

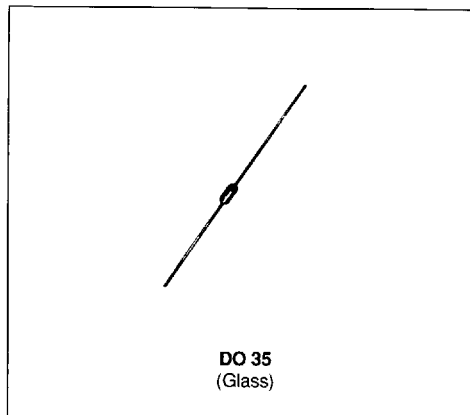

SGS-THOMSON
 MICROELECTRONICS

T-11-11
BZX 55 C 0V8 → 200

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ZENER DIODES

- LARGE VOLTAGE RANGE : 0.8V TO 200V
- DOUBLE SLUG TYPE CONSTRUCTION
- PRO ELECTRON REGISTRATION
- CECC FOR TYPES : 2.7V TO 62V (level quality assessment : L)



DESCRIPTION

500mW hermetically sealed glass silicon Zener diodes.

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
P_{tot}	Power Dissipation*	$T_{amb} = 50^{\circ}\text{C}$	0.5	W
I_{ZM}	Continuous Reverse Current	$T_{amb} = 50^{\circ}\text{C}$	See page 2	mA
T_{stg} T_J	Storage and Junction Temperature Range		- 65 to 175 - 55 to 175	$^{\circ}\text{C}$
T_L	Maximum Lead Temperature for Soldering during 10s at 4mm from Case		230	$^{\circ}\text{C}$

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction-ambient*	250	$^{\circ}\text{C/W}$

* On infinite heatsink with 4mm lead length

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ELECTRICAL CHARACTERISTICS ($T_{amb} = 25^{\circ}\text{C}$ unless otherwise specified)

Types	V_{ZT}/I_{ZT} (1)	r_{ZT}/I_{ZT} (1)	I_{ZT} (1)	r_{ZK}/I_{ZK} (1)	∞V_Z	I_R/V_R T_{amb} 25 C 150°C	V_R	I_{ZM} T_{amb} 50°C
	min max (V)	max (Ω)	(mA)	max (Ω) (mA)	min max ($10^{-4}/^{\circ}\text{C}$)	max max (μA)	(V)	(mA)
BZX 55 C 0V8 (2)	0.73 0.83	8	5	600 1				
BZX 55 C 2V4	2.28 2.56	85	5	600 1	-8 -6	50 100	1	155
• Δ BZX 55 C 2V7	2.5 2.9	85	5	600 1	-8 -6	10 50	1	135
• Δ BZX 55 C 3V0	2.8 3.2	85	5	600 1	-8 -6	4 40	1	125
P • Δ BZX 55 V 3V3	3.1 3.5	85	5	600 1	-8 -5	2 40	1	115
P • Δ BZX 55 C 3V6	3.4 3.8	85	5	600 1	-8 -4	2 40	1	105
P • Δ BZX 55 C 3V9	3.7 4.1	85	5	600 1	-7 -3	2 40	1	95
P • Δ BZX 55 C 4V3	4.0 4.6	75	5	600 1	-4 -1	1 20	1	90
P • Δ BZX 55 C 4V7	4.4 5.0	60	5	600 1	-3 1	0.5 10	1	85
P • Δ BZX 55 C 5V1	4.8 5.4	35	5	550 1	-2 5	0.1 2	1	80
P • Δ BZX 55 C 5V6	5.2 6.0	25	5	450 1	-1 6	0.1 2	1	70
P • Δ BZX 55 C 6V2	5.8 6.6	10	5	200 1	0 7	0.1 2	2	64
P • Δ BZX 55 C 6V8	6.4 7.2	8	5	150 1	1 8	0.1 2	3	58
P • Δ BZX 55 C 7V5	7.0 7.9	7	5	50 1	1 9	0.1 2	5	53
P • Δ BZX 55 C 8V2	7.7 8.7	7	5	50 1	1 9	0.1 2	6.2	47
P • Δ BZX 55 C 9V1	8.5 9.6	10	5	50 1	2 10	0.1 2	6.8	43
P • Δ BZX 55 C 10	9.4 10.6	15	5	70 1	3 11	0.1 2	7.5	40
• Δ BZX 55 C 11	10.4 11.6	20	5	70 1	3 11	0.1 2	8.2	36
P • Δ BZX 55 C 12	11.4 12.7	20	5	90 1	3 11	0.1 2	9.1	32
• Δ BZX 55 C 13	12.4 14.1	26	5	110 1	3 11	0.1 2	10	29
P • Δ BZX 55 C 15	13.8 15.6	30	5	110 1	3 11	0.1 2	11	27
• Δ BZX 55 C 16	15.3 17.1	40	5	170 1	3 11	0.1 2	12	24
P • Δ BZX 55 C 18	16.8 19.1	50	5	170 1	3 11	0.1 2	13	21
P • Δ BZX 55 C 20	18.8 21.2	55	5	220 1	3 11	0.1 2	15	20
P • Δ BZX 55 C 22	20.8 23.3	55	5	220 1	3 11	0.1 2	16	18
P • Δ BZX 55 C 24	22.8 25.6	80	5	220 1	4 12	0.1 2	18	16
P • Δ BZX 55 C 27	25.1 28.9	80	5	220 1	4 12	0.1 2	20	14
• Δ BZX 55 C 30	28 32	80	5	220 1	4 12	0.1 2	22	13
P • Δ BZX 55 C 33	31 35	80	5	220 1	4 12	0.1 2	24	12
• Δ BZX 55 C 36	34 38	80	5	220 1	4 12	0.1 2	27	11
• Δ BZX 55 C 39	37 41	90	2.5	500 0.5	4 12	0.1 5	30	10
• Δ BZX 55 C 43	40 46	90	2.5	600 0.5	4 12	0.1 5	33	9.2
• Δ BZX 55 C 47	44 50	110	2.5	700 0.5	4 12	0.1 5	36	8.5
• Δ BZX 55 C 51	48 54	125	2.5	700 0.5	4 12	0.1 10	39	7.8
• Δ BZX 55 C 56	52 60	135	2.5	1000 0.5	4 12	0.1 10	43	7.0
• Δ BZX 55 C 62	58 66	150	2.5	1000 0.5	4 12	0.1 10	47	6.4
• BZX 55 C 68	64 72	200	2.5	1000 0.5	4 12	0.1 10	51	5.9
• BZX 55 C 75	70 80	250	2.5	1500 0.5	4 12	0.1 10	56	5.3
• BZX 55 C 82	77 87	300	2.5	2000 0.5	4 12	0.1 10	62	4.8
• BZX 55 C 91	85 96	450	1	5000 0.1	4 12	0.1 10	68	4.4
BZX 55 C 100	94 106	450	1	5000 0.1	4 12	0.1 10	75	4.0
BZX 55 C 110	104 116	600	1	5000 0.1	4 12	0.1 10	82	3.6
BZX 55 C 120	114 127	800	1	5000 0.1	4 12	0.1 10	91	3.3
BZX 55 C 130	124 141	1000	1	5000 0.1	4 12	0.1 10	100	3.0
BZX 55 C 150	138 156	1200	1	5000 0.1	4 12	0.1 10	110	2.6
BZX 55 C 160	153 171	1500	1	5000 0.1	4 12	0.1 10	120	2.5
BZX 55 C 180	168 191	1800	1	5000 0.1	4 12	0.1 10	130	2.2
BZX 55 C 200	188 212	2000	1	5000 0.1	4 12	0.1 10	150	2.0

(1) Pulse test $20\text{ms} \leq t_p \leq 50\text{ms}$ $\delta < 2\%$

(2) The BZX 55 C 0V8 is a diode used with a positive bias. The lead which is marked by a ring should be connected to the negative terminal of the current source.

 Δ Devices under CQC/CECC

• Esa qualified product

P Preferred voltages

The regulation voltages are defined according to the E24 series.

Tight tolerances on preferred voltages only: BZX 55 B $\pm 2\%$ - BZX 55 A $\pm 1\%$ Forward voltage drop $V_F \leq 1.5\text{V}$ ($T_{amb} = 5^{\circ}\text{C}$, $I_F = 200\text{mA}$)

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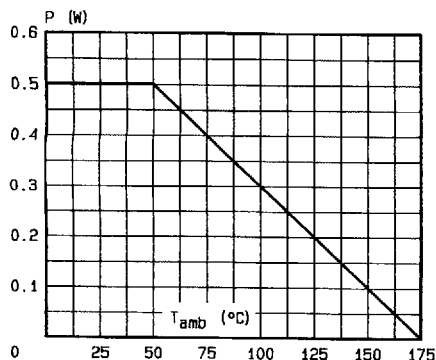


Fig.1 - Power dissipation versus ambient temperature on infinite heatsink.

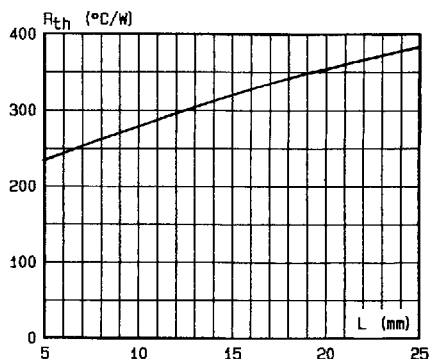


Fig.2 - Thermal resistance versus lead length on infinite heatsink.

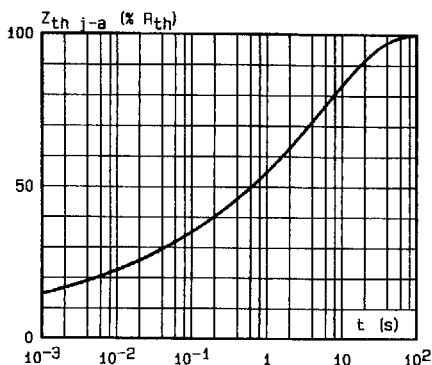


Fig.3 - Transient thermal impedance junction-ambient versus pulse duration.

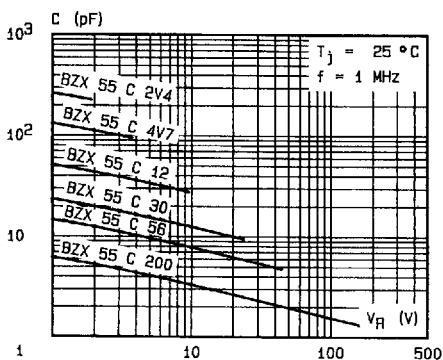


Fig.4 - Capacitance versus reverse applied voltage.

INFINITE HEATSINK

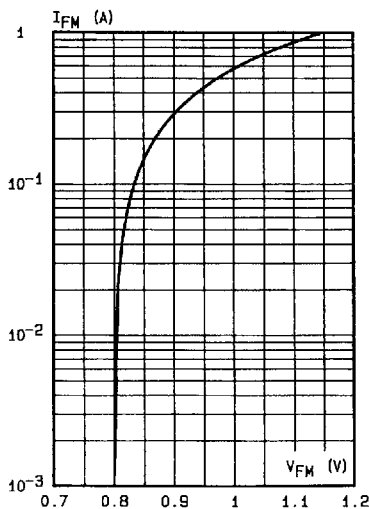
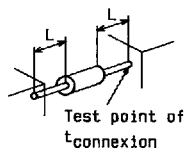


Fig.5 - Peak forward current versus peak forward voltage drop (typical values).

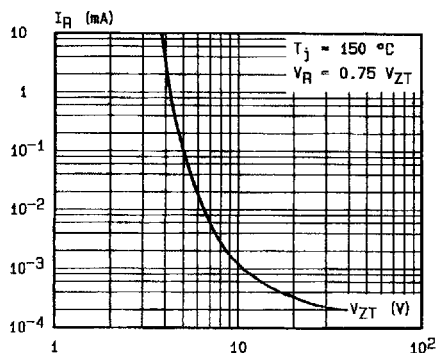


Fig. 6 - Reverse current versus regulation voltage (maximum values).

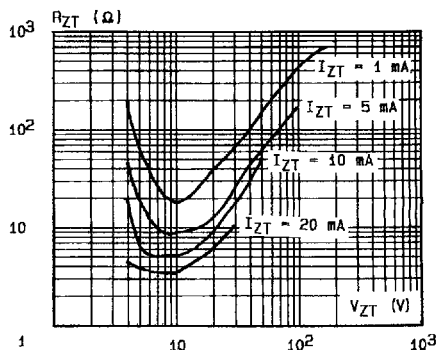
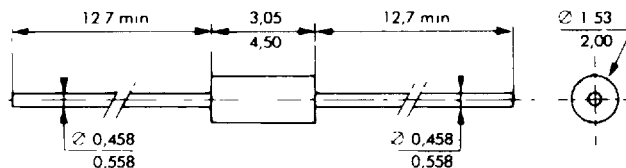


Fig. 7 - Differential resistance versus regulation voltage (maximum values).

PACKAGE MECHANICAL DATA

DO 35 Glass



Cooling method by convection and conduction

Marking clear, ring at cathode end

Weight 0.15g