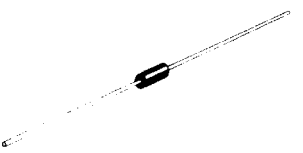
SGS-THOMSON MICROELECTRONICS

BZX 85 C 2V7 → 200

ZENER DIODES

- LARGE VOLTAGE RANGE : 2.7V TO 200V
- DOUBLE SLUG TYPE CONSTRUCTION
- PRO ELECTRON REGISTRATION : 2.7V TO 110V
- CECC FOR TYPES : 2.7V TO 82V (LEVEL QUALITY ASSESSMENT : L)



DO 41
(Glass)

DESCRIPTION

1.3W hermetically sealed glass silicon Zener diodes.

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
P_{tot}	Power Dissipation*	T_{amb} = 25°C	1.3	W
I_{ZM}	Continuous Reverse Current	T_{amb} = 25°C	See page 2	mA
I_{ZSM}	Peak Reverse Current	T_{amb} = 25°C	See page 2	mA
T_{stg} T_j	Storage and Junction Temperature Range		– 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
$R_{th\ (j\text{-}a)}$	Junction–ambient*	110	°C/W

* On infinite heatsink with 4mm lead length.

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

Types	V_{ZT}/I_{ZT}*		r_{ZT}/I_{ZT}	I_{ZT}	r_{ZK}/I_{ZK}		$\propto V_Z$		I_R/V_R T_{amb} 25°C	150°C	V_R	I_{ZM}	I_{ZSM}**
	min	max	max		max		min	max	max	max			
	(V)		(Ω)	(mA)	(Ω)	(mA)	(10^{-4}/°C)		(μA)		(V)	(mA)	(mA)
◊ • Δ BZX 85 C 2V7	2.5	2.9	20	80	400	1	− 8	− 5	150	300	1	370	2874
◊ • Δ BZX 85 C 3V0	2.8	3.2	20	80	400	1	− 8	− 5	100	300	1	340	2604
◊ • Δ BZX 85 C 3V3	3.1	3.5	20	80	400	1	− 8	− 5	40	200	1	320	2381
◊ • Δ BZX 85 C 3V6	3.4	3.8	20	70	500	1	− 8	− 5	20	50	1	290	2193
◊ • Δ BZX 85 C 3V9	3.7	4.1	15	60	500	1	− 7	− 2	10	20	1	280	2033
◊ • Δ BZX 85 C 4V3	4.0	4.6	13	50	500	1	− 5	1	3	10	1	250	1812
◊ • Δ BZX 85 C 4V7	4.4	5.0	13	45	500	1	− 3	4	3	10	1	215	1667
◊ • Δ BZX 85 C 5V1	4.8	5.4	10	45	500	1	− 1	4	1	10	1.5	200	1543
◊ • Δ BZX 85 C 5V6	5.2	6.0	7	45	400	1	0	4.5	1	10	2	190	1389
◊ • Δ BZX 85 C 6V2	5.8	6.6	4	35	300	1	1	5.5	1	10	3	170	1263
◊ • Δ BZX 85 C 6V8	6.4	7.2	3.5	35	300	1	1.5	6	1	10	4	155	1157
◊ • Δ BZX 85 C 7V5	7.0	7.9	3	35	200	0.5	2	6.5	1	10	4.5	140	1055
◊ • Δ BZX 85 C 8V2	7.7	8.7	5	25	200	0.5	3	7	1	10	6.2	130	958
◊ • Δ BZX 85 C 9V1	8.5	9.6	5	25	200	0.5	3.5	7.5	1	10	6.8	120	868
◊ • Δ BZX 85 C 10	9.4	10.6	7	25	200	0.5	4	8	0.5	10	7.5	105	786
◊ • Δ BZX 85 C 11	10.4	11.6	8	20	300	0.5	4.5	8	0.5	10	8.2	97	718
◊ • Δ BZX 85 C 12	11.4	12.7	9	20	350	0.5	4.5	8.5	0.5	10	9.1	88	656
◊ • Δ BZX 85 C 13	12.4	14.1	10	20	400	0.5	5	8.5	0.5	10	10	79	591
◊ • Δ BZX 85 C 15	13.8	15.6	15	15	500	0.5	5.5	9	0.5	10	11	71	534
◊ • Δ BZX 85 C 16	15.3	17.1	15	15	500	0.5	5.5	9	0.5	10	12	66	487
◊ • Δ BZX 85 C 18	16.8	19.1	20	15	500	0.5	6	9	0.5	10	13	62	436
◊ • Δ BZX 85 C 20	18.8	21.2	24	10	600	0.5	6	9	0.5	10	15	56	393
◊ • Δ BZX 85 C 22	20.8	23.3	25	10	600	0.5	6	9.5	0.5	10	16	52	358
◊ • Δ BZX 85 C 24	22.8	25.6	25	10	600	0.5	6	9.5	0.5	10	18	47	326
◊ • Δ BZX 85 C 27	25.1	28.9	30	8	750	0.25	6	9.5	0.5	10	20	41	288
◊ • Δ BZX 85 C 30	28	32	30	8	1000	0.25	6	9.5	0.5	10	22	36	260
◊ • Δ BZX 85 C 33	31	35	35	8	1000	0.25	6	9.5	0.5	10	24	33	238
◊ • Δ BZX 85 C 36	34	38	40	8	1000	0.25	6	9.5	0.5	10	27	30	219
◊ • Δ BZX 85 C 39	37	41	50	6	1000	0.25	6	9.5	0.5	10	30	28	203
◊ • Δ BZX 85 C 43	40	46	50	6	1000	0.25	6	9.5	0.5	10	33	26	181
◊ • Δ BZX 85 C 47	44	50	90	4	1500	0.25	6	9.5	0.5	10	36	23	167
◊ • Δ BZX 85 C 51	48	54	115	4	1500	0.25	6	9.5	0.5	10	39	21	154
◊ • Δ BZX 85 C 56	52	60	120	4	2000	0.25	6	9.5	0.5	10	43	19	139
◊ • Δ BZX 85 C 62	58	66	125	4	2000	0.25	6	9.5	0.5	10	47	16	126
◊ BZX 85 C 68	64	72	130	4	2000	0.25	6	9.5	0.5	10	51	15	116
◊ BZX 85 C 75	70	80	135	4	2000	0.25	6	9.5	0.5	10	56	14	104
BZX 85 C 82	77	87	200	2.7	3000	0.25	7	12	0.5	10	62	12	96
BZX 85 C 91	85	96	250	2.7	3000	0.25	7	12	0.5	10	68	10	87
BZX 85 C 100	94	106	350	2.7	3000	0.25	7	12	0.5	10	75	9.4	79
BZX 85 C 110	104	116	450	2.7	4000	0.25	7	12	0.5	10	82	8.6	72
BZX 85 C 120	114	127	550	2	4500	0.25	7	12	0.5	10	91	7.8	66
BZX 85 C 130	124	141	700	2	5000	0.25	7	12	0.5	10	100	7.0	59
BZX 85 C 150	138	156	1000	2	6000	0.25	7	12	0.5	10	110	6.4	53
BZX 85 C 160	153	171	1100	1.5	6500	0.25	7	12	0.5	10	120	5.8	49
BZX 85 C 180	168	191	1200	1.5	7000	0.25	7	12	0.5	10	130	5.2	44
BZX 85 C 200	180	212	1500	1.5	8000	0.25	7	12	0.5	10	150	4.7	39

* Pulse test : 20ms ≤ t_p ≤ 50ms.
** Rectangular waveform (t_p = 10ms).
Δ Devices under CCQ/CCT.
• Devices under CCQ/CECC.
◊ CNES qualified product.
The regulation voltages are defined according to the E24 series
Forward voltage drop : V_F ≤ 1V (T_{amb} = 25°C, I_F = 0.2A)

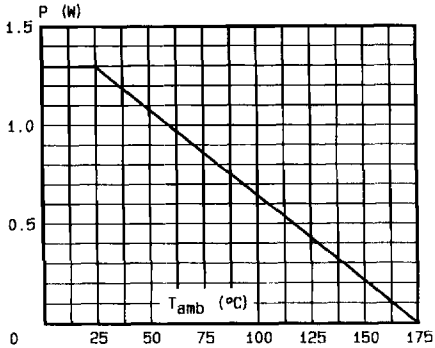


Fig.1 - Power dissipation versus ambient temperature on infinite heatsink.

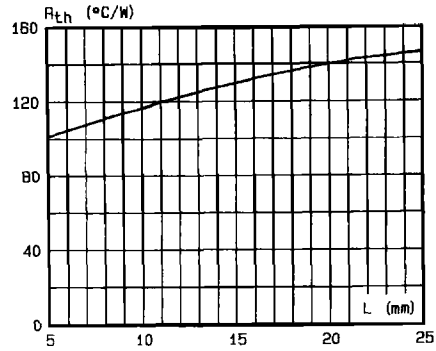


Fig.2 - Thermal resistance versus lead length on infinite heatsink.

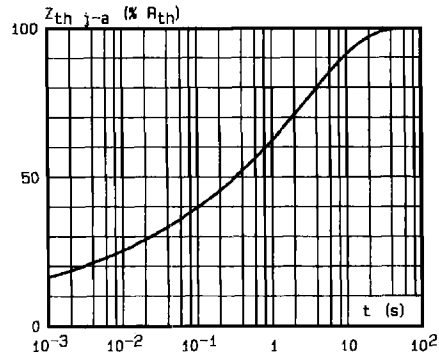
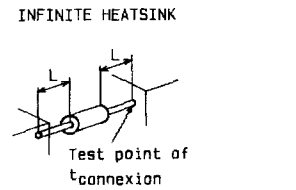


Fig.3 - Transient thermal impedance junction-ambient versus pulse duration.



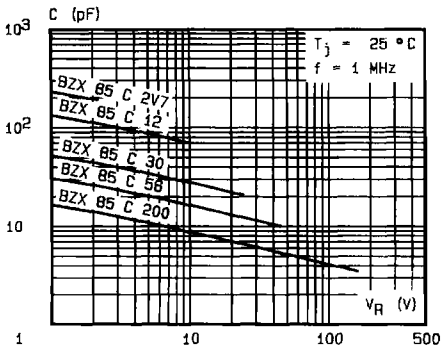


Fig.4 - Capacitance versus reverse applied voltage.

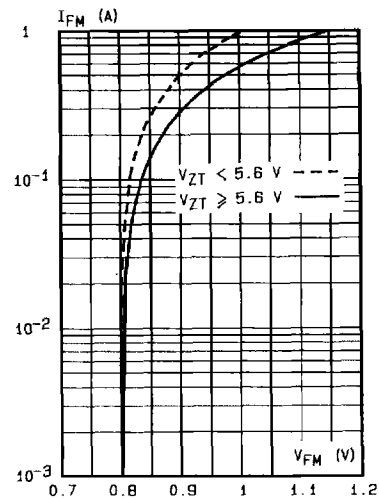


Fig.5 - Peak forward current versus peak forward voltage drop (typical values).

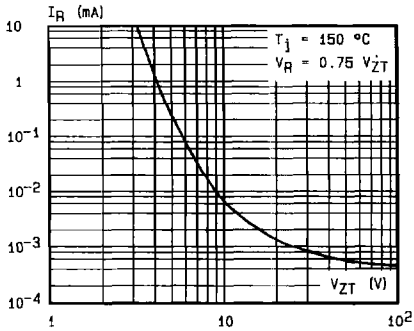


Fig.6 - Reverse current versus regulation voltage (Typical Values).

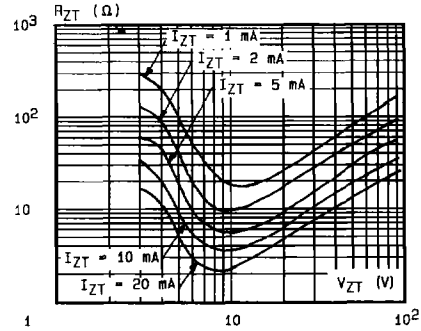


Fig.7 - Differential resistance versus regulation voltage (Typical Values).

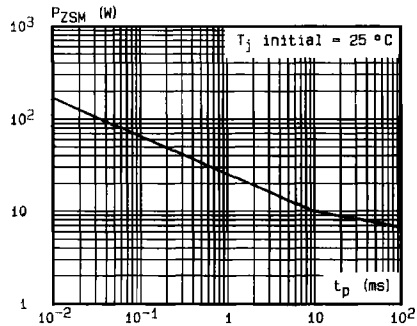
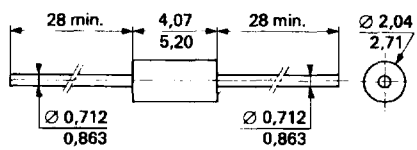


Fig.8 - Peak pulse power versus pulse duration (rectangular waveform). (maximum values).

PACKAGE MECHANICAL DATA

DO 41 (Glass)



Cooling method : by convection and conduction.
Marking : clear, ring at cathode end.
Weight : 0.34g