SGS-THOMSON MICROELECTRONICS

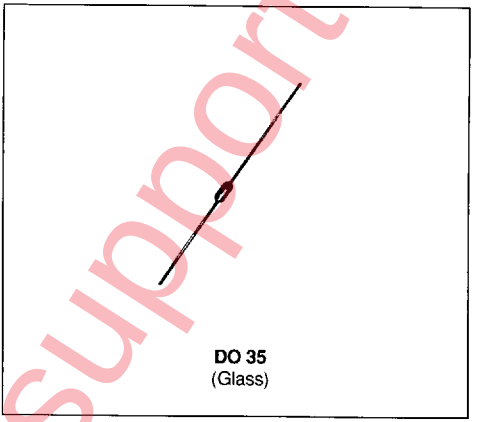
T-11-11

BZX 55 C 0V8 → 200

S G S-THOMSON

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)



DO 35
(Glass)

DESCRIPTION

500mW hermetically sealed glass silicon Zener diodes.

ABSOLUTE RATINGS (limiting values)

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

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th\ (j\ a)}$	Junction–ambient*	250	°C/W

* On infinite heatsink with 4mm lead length

ELECTRICAL CHARACTERISTICS (T_{amb} = 25°C unless otherwise specified)

Types	V_{ZT}/I_{ZT} (1) min	max	r_{ZT}/I_{ZT} (1) max	I_{ZT} (1)	r_{ZK}/I_{ZK} max		$\propto V_Z$ min	max	I_R/V_R T_{amb} 25 C max	150°C max	V_R	I_{ZM} T_{amb} 50°C
	(V)		(Ω)	(mA)	(Ω)	(mA)	(10^{-4}/°C)		(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 20ms ≤ tp ≤ 50ms δ < 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 CCQ/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 ± 2% – BZX 55 A ± 1%

Forward voltage drop $V_F \leq 1\ 5V$ (T_{amb} = 5°C, I_F = 200mA)

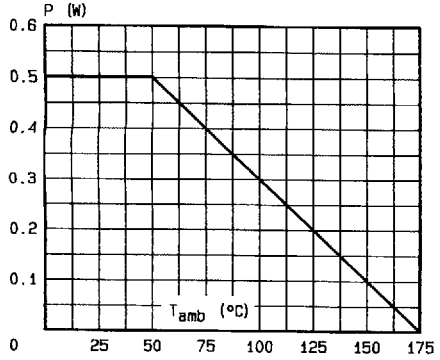


Fig.1 - Power dissipation versus ambient temperature on infinite heatsink.

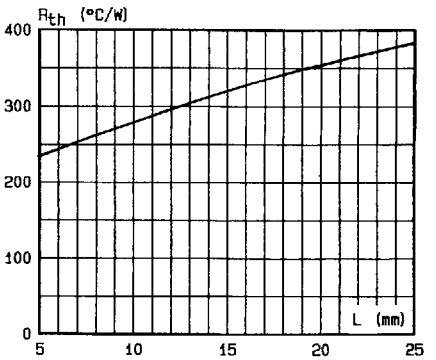


Fig.2 - Thermal resistance versus lead length on infinite heatsink.

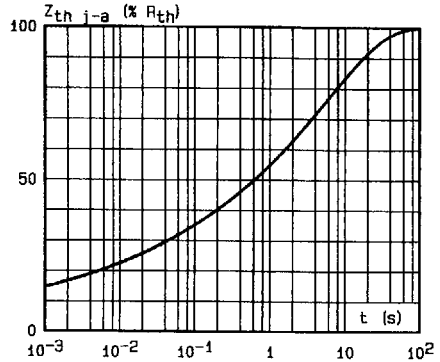
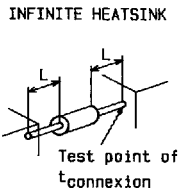


Fig.3 - Transient thermal impedance junction-ambient versus pulse duration.



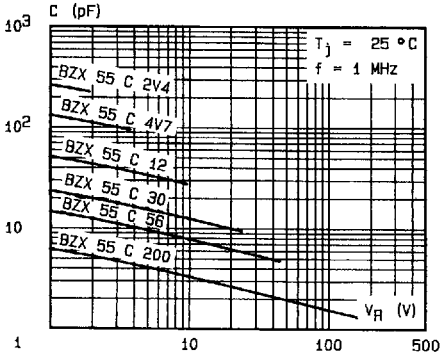


Fig.4 - Capacitance versus reverse applied voltage.

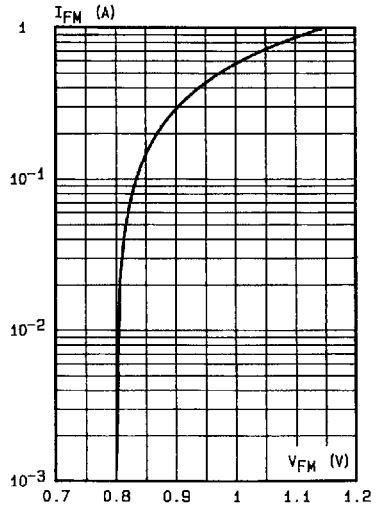


Fig.5 - Peak forward current versus peak forward voltage drop (typical values).

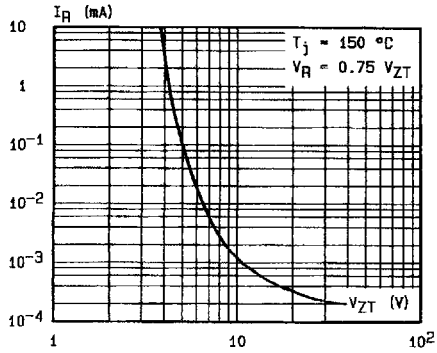


Fig.6 - Reverse current versus regulation voltage (maximum values).

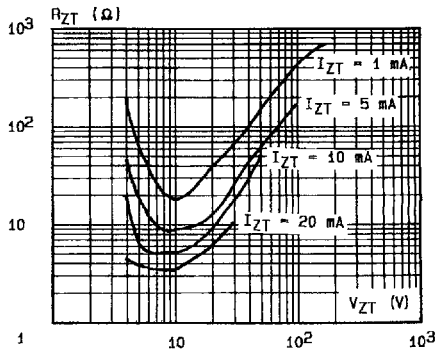
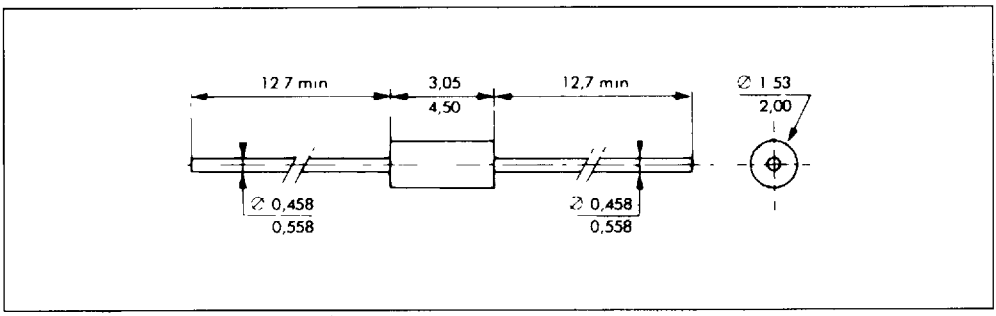


Fig.7 - Differential resistance versus regulation voltage (maximum values).

PACKAGE MECHANICAL DATA

DO 35 Glass



Cooling method by convection and conduction
Marking clear, ring at cathode end
Weight 0.15g