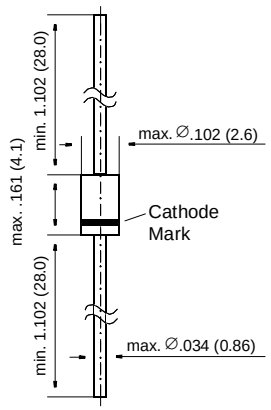
BZX85-C3V6 THRU BZX85-C62

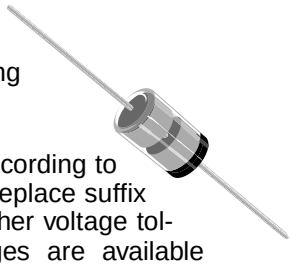
Zener Diodes

DO-41



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. Replace suffix “C” with “B” for ±2% tolerance. Other voltage tolerances and other Zener voltages are available upon request.

MECHANICAL DATA

Case: DO-41 Glass Case
Weight: approx. 0.35 g

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Value	Unit
Zener Current see Table “Characteristics”			
Power Dissipation at T_{amb} = 25 °C	P_{tot}	1.3[1)]	W
Junction Temperature	T_j	175	°C
Storage Temperature Range	T_S	–55 to +175	°C
[1)] Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case.			

	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance Junction to Ambient Air	R_{thJA}	–	–	130[1)]	K/W
Forward Voltage at I_F = 200 mA	V_F	–	–	1	V
[1)] Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case.					

GENERAL SEMICONDUCTOR®

BZX85-C3V6 THRU BZX85-C62

ELECTRICAL CHARACTERISTICS

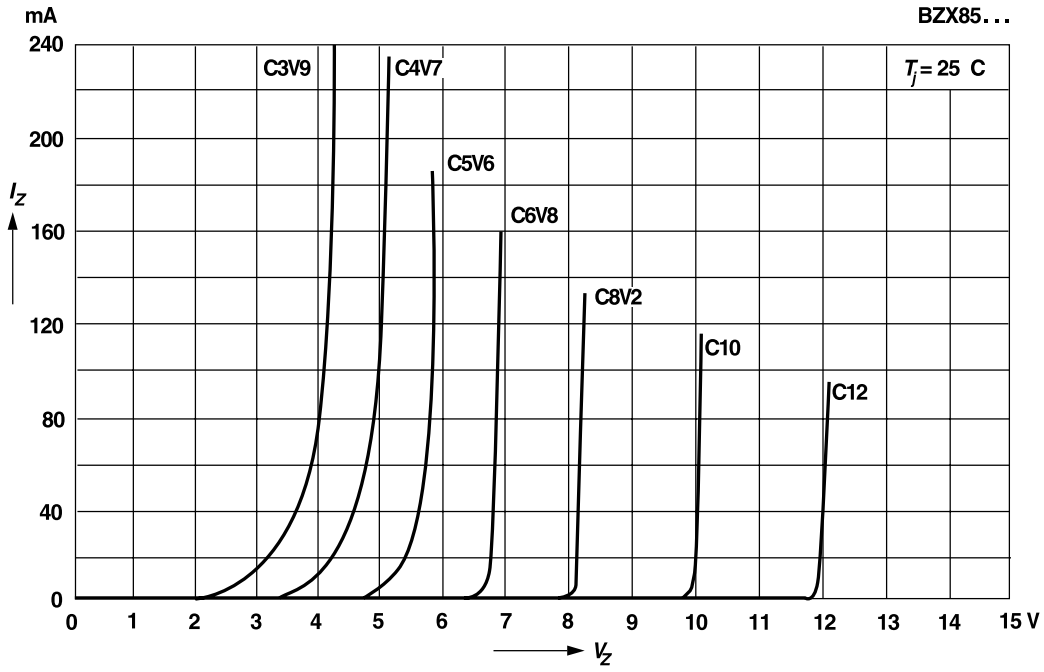
Ratings at 25 °C ambient temperature unless otherwise specified

Type	Zener Voltage range[1] at $I_Z = I_{ZT}$ V_Z V	Dynamic resistance r_{zj} Ω	at f=1 kHz I_{ZT} mA	Dynamic resistance r_{zj} Ω	at f=1 kHz I_{ZT} mA	Temp. coefficient of Zener Voltage at $I_Z = I_{ZT}$ α_{VZ} %/K min.	max.	Reverse leakage current at I_R µA	V_R V	I_Z mA	at t_p=10 ms I_{ZSM} mA
BZX85 – C3V6	3.4 ... 3.8	< 15	60	< 500	1	–0.08	–0.05	< 20	1	290	2660
BZX85 – C3V9	3.7 ... 4.1	< 15	60	< 500	1	–0.07	–0.02	< 10	1	280	2540
BZX85 – C4V3	4.0 ... 4.6	< 13	50	< 500	1	–0.05	+0.01	< 3	1	250	2440
BZX85 – C4V7	4.4 ... 5.0	< 13	45	< 600	1	–0.03	+0.04	< 3	1	215	2320
BZX85 – C5V1	4.8 ... 5.4	< 10	45	< 500	1	–0.01	+0.04	< 1	1.5	200	2200
BZX85 – C5V6	5.2 ... 6.0	< 7	45	< 400	1	0	+0.045	< 1	2	190	2080
BZX85 – C6V2	5.8 ... 6.6	< 4	35	< 300	1	+0.01	+0.055	< 1	3	170	1960
BZX85 – C6V8	6.4 ... 7.2	< 3.5	35	< 300	1	+0.015	+0.06	< 1	4	155	1800
BZX85 – C7V5	7.0 ... 7.9	< 3	35	< 200	0.5	+0.02	+0.065	< 1	4.5	140	1620
BZX85 – C8V2	7.7 ... 8.7	< 5	25	< 200	0.5	+0.03	+0.07	< 1	6.2	130	1520
BZX85 – C9V1	8.5 ... 9.6	< 5	25	< 200	0.5	+0.035	+0.075	< 1	6.8	120	1340
BZX85 – C10	9.4 ... 10.6	< 7	25	< 200	0.5	+0.04	+0.08	< 0.5	7.5	105	1200
BZX85 – C11	10.4 ... 11.6	< 8	20	< 300	0.5	+0.045	+0.08	< 0.5	8.2	97	1100
BZX85 – C12	11.4 ... 12.7	< 9	20	< 350	0.5	+0.045	+0.085	< 0.5	9.1	88	1000
BZX85 – C13	12.4 ... 14.1	< 10	20	< 400	0.5	+0.05	+0.085	< 0.5	10	79	900
BZX85 – C15	13.8 ... 15.6	< 10	15	< 500	0.5	+0.055	+0.09	< 0.5	11	71	760
BZX85 – C16	15.3 ... 17.1	< 15	15	< 500	0.5	+0.055	+0.09	< 0.5	12	66	700
BZX85 – C18	16.8 ... 19.1	< 20	15	< 500	0.5	+0.06	+0.09	< 0.5	13	62	600
BZX85 – C20	18.8 ... 21.2	< 24	10	< 600	0.5	+0.06	+0.09	< 0.5	15	56	540
BZX85 – C22	20.8 ... 23.3	< 25	10	< 600	0.5	+0.06	+0.095	< 0.5	16	52	500
BZX85 – C24	22.8 ... 25.6	< 25	10	< 600	0.5	+0.06	+0.095	< 0.5	18	47	450
BZX85 – C27	25.1 ... 28.9	< 30	8	< 750	0.25	+0.06	+0.095	< 0.5	20	41	400
BZX85 – C30	28 ... 32	< 30	8	< 1000	0.25	+0.06	+0.095	< 0.5	22	36	380
BZX85 – C33	31 ... 35	< 35	8	< 1000	0.25	+0.06	+0.095	< 0.5	24	33	350
BZX85 – C36	34 ... 38	< 40	8	< 1000	0.25	+0.06	+0.095	< 0.5	27	30	320
BZX85 – C39	37 ... 41	< 50	6	< 1000	0.25	+0.06	+0.095	< 0.5	30	28	296
BZX85 – C43	40 ... 46	< 50	6	< 1000	0.25	+0.06	+0.095	< 0.5	33	26	270
BZX85 – C47	44 ... 50	< 90	4	< 1500	0.25	+0.06	+0.095	< 0.5	36	23	246
BZX85 – C51	48 ... 54	< 115	4	< 1500	0.25	+0.06	+0.095	< 0.5	39	21	226
BZX85 – C56	52 ... 60	< 120	4	< 2000	0.25	+0.06	+0.095	< 0.5	43	19	208
BZX85 – C62	58 ... 66	< 125	4	< 2000	0.25	+0.06	+0.095	< 0.5	47	16	186

[1] Tested with pulses t_p = 5 ms.
[2] Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case.

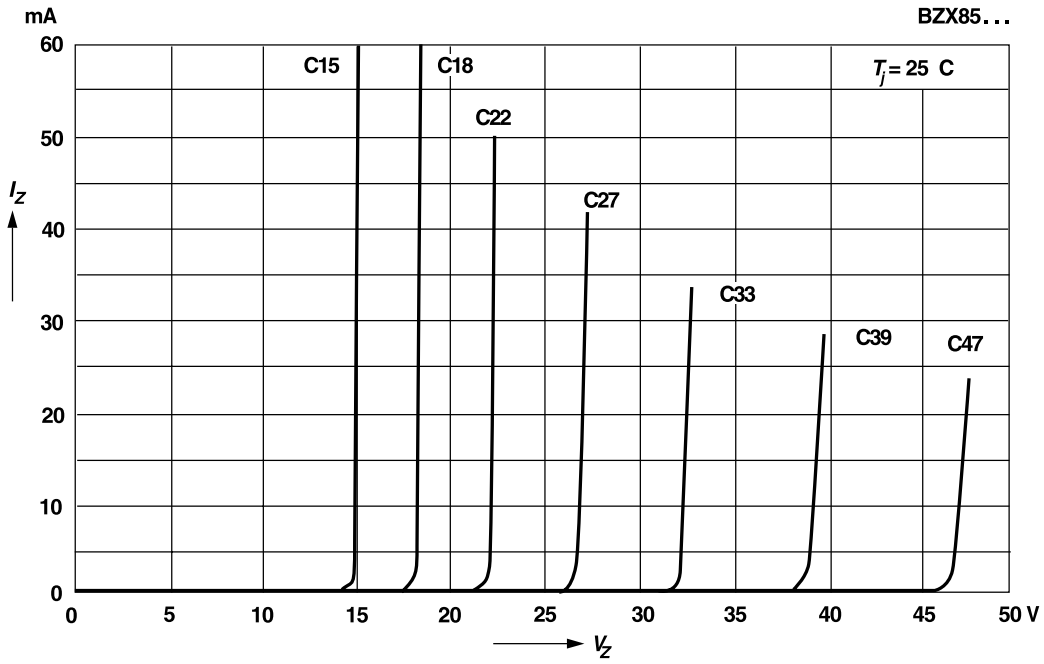
Breakdown characteristics

at T_j = constant (pulsed)



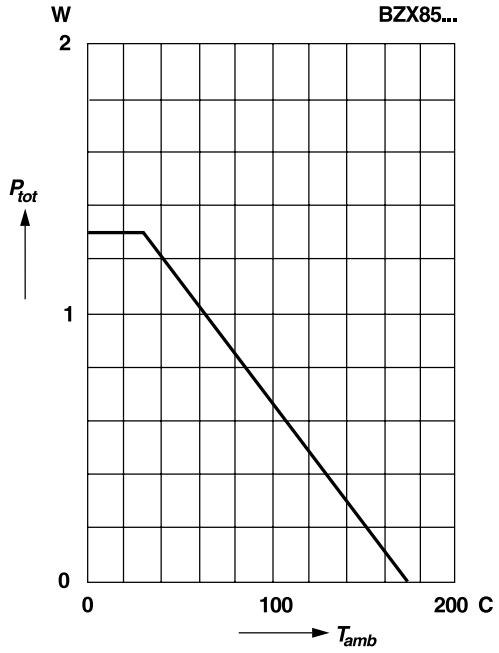
Breakdown characteristics

at T_j = constant (pulsed)

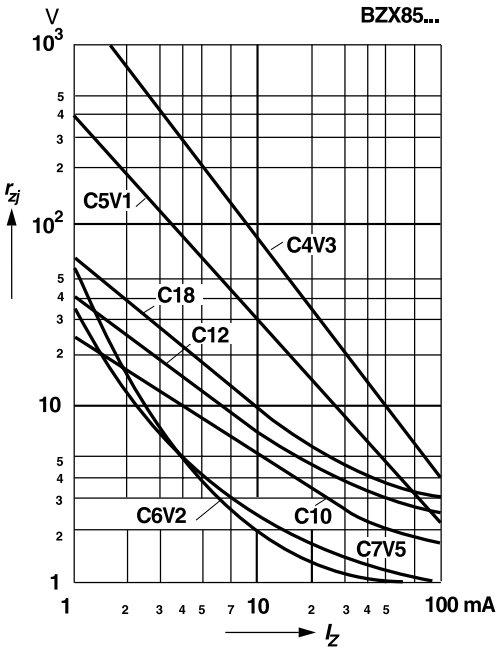


Admissible power dissipation versus ambient temperature

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

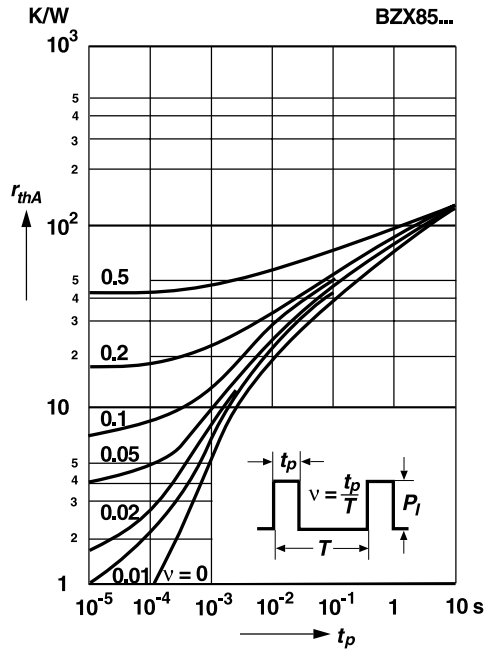


Dynamic resistance versus Zener current

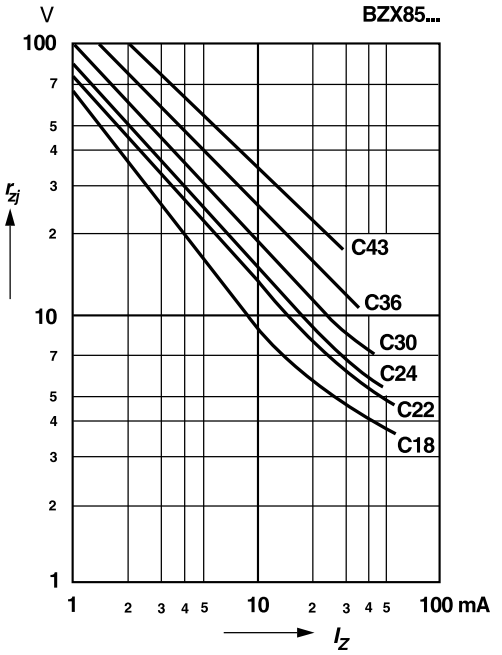


Pulse thermal resistance versus pulse duration

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



Dynamic resistance versus Zener current



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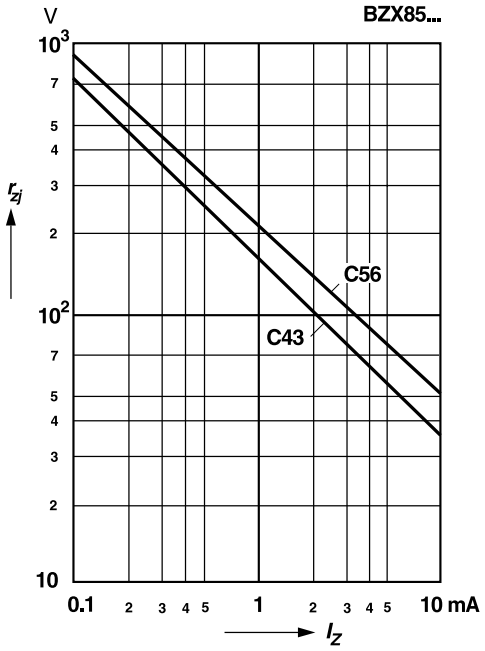
Dynamic resistance versus Zener current



Thermal resistance versus lead length