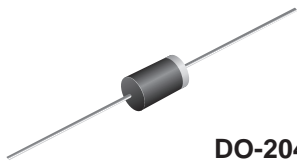




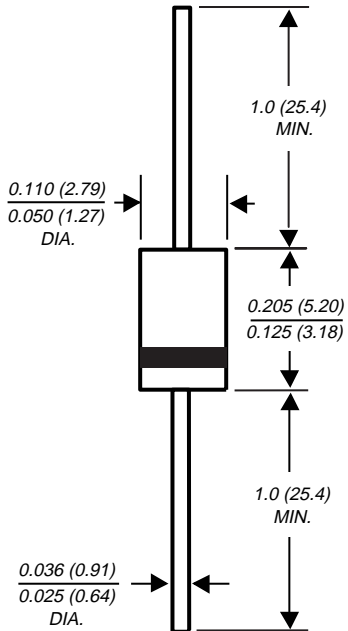
Zener Diodes

V_z Range 3.9 to 200V
Power Dissipation 1.5W



DO-204AM

Extended
Voltage Range



Dimensions in inches and (millimeters)

Features

- Silicon Planar Power Zener Diodes.
- For use in stabilizing and clipping circuits with high power rating.
- The Zener voltages are graded according to the international E 24 standard. Smaller voltage tolerances are available upon request.

Mechanical Data

Case: JEDEC DO-204AM molded plastic body

Weight: approx. 0.34g

Packaging Codes/Options:

E2/4K per Ammo mag. (52mm tape), 20K/box
E3/5K per 13" reel (52mm tape), 10K/box

Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Zener Current (see Table "Characteristics")			
Power Dissipation at T _{amb} = 60°C	P _{tot}	1.5 ⁽¹⁾	W
Thermal Resistance Junction to Ambient Air	R _{θJA}	60 ⁽¹⁾	°C/W
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _s	-55 to +150	°C

Note:

(1) Valid provided that leads at a distance of 3/8" from case are kept at ambient temperature.

BZY97-C3V9 thru BZY97-C200



Vishay Semiconductors
formerly General Semiconductor

Electrical Characteristics (T_J = 25°C unless otherwise noted)

Type	Zener voltage ⁽¹⁾ at I _{ZT} V _Z (V) min. max.	Dynamic resistance at I _{ZT} f = 1 kHz max r _{Zj} (Ω)	Typical Temp. coeff. of Zener volt. at I _{ZT} α _{VZ} (10 ⁻⁴ /K)	Test current I _{ZT} (mA)	Leakage current I _R (μA)	Reverse voltage V _R (V)	Admissible Zener current at T _{amb} = 60°C I _Z (mA)	I _{ZSM} t _p = 10 ms (A)
BZY97 - C3V9	3.7 ... 4.1	7	-0.025	100	15	1	366	3.7
BZY97 - C4V3	4.0 ... 4.6	7	-0.02	100	10	1	327	3.4
BZY97 - C4V7	4.4 ... 5.0	7	-0.02	100	5	1	300	3.1
BZY97 - C5V1	4.8 ... 5.4	5	-0.01	100	3	1	278	2.8
BZY97 - C5V6	5.2 ... 6.0	2	+0.02	100	1	1	250	2.6
BZY97 - C6V2	5.8 ... 6.6	2	+0.05	100	1	1	227	2.3
BZY97 - C6V8	6.4 ... 7.2	2	+0.35	100	1	1	208	2.1
BZY97 - C7V5	7.0 ... 7.9	2	+0.35	100	1	2	190	1.9
BZY97 - C8V2	7.7 ... 8.7	2	+0.055	100	1	3.5	175	1.8
BZY97 - C9V1	8.5 ... 9.6	4	+0.055	50	1	3.5	156	1.6
BZY97 - C10	9.4 ... 10.6	4	+0.07	50	1	5	142	1.4
BZY97 - C11	10.4 ... 11.6	7	+5 ... +10	50	1	5	129	1.3
BZY97 - C12	11.4 ... 12.7	7	+5 ... +10	50	1	7	118	1.2
BZY97 - C13	12.4 ... 14.1	10	+5 ... +10	50	1	7	106	1.1
BZY97 - C15	13.8 ... 15.8	10	+5 ... +10	50	1	10	96	1.0
BZY97 - C16	15.3 ... 17.1	15	+6 ... +11	25	1	10	88	0.90
BZY97 - C18	16.8 ... 19.1	15	+6 ... +11	25	1	10	79	0.81
BZY97 - C20	18.8 ... 21.2	15	+6 ... +11	25	1	10	71	0.73
BZY97 - C22	20.8 ... 23.3	15	+6 ... +11	25	1	12	64	0.66
BZY97 - C24	22.8 ... 25.6	15	+6 ... +11	25	1	12	59	0.60
BZY97 - C27	25.1 ... 28.9	15	+6 ... +11	25	1	14	52	0.53
BZY97 - C30	28 ... 32	15	+6 ... +11	25	1	14	47	0.48
BZY97 - C33	31 ... 35	15	+6 ... +11	25	1	17	43	0.44
BZY97 - C36	34 ... 38	40	+6 ... +11	10	1	17	40	0.40
BZY97 - C39	37 ... 41	40	+6 ... +11	10	1	20	37	0.38
BZY97 - C43	40 ... 46	45	+7 ... +12	10	1	20	33	0.33
BZY97 - C47	44 ... 50	45	+7 ... +12	10	1	24	30	0.31
BZY97 - C51	48 ... 54	60	+7 ... +12	10	1	24	28	0.28
BZY97 - C56	52 ... 60	60	+7 ... +12	10	1	28	25	0.26
BZY97 - C62	58 ... 66	80	+7 ... +12	10	1	28	23	0.23
BZY97 - C68	64 ... 72	80	+7 ... +12	10	1	34	21	0.21
BZY97 - C75	70 ... 79	100	+7 ... +12	10	1	34	19	0.19
BZY97 - C82	77 ... 88	100	+7 ... +12	10	1	41	17	0.18
BZY97 - C91	85 ... 96	200	+8 ... +13	5	1	41	16	0.16
BZY97 - C100	94 ... 106	200	+8 ... +13	5	1	50	14	0.15
BZY97 - C110	104 ... 116	250	+8 ... +13	5	1	50	13	0.13
BZY97 - C120	114 ... 127	250	+8 ... +13	5	1	60	12	0.12
BZY97 - C130	124 ... 141	300	+8 ... +13	5	1	60	11	0.11
BZY97 - C150	138 ... 156	300	+8 ... +13	5	1	75	10	0.10
BZY97 - C160	153 ... 171	350	+8 ... +13	5	1	75	9	0.09
BZY97 - C180	168 ... 191	350	+8 ... +13	5	1	90	8	0.08
BZY97 - C200	188 ... 212	350	+8 ... +13	5	1	90	7	0.07

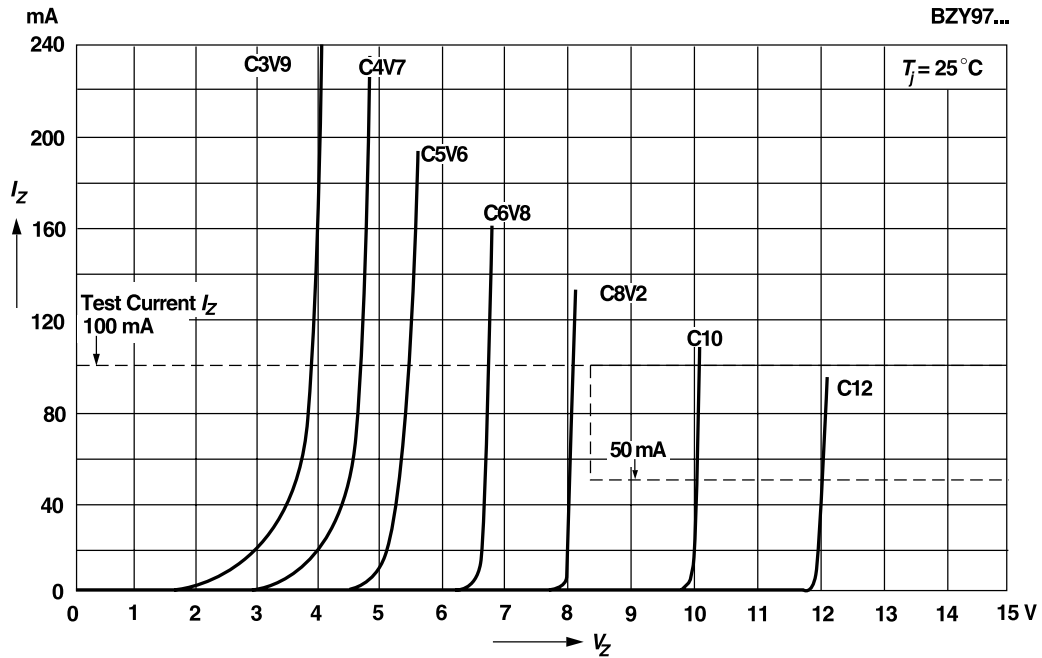
Notes: (1) Tested with pulses t_p = 5 ms



Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

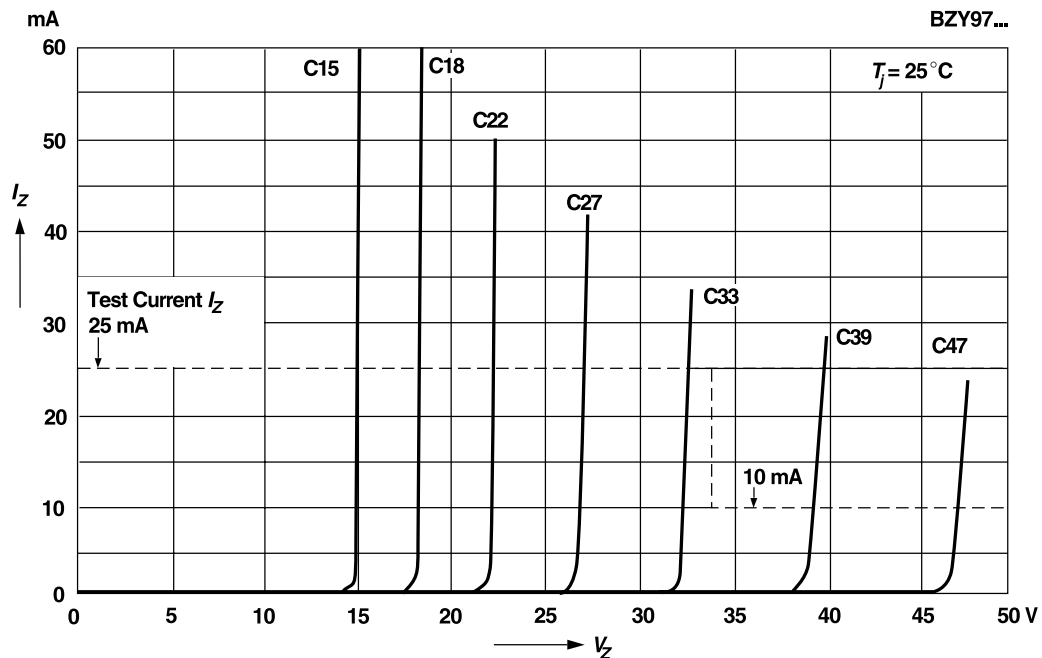
Breakdown characteristics

$T_j = \text{constant (pulsed)}$



Breakdown characteristics

$T_j = \text{constant (pulsed)}$



BZY97-C3V9 thru BZY97-C200

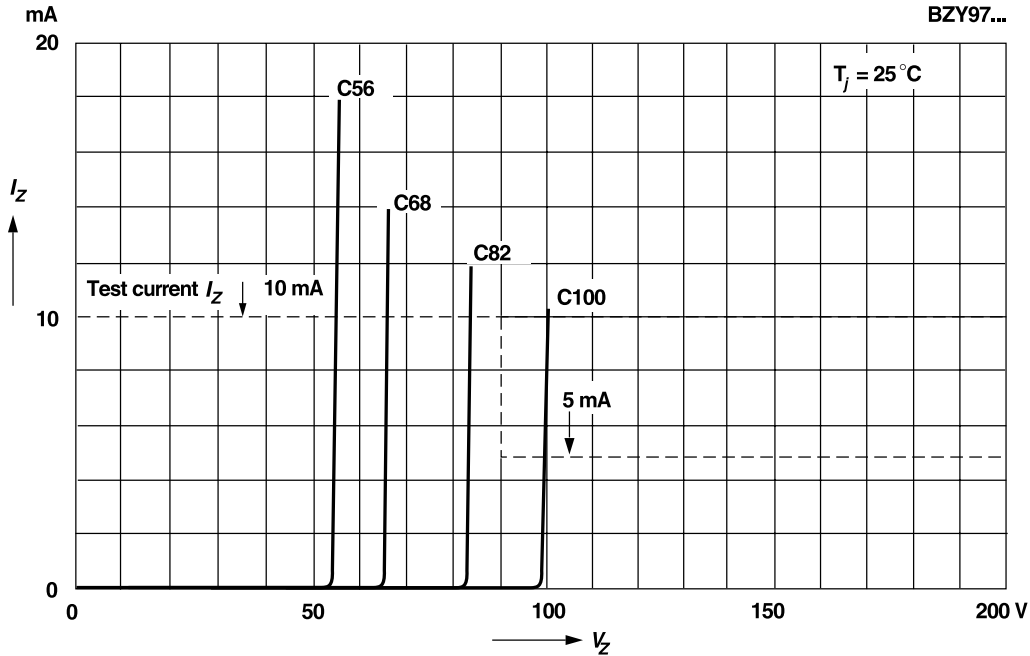


Vishay Semiconductors
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Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

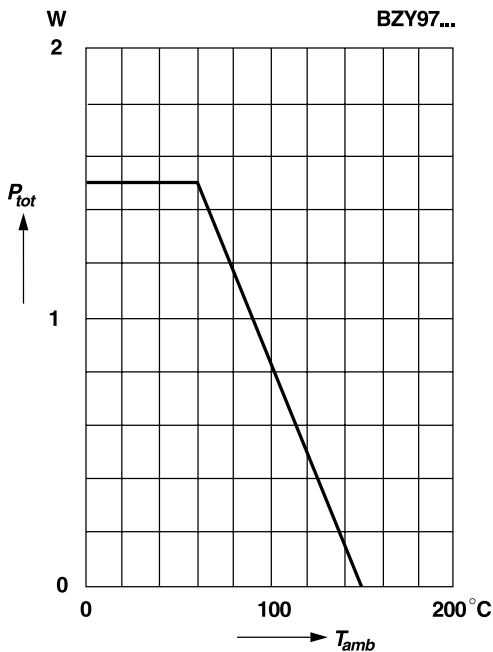
Breakdown characteristics

$T_j = \text{constant (pulsed)}$



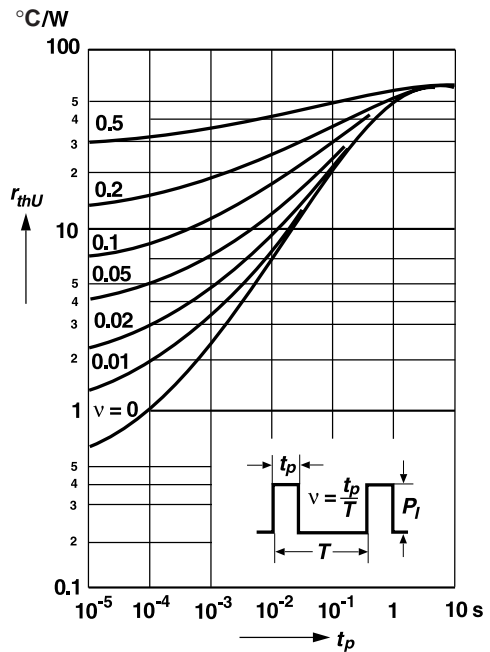
Admissible power dissipation versus ambient temperature

For conditions, see footnote in table
"Absolute Maximum Ratings"



Pulse thermal resistance versus pulse duration

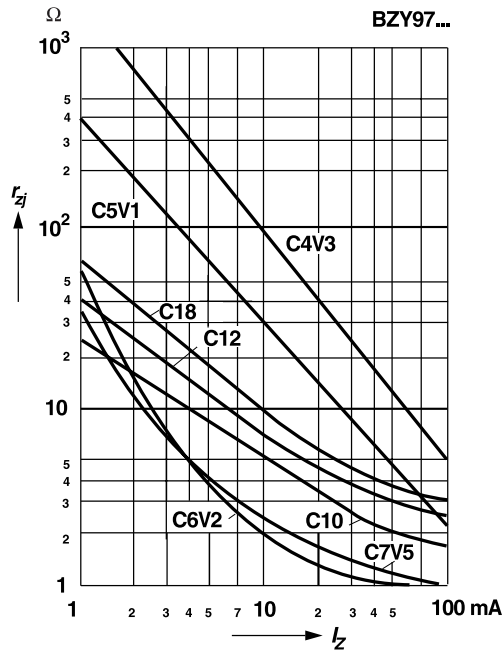
Valid provided that leads are kept at ambient temperature
at a distance of 10 mm from case



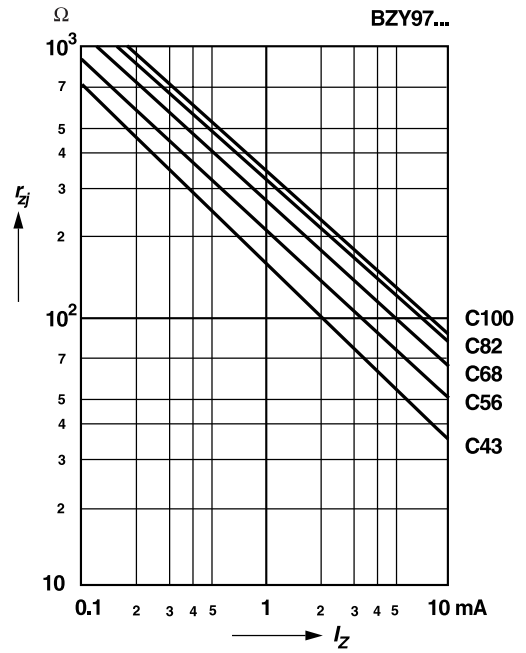


Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

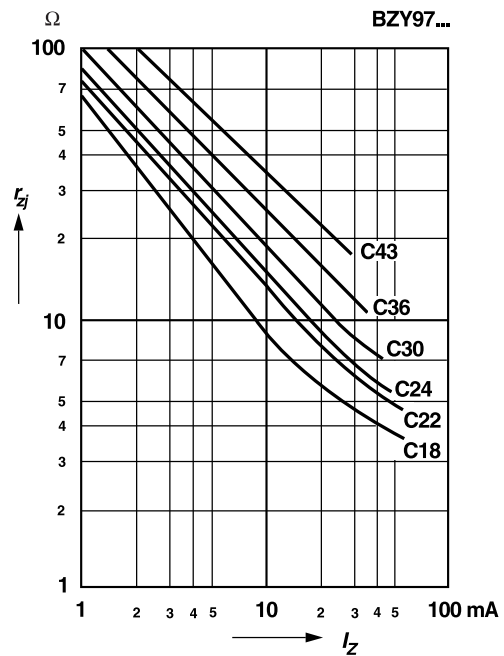
Dynamic resistance versus Zener current



Dynamic resistance versus Zener current



Dynamic resistance versus Zener current



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