

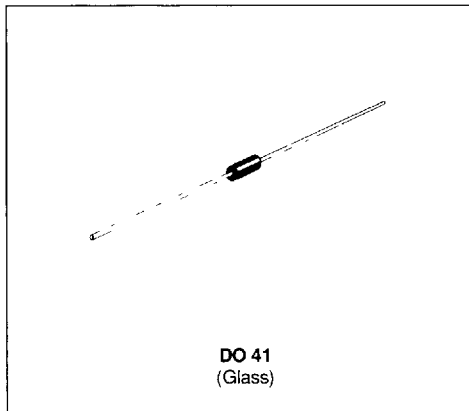

SGS-THOMSON
 MICROELECTRONICS

1N 4728 A → 1N 4764 A
1N 4187 B → 1N 4193 B

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 T-11-13
 ZENER DIODES

- LARGE VOLTAGE RANGE : 3.3V TO 200V
- DOUBLE SLUG TYPE CONSTRUCTION



DESCRIPTION

1W hermetically sealed glass silicon Zener diodes.

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
P_{tot}	Power Dissipation*	$T_{amb} = 50^{\circ}\text{C}$	1	W
I_{ZM}	Continuous Reverse Current	$T_{amb} = 50^{\circ}\text{C}$	See page 2	mA
I_{ZSM}	Peak Reverse Current	$T_{amb} = 25^{\circ}\text{C}$	See page 2	mA
T_{stg} T_J	Storage and Junction Temperature Range		- 65 to 200	$^{\circ}\text{C}$
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*	150	$^{\circ}\text{C/W}$

* On infinite heatsink with 4mm lead length

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

Types	V_{ZT}/I_{ZT}^*	r_{ZT}/I_{ZT}^*	I_{ZT}^*	r_{ZK}/I_{ZK}		∞V_Z	I_R/V_R	V_R	I_{ZM} T_{amb} 50°C	I_{ZSM}^{**}
	nom (V)	max (Ω)	(mA)	max (Ω)	(mA)	typ ($10^{-4}/^{\circ}\text{C}$)	max (μA)	(V)	(mA)	(mA)
P 1N 4728 A	3.3	10	76	400	1	-6	100	1.0	276	2381
1N 4729 A	3.6	10	69	400	1	-6	100	1.0	252	2193
P 1N 4730 A	3.9	9	64	400	1	-5	50	1.0	234	2033
1N 4731 A	4.3	9	58	400	1	-3	10	1.0	217	1812
P 1N 4732 A	4.7	8	53	500	1	-1	10	1.0	193	1667
P 1N 4733 A	5.1	7	49	550	1	1	10	1.0	178	1543
P 1N 4734 A	5.6	5	45	600	1	3	10	2.0	162	1389
P 1N 5135 B	6.2	2	41	700	1	4	10	3.0	146	1263
P 1N 4736 A	6.8	3.5	37	700	1	5	10	4.0	133	1157
P 1N 4737 A	7.5	4	34	700	0.5	5	10	5.0	121	1055
P 1N 4738 A	8.2	4.5	31	700	0.5	6	10	6.0	110	958
P 1N 4739 A	9.1	5	28	700	0.5	6	10	7.0	100	868
P 1N 4740 A	10	7	25	700	0.25	7	10	7.6	91	786
1N 4741 A	11	8	23	700	0.25	7	5	8.4	83	718
P 1N 4742 A	12	9	21	700	0.25	7	5	9.1	76	656
1N 4743 A	13	10	19	700	0.25	7	5	9.9	69	591
P 1N 4744 A	15	14	17	700	0.25	8	5	11.4	61	534
P 1N 4745 A	16	16	15.5	700	0.25	8	5	12.2	57	487
P 1N 4746 A	18	20	14	750	0.25	8	5	13.7	50	436
P 1N 4747 A	20	22	12.5	750	0.25	8	5	15.2	45	393
P 1N 4748 A	22	23	11.5	750	0.25	8	5	16.7	41	358
P 1N 4749 A	24	25	10.5	750	0.25	8	5	18.2	38	326
P 1N 4750 A	27	35	9.5	750	0.25	9	5	20.6	34	288
P 1N 4751 A	30	40	8.5	1000	0.25	9	5	22.8	30	260
P 1N 4752 A	33	45	7.5	1000	0.25	9	5	25.1	27	238
P 1N 4753 A	36	50	7.0	1000	0.25	9	5	27.4	25	219
1N 4754 A	39	60	6.5	1000	0.25	9	5	29.7	23	203
1N 4755 A	43	70	6.0	1500	0.25	9	5	32.7	22	181
1N 4756 A	47	80	5.5	1500	0.25	9	5	35.8	19	167
1N 4757 A	51	95	5.0	1500	0.25	9	5	38.8	18	154
1N 4758 A	56	110	4.5	2000	0.25	9	5	42.6	16	139
P 1N 4759 A	62	125	4.0	2000	0.25	9	5	47.1	14	126
1N 4760 A	68	150	3.7	2000	0.25	9	5	51.7	13	116
1N 4761 A	75	175	3.3	2000	0.25	9	5	56	12	104
1N 4762 A	82	200	3.0	3000	0.25	9	5	62.2	11	96
1N 4763 A	91	250	2.8	3000	0.25	9	5	69.2	10	87
1N 4764 A	100	350	2.5	3000	0.25	9	5	76	9	79
1N 4187 B	110	450	2.3	4000	0.25	10	5	83.6	8.6	72
1N 4188 B	120	550	2.0	4500	0.25	10	5	91.2	7.8	66
1N 4189 B	130	700	1.9	5000	0.25	10	5	98.8	7	59
1N 4190 B	150	1000	1.7	6000	0.25	10	5	114	6.4	53
1N 4191 B	160	1100	1.6	6500	0.25	10	5	121.6	5.8	49
1N 4192 B	180	1200	1.4	7000	0.25	10	5	136.8	5.2	44
1N 4193 B	200	1500	1.2	8000	0.25	10	5	152	4.7	39

* Measure under thermal equilibrium and DC current test conditions

* * Rectangular waveform ($t_p = 10\text{ms}$)Tolerance on nominal V_{ZT} value $\pm 5\%$

P Preferred voltages

Tight tolerances on preferred voltages 1N 47 C $\pm 2\%$ - 1N 47 D $\pm 1\%$ Forward voltage drop $V_F \leq 1.2\text{V}$ ($T_{amb} = 25^{\circ}\text{C}$, $I_F = 0.2\text{A}$)

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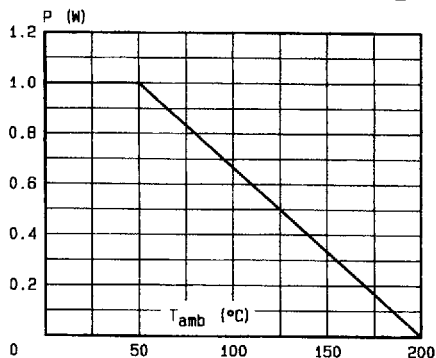


Fig.1 - Power dissipation versus ambient temperature on infinite heatsink.

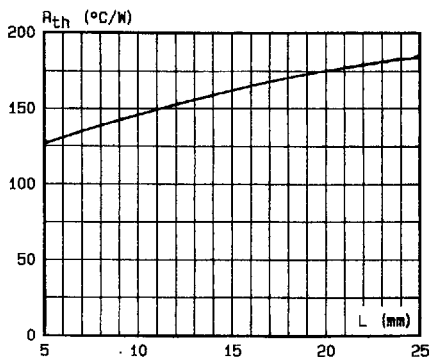


Fig.2 - Thermal resistance versus lead length on infinite heatsink.

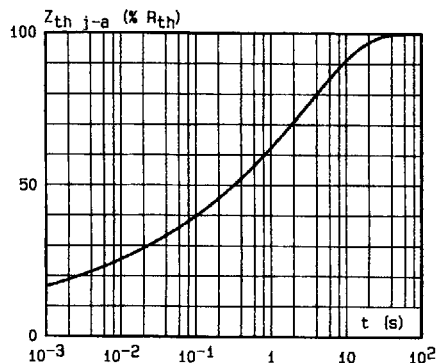


Fig.3 - Transient thermal impedance junction-ambient versus pulse duration.

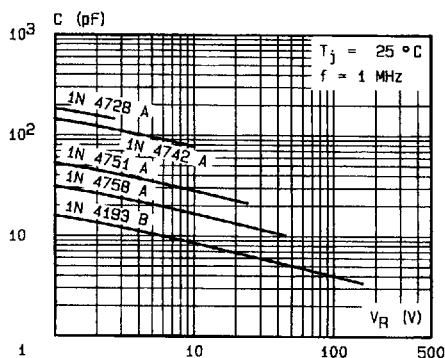


Fig.4 - Capacitance versus reverse applied voltage.

INFINITE HEATSINK

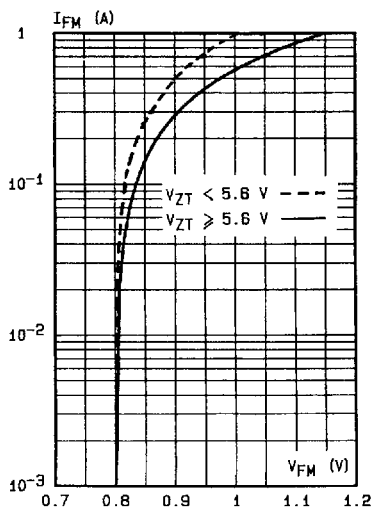
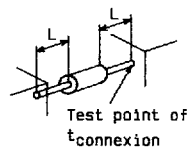


Fig.5 - Peak forward current versus peak forward voltage drop (typical values).

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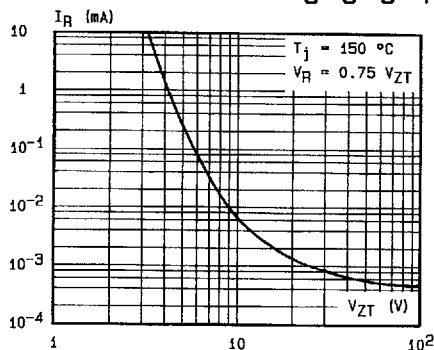


Fig. 6 - Reverse current versus regulation voltage (maximum values).

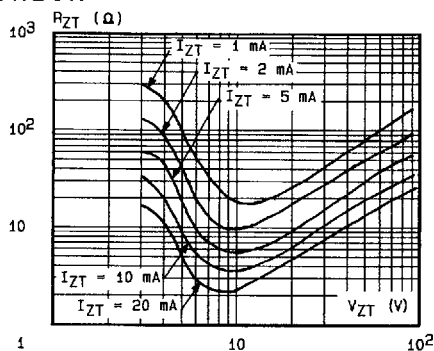


Fig. 7 - Differential resistance versus regulation voltage (maximum values).

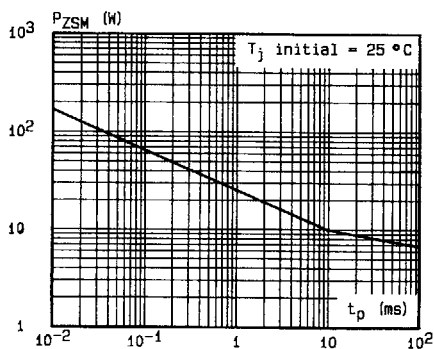
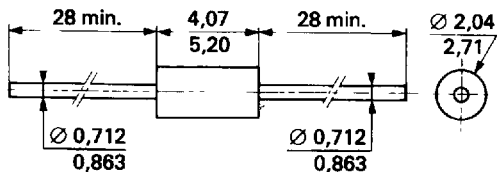


Fig. 8 - Peak pulse power versus pulse duration (rectangular wave form).

PACKAGE MECHANICAL DATA

DO 41 Glass



Cooling method by convection and conduction

Marking clear, ring at cathode end

Weight 0.34g