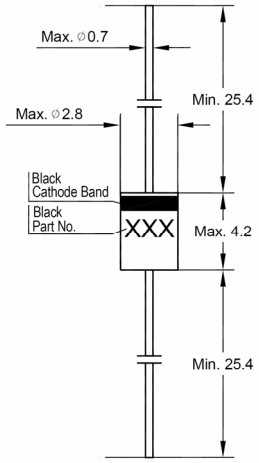
BZX85C

Silicon Planar Power Zener Diodes

DO-41



Glass case DO-41 Dimensions in mm

FEATURES

For use in stabilizing and clipping circuits with high power rating.

The Zener voltages are graded according to the international E 24 standard. Other tolerances and higher Zener voltages are upon request.

Absolute Maximum Ratings (T_a = 25℃)

Parameter	Symbol	Value	UNIT
Power Dissipation	P_{tot}	1.3 [1]	W
Junction Temperature	T_j	200	℃
Storage Temperature Range	T_{stg}	- 55 to + 200	℃

[1] Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.

Characteristics at T_a = 25℃

Parameter	Symbol	Max.	UNIT
Thermal Resistance Junction to Ambient Air	R_{thA}	130 [1]	K/W
Forward Voltage at I_F = 200 mA	V_F	1.2	V

[1] Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.

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Characteristics at Ta = 25℃

Type	Zener Voltage [1]			Dynamic Resistance				Reverse Current	
	V_{Znom}	V_{ZT}	at I_{ZT}	Z_{ZT}	at I_{ZT}	Z_{ZK}	at I_{ZK}	I_R	at V_R
	(V)	(V)	(mA)	Max.(Ω)	(mA)	Max.(Ω)	(mA)	Max.(μA)	(V)
BZX85C2V7	2.7	2.5...2.9	80	20	80	400	1	150	1
BZX85C3V0	3	2.8...3.2	80	20	80	400	1	100	1
BZX85C3V3	3.3	3.1...3.5	70	20	70	400	1	40	1
BZX85C3V6	3.6	3.4...3.8	60	15	60	500	1	20	1
BZX85C3V9	3.9	3.7...4.1	60	15	60	500	1	10	1
BZX85C4V3	4.3	4...4.6	50	13	50	500	1	3	1
BZX85C4V7	4.7	4.4...5	45	13	45	600	1	3	1
BZX85C5V1	5.1	4.8...5.4	45	10	45	500	1	1	1.5
BZX85C5V6	5.6	5.2...6	45	7	45	400	1	1	2
BZX85C6V2	6.2	5.8...6.6	35	4	35	300	1	1	3
BZX85C6V8	6.8	6.4...7.2	35	3.5	35	300	1	1	4
BZX85C7V5	7.5	7...7.9	35	3	35	200	0.5	1	4.5
BZX85C8V2	8.2	7.7...8.7	25	5	25	200	0.5	1	6.2
BZX85C9V1	9.1	8.5...9.6	25	5	25	200	0.5	1	6.8
BZX85C10	10	9.4...10.6	25	7	25	200	0.5	0.5	7
BZX85C11	11	10.4...11.6	20	8	20	300	0.5	0.5	8.2
BZX85C12	12	11.4...12.7	20	9	20	350	0.5	0.5	9.1
BZX85C13	13	12.4...14.1	20	10	20	400	0.5	0.5	10
BZX85C15	15	13.8...15.6	15	15	15	500	0.5	0.5	11
BZX85C16	16	15.3...17.1	15	15	15	500	0.5	0.5	12
BZX85C18	18	16.8...19.1	15	20	15	500	0.5	0.5	13
BZX85C20	20	18.8...21.2	10	24	10	600	0.5	0.5	15
BZX85C22	22	20.8...23.3	10	25	10	600	0.5	0.5	16
BZX85C24	24	22.8...25.6	10	25	10	600	0.5	0.5	18
BZX85C27	27	25.1...28.9	8	30	8	750	0.25	0.5	20
BZX85C30	30	28...32	8	30	8	1000	0.25	0.5	22
BZX85C33	33	31...35	8	35	8	1000	0.25	0.5	24
BZX85C36	36	34...38	8	40	8	1000	0.25	0.5	27

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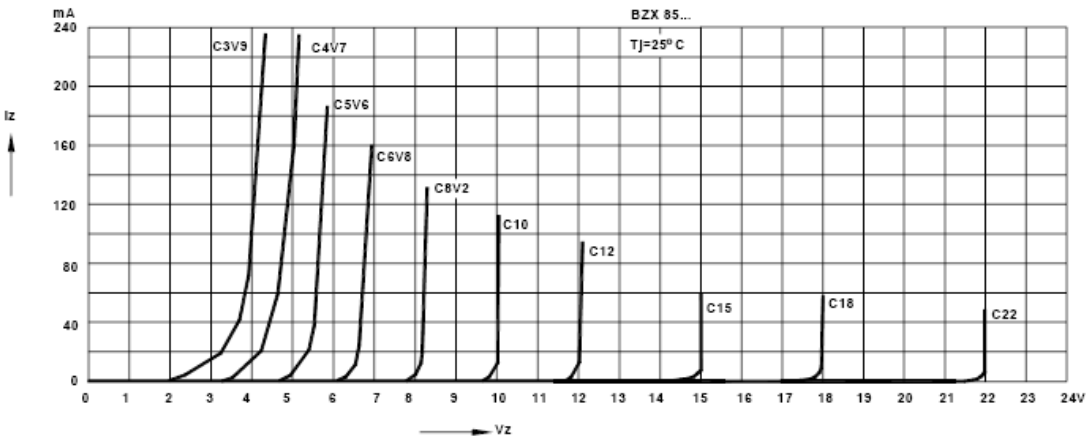
Characteristics at Ta = 25℃

Type	Zener Voltage [1]			Dynamic Resistance				Reverse Current	
	V_{Znom}	V_{ZT}	at I_{ZT}	Z_{ZT}	at I_{ZT}	Z_{ZK}	at I_{ZK}	I_R	at V_R
	(V)	(V)	(mA)	Max.(Ω)	(mA)	Max.(Ω)	(mA)	Max.(μA)	(V)
BZX85C39	39	37...41	6	50	6	1000	0.25	0.5	30
BZX85C43	43	40...46	6	50	6	1000	0.25	0.5	33
BZX85C47	47	44...50	4	90	4	1500	0.25	0.5	36
BZX85C51	51	48...54	4	115	4	1500	0.25	0.5	39
BZX85C56	56	52...60	4	120	4	2000	0.25	0.5	43
BZX85C62	62	58...66	4	125	4	2000	0.25	0.5	47
BZX85C68	68	64...72	4	130	4	2000	0.25	0.5	51
BZX85C75	75	70...79	4	135	4	2000	0.25	0.5	56

[1] Tested with pulses t_p = 20 ms.

Breakdowm characteristics

at T_j=constant (pulsed)



Breakdowm characteristics

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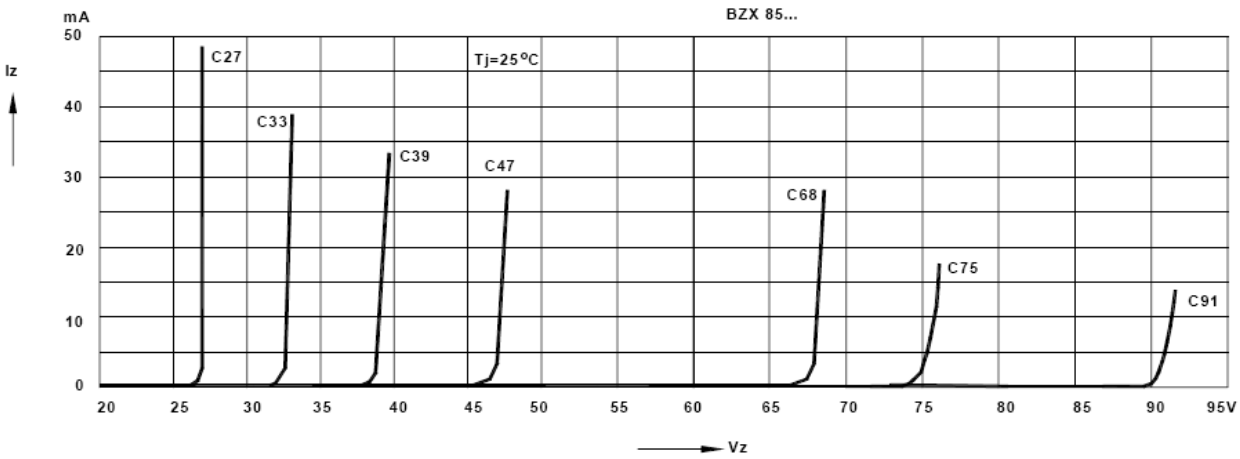

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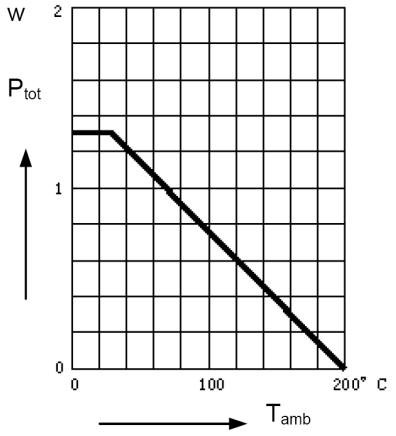
Admissible power dissipation Versus ambient temperature

Valid provided that leads are kept at ambient

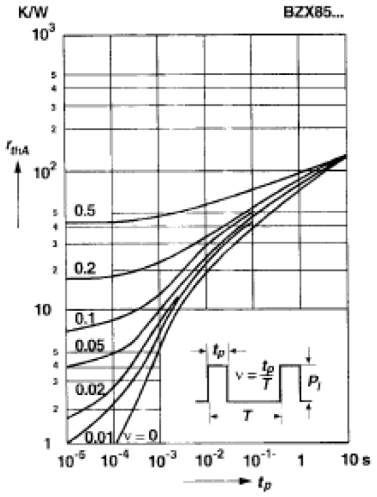
Temperature at a distance of 10 mm from case



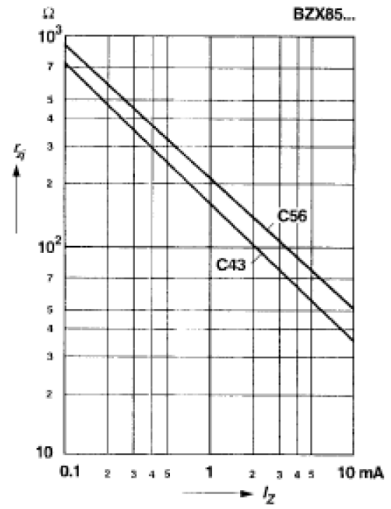
Pulse thermal resistance versus pulse duration

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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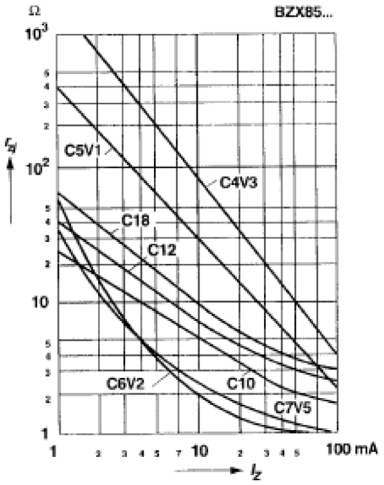

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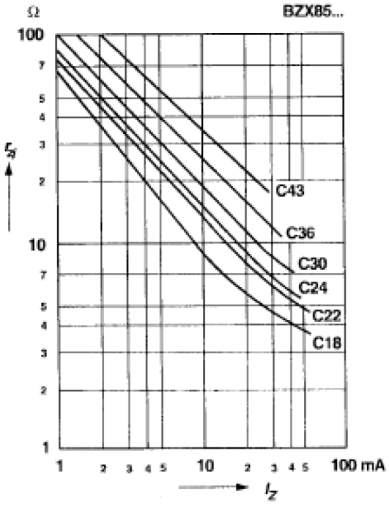
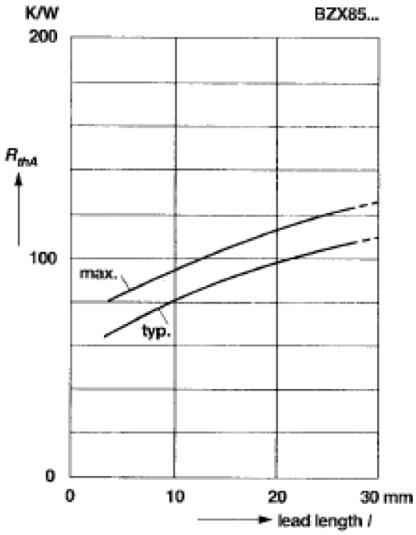


Thermal resistance versus lead length



Note: Specifications are subject to change without notice.