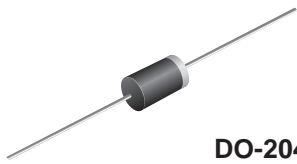




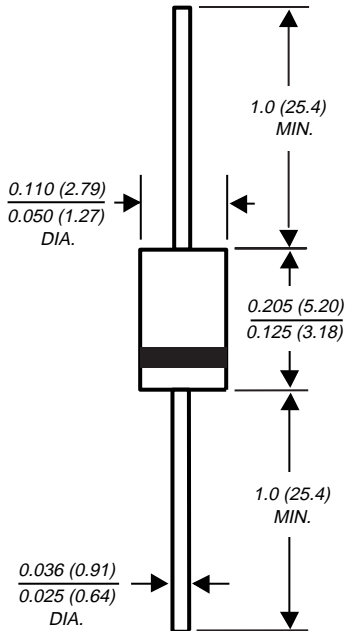
## Zener Diodes

**V<sub>z</sub> 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<sub>A</sub> = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Zener Current (see Table "Characteristics")			
Power Dissipation at T <sub>amb</sub> = 60°C	P <sub>tot</sub>	1.5 <sup>(1)</sup>	W
Thermal Resistance Junction to Ambient Air	R <sub>θJA</sub>	60 <sup>(1)</sup>	°C/W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>s</sub>	-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<sub>J</sub> = 25°C unless otherwise noted)

Type	Zener voltage <sup>(1)</sup> at I <sub>ZT</sub> V <sub>Z</sub> (V) min. max.	Dynamic resistance at I <sub>ZT</sub> f = 1 kHz max r <sub>Zj</sub> (Ω)	Typical Temp. coeff. of Zener volt. at I <sub>ZT</sub> α <sub>VZ</sub> (10 <sup>-4</sup> /K)	Test current I <sub>ZT</sub> (mA)	Leakage current I <sub>R</sub> (μA)	Reverse voltage V <sub>R</sub> (V)	Admissible Zener current at T <sub>amb</sub> = 60°C I <sub>Z</sub> (mA)	I <sub>ZSM</sub> t <sub>p</sub> = 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

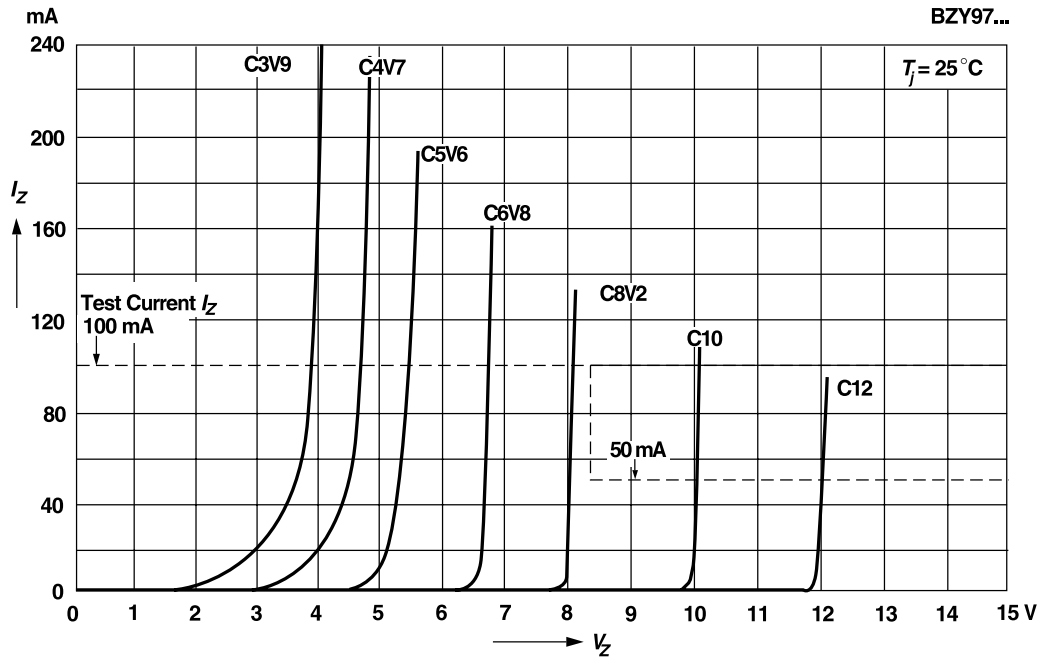
Notes: (1) Tested with pulses t<sub>p</sub> = 5 ms



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

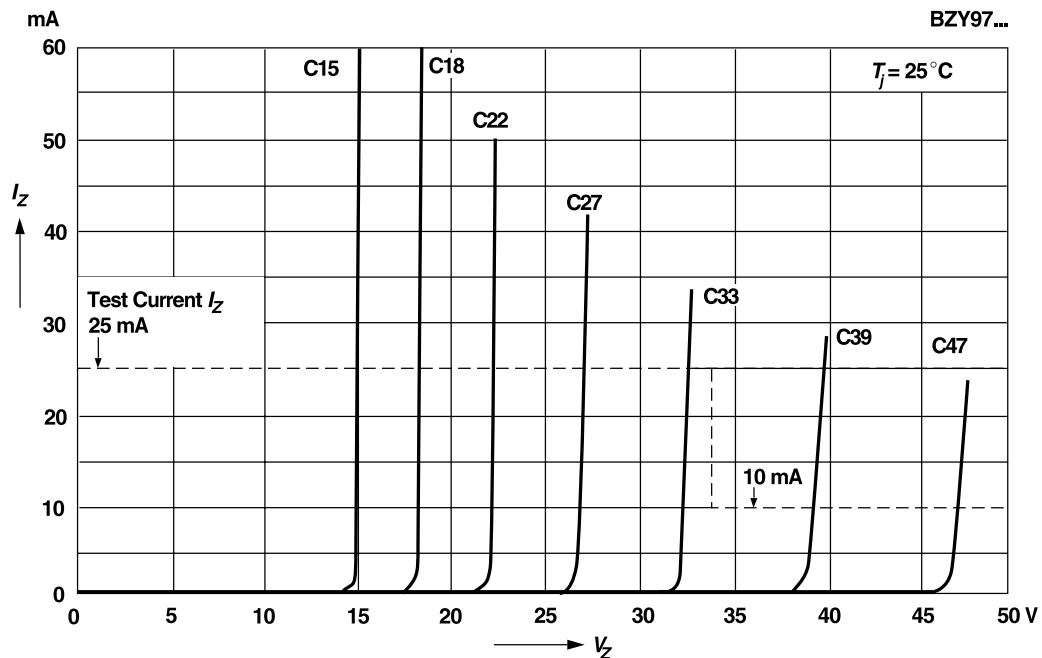
### Breakdown characteristics

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



### Breakdown characteristics

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



# BZY97-C3V9 thru BZY97-C200

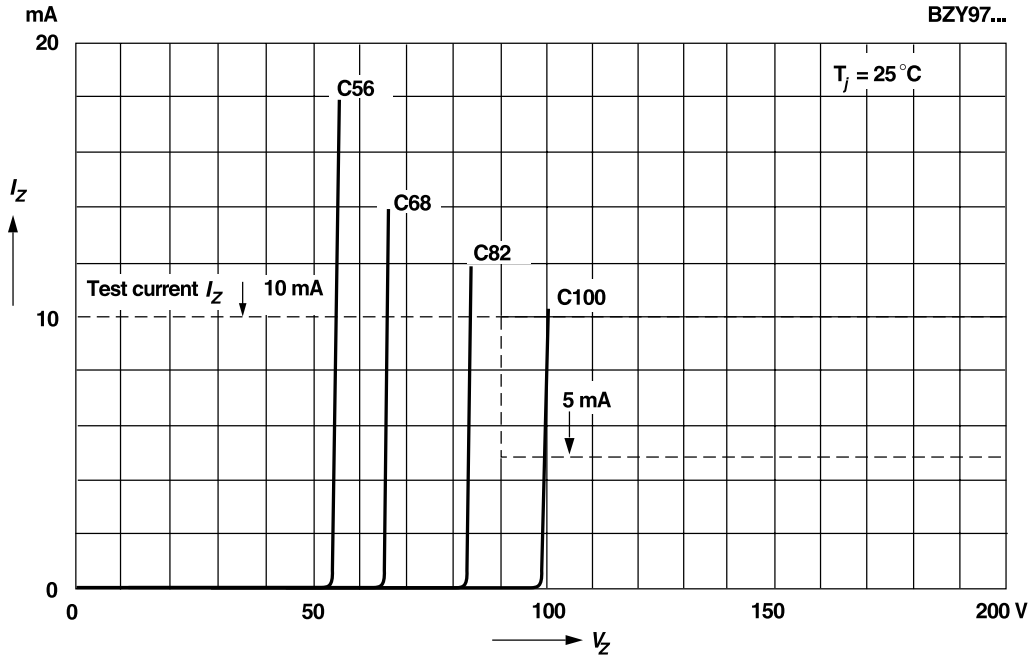


Vishay Semiconductors  
formerly General Semiconductor

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

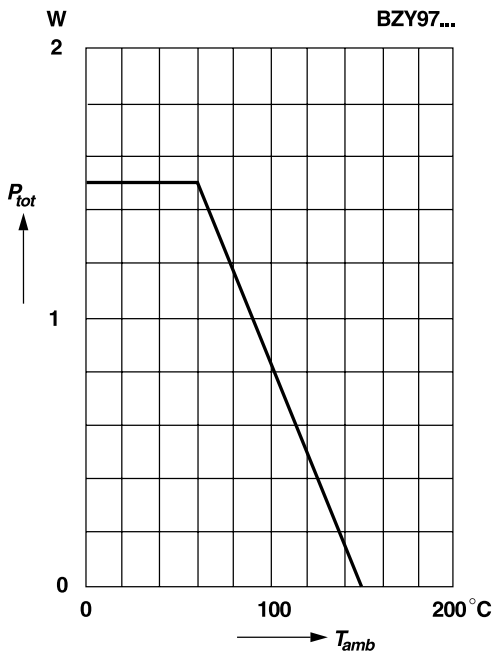
### Breakdown characteristics

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



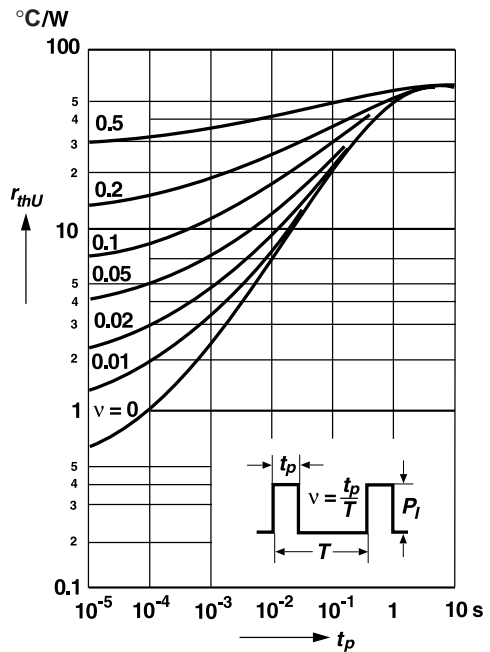
### Admissible power dissipation versus ambient temperature

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



### Pulse thermal resistance versus pulse duration

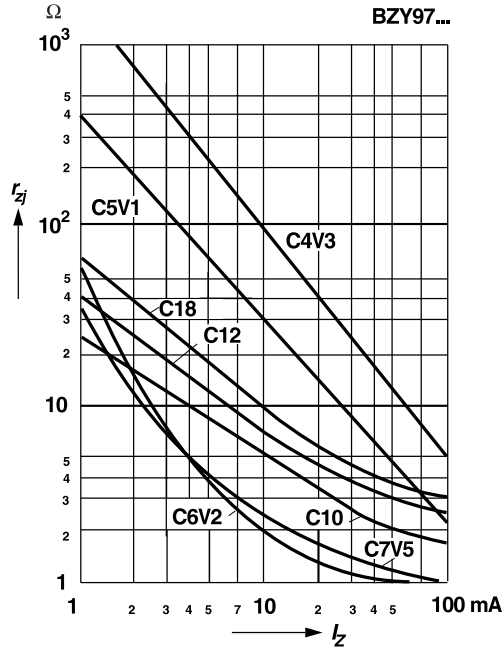
Valid provided that leads are kept at ambient temperature  
at a distance of 10 mm from case



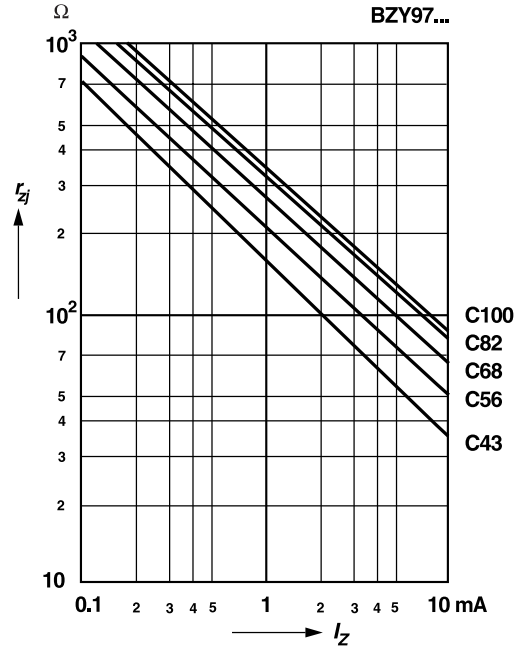


**Ratings and Characteristic Curves** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Dynamic resistance versus Zener current



Dynamic resistance versus Zener current



Dynamic resistance versus Zener current

