient Temperature

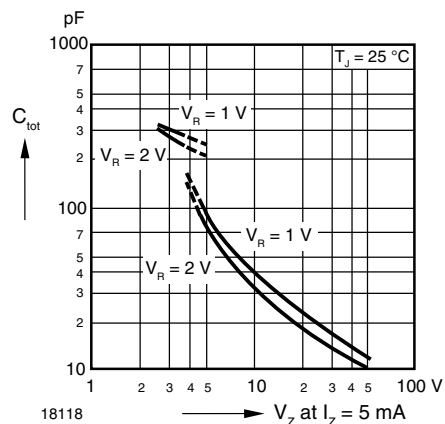


Figure 5. Capacitance vs. Zener Voltage

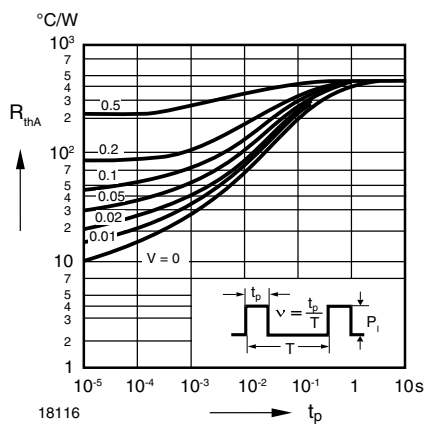


Figure 3. Pulse Thermal Resistance vs. Pulse Duration

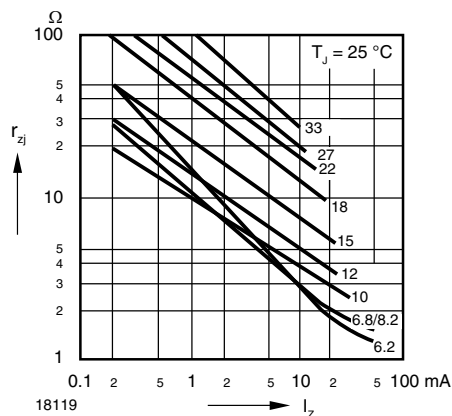


Figure 6. Dynamic Resistance vs. Zener Current

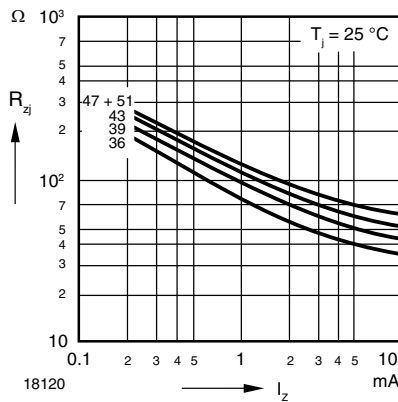


Figure 7. Dynamic Resistance vs. Zener Current

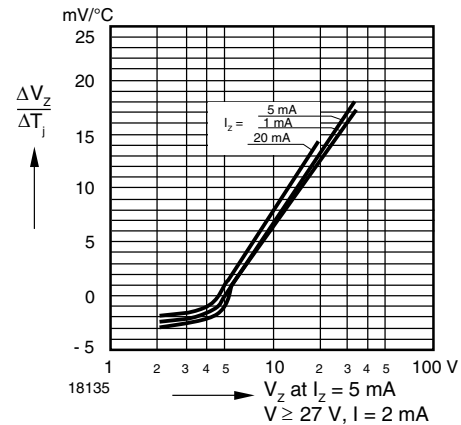


Figure 10. Temperature Dependence of Zener Voltage vs. Zener Voltage

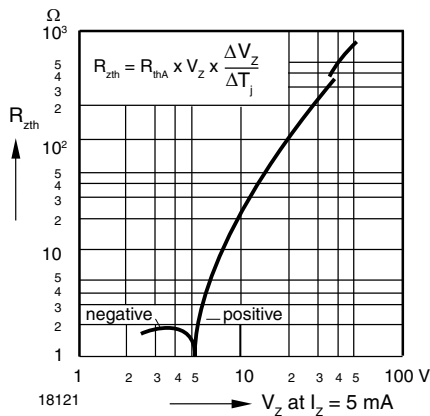


Figure 8. Thermal Differential Resistance vs. Zener Voltage

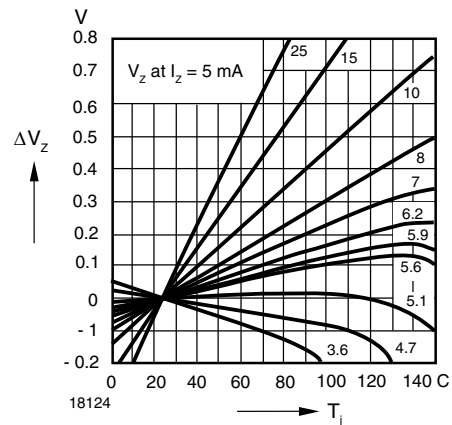


Figure 11. Change of Zener Voltage vs. Junction Temperature

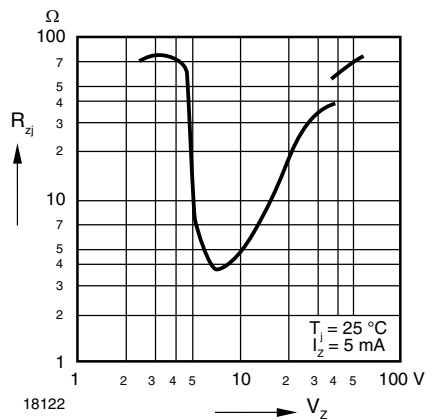


Figure 9. Dynamic Resistance vs. Zener Voltage

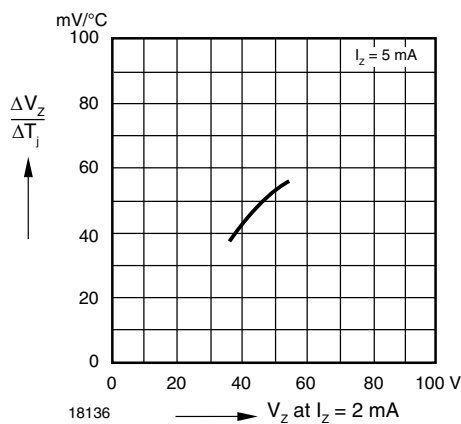


Figure 12. Temperature Dependence of Zener Voltage vs. Zener Voltage

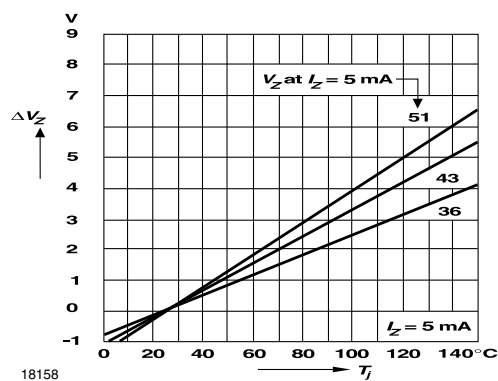


Figure 13. Change of Zener Voltage vs. Junction Temperature

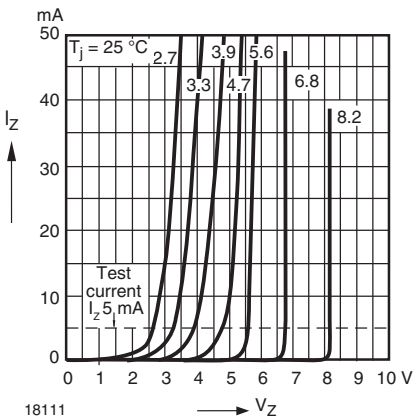


Figure 16. Breakdown Characteristics

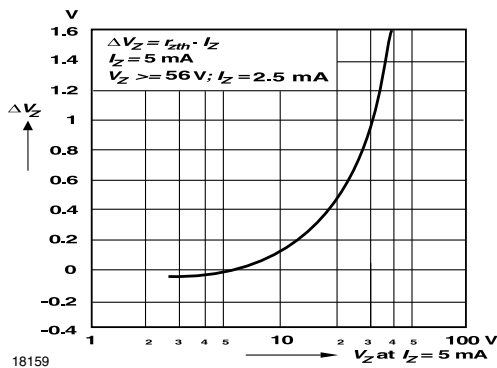


Figure 14. Change of Zener voltage from turn-on up to the point of thermal equilibrium vs. Zener voltage

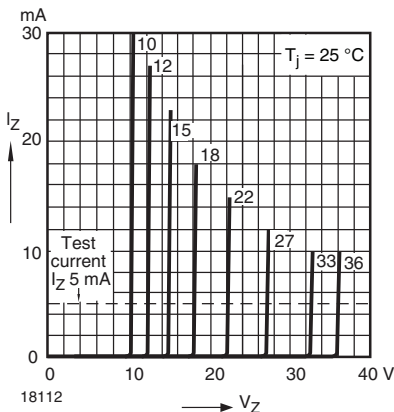


Figure 17. Breakdown Characteristics

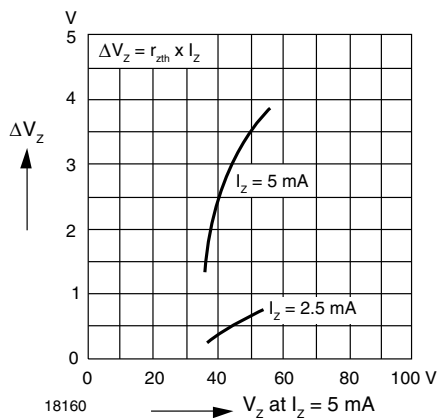


Figure 15. Change of Zener voltage from turn-on up to the point of thermal equilibrium vs. Zener voltage

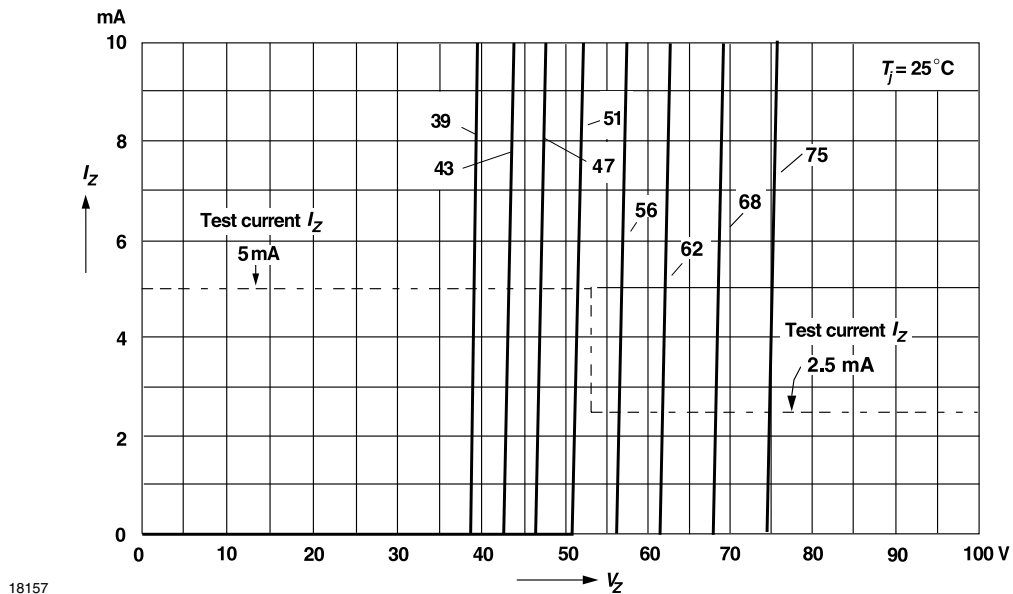
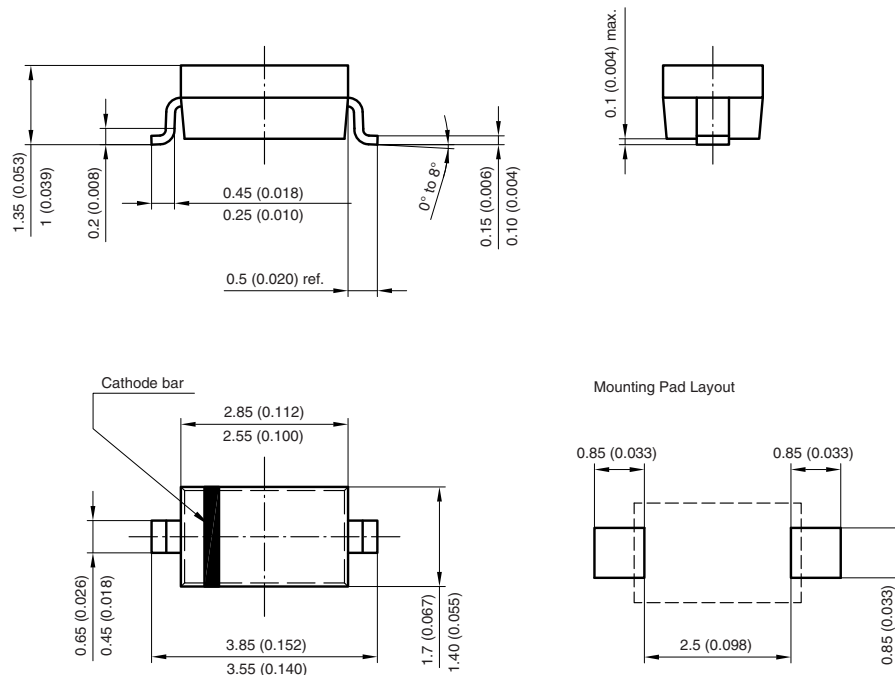


Figure 18. Breakdown Characteristics

Package Dimensions in millimeters (inches): SOD-123



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