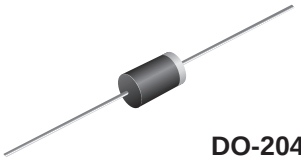
BZY97-C3V9 thru BZY97-C200

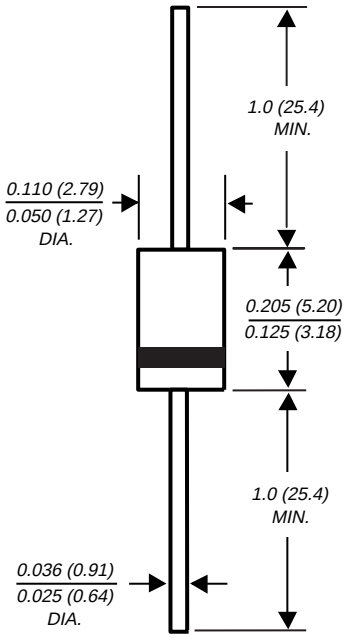
Vishay Semiconductors
formerly General Semiconductor

Zener Diodes

V_Z Range 3.9 to 200V
Power Dissipation 1.5W



DO-204AM



Dimensions in inches and (millimeters)

Extended Voltage Range

Features

- Silicon Planar Power Zener Diodes.
- For use in stablilizing 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	$R_{\Theta JA}$	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.

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

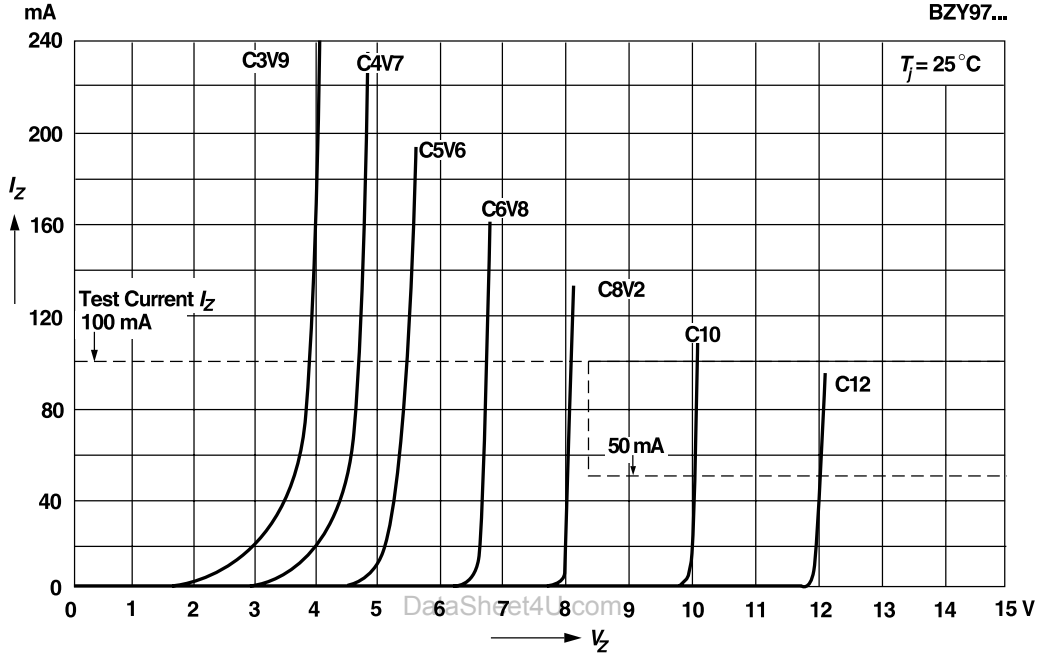
Type	Zener voltage[1] at I_{ZT} V_Z (V) min.	max.	Dynamic resistance at I_{ZT} f = 1 kHz max r_{zj} (Ω)	Typical Temp. coeff. of Zener volt. at I_{ZT} α_{VZ} (10^{-4}/K)	Test current I_{ZT} (mA)	Leakage current I_R (μA)	Reverse voltage V_R (V)	Admissible Zener current at T_{amb} = 60°C I_Z (mA)	I_{ZSM} tp = 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 (TA = 25°C unless otherwise noted)

Breakdown characteristics

T_j = constant (pulsed)



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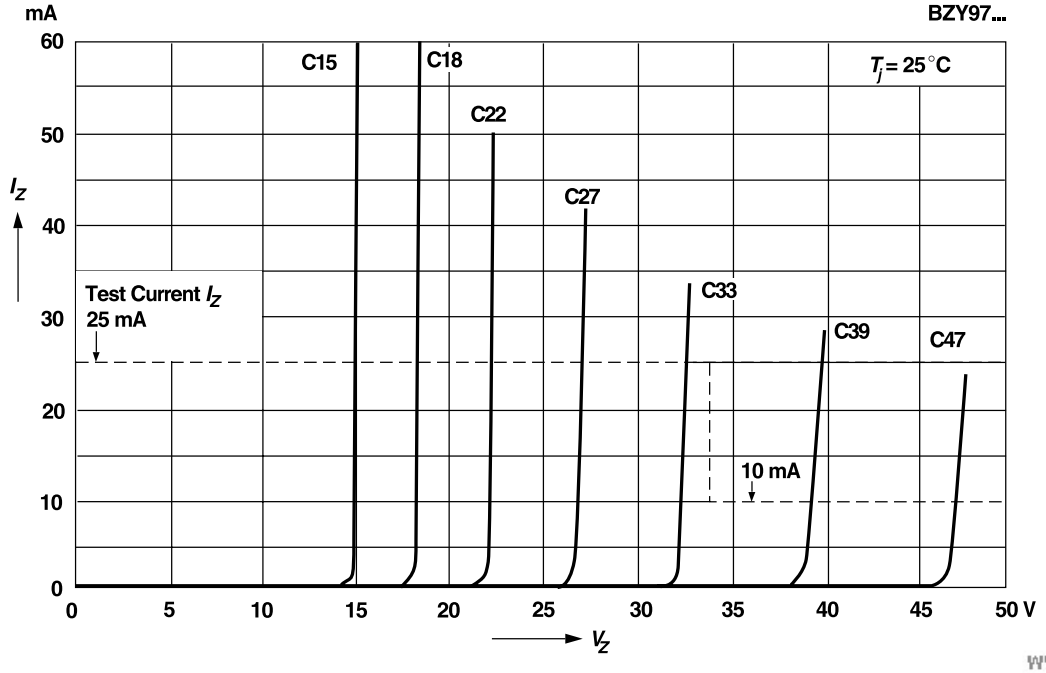

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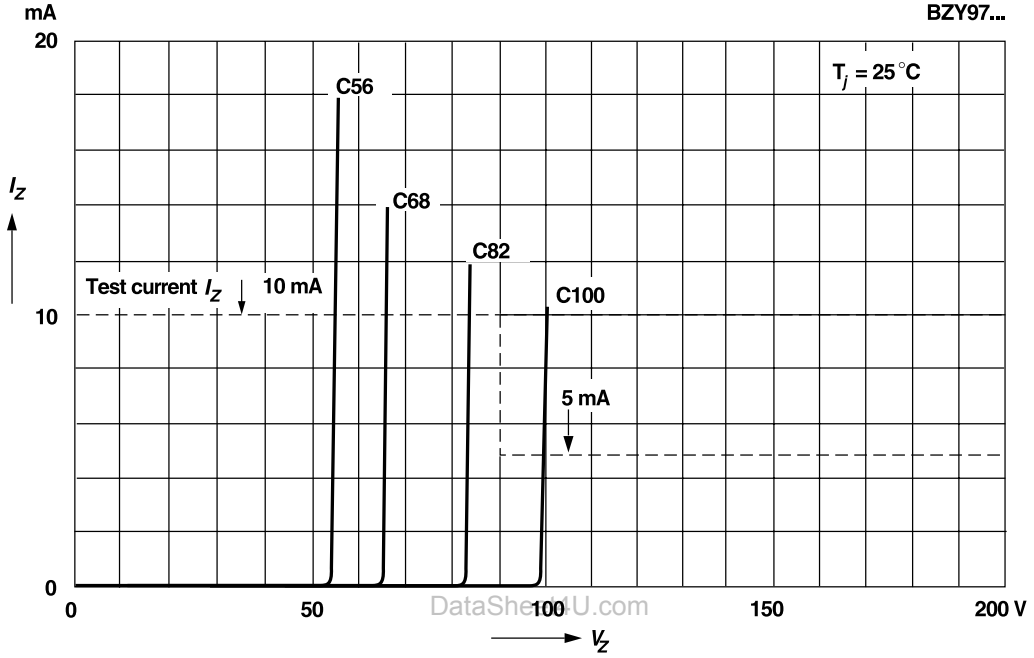
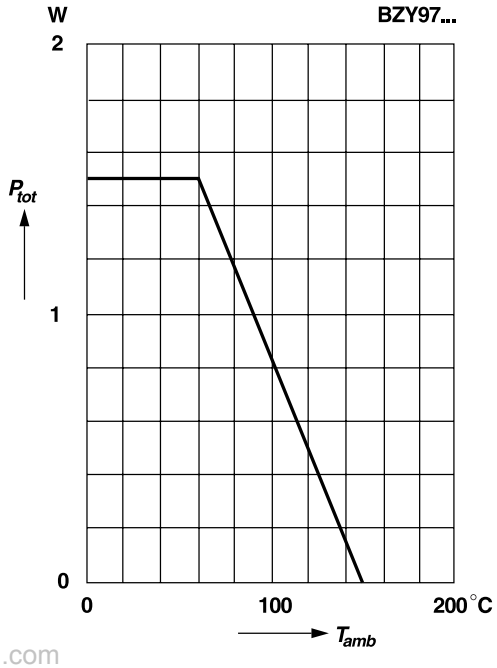


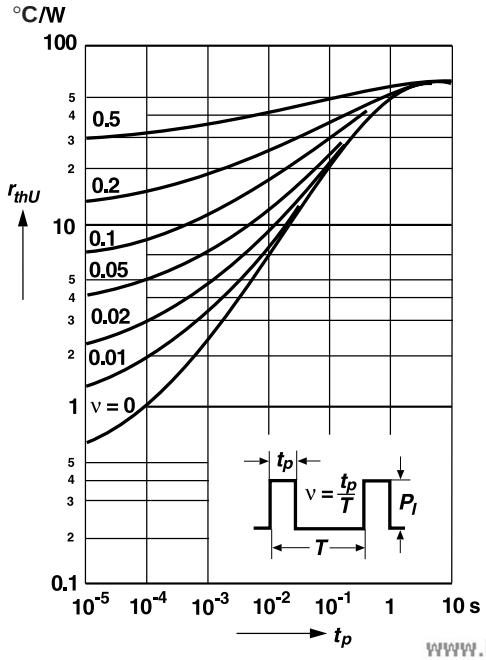
Admissible power dissipation versus ambient temperature

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



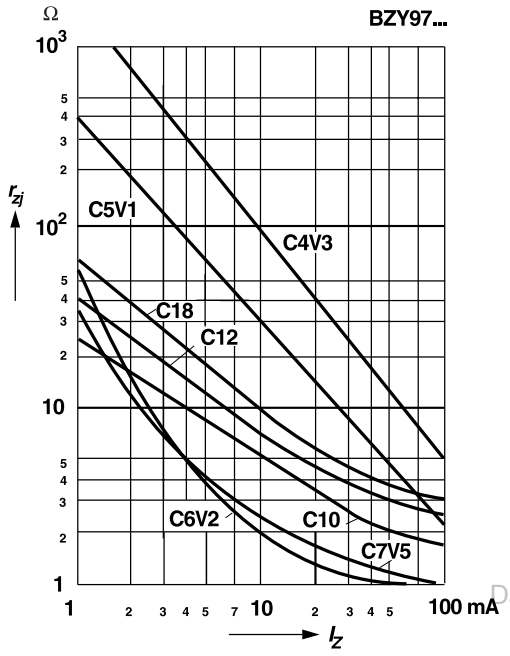
Pulse thermal resistance versus pulse duration

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

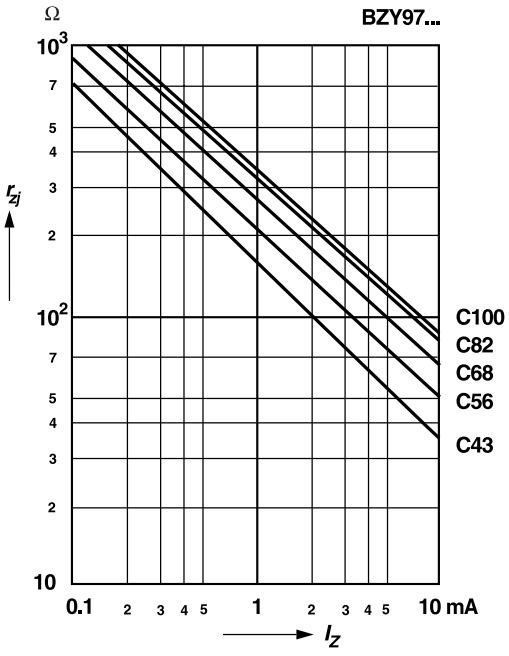


Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Dynamic resistance versus Zener current



Dynamic resistance versus Zener current



Dynamic resistance versus Zener current