

VOLTAGE REGULATOR DIODES

Silicon planar diodes in a DO-35 envelope intended for use as low-power voltage stabilizers or voltage references.

The series consists of 43 types with nominal working voltages ranging from 3,0 V to 75 V.

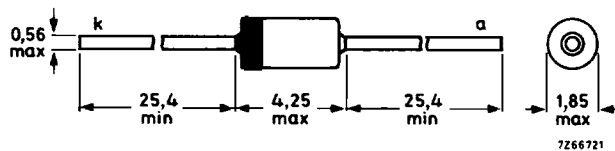
QUICK REFERENCE DATA

Working voltage range	V_Z	nom.	3,0 to 75 V
Working voltage tolerance			$\pm 5 \%$
Total power dissipation	P_{tot}	max.	500 mW
Non-repetitive peak reverse power dissipation $T_j = 55 \text{ }^\circ\text{C}$; $t_p = 8,3 \text{ ms}$, square wave	P_{ZSM}	max.	10 W
Junction temperature	T_j		$-65 \text{ to } +200 \text{ }^\circ\text{C}$

MECHANICAL DATA

Dimensions in mm

Fig. 1 DO-35 (SOD-27).



Cathode indicated by coloured band.

RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

Average forward current (averaged over any 20 ms period)	$I_F(AV)$	max.	250 mA
Repetitive peak forward current	I_{FRM}	max.	250 mA
Total power dissipation if leads are kept at $T_{lead} = 75\text{ }^\circ\text{C}$ at 8 mm from body	P_{tot}	max.	500 mW
Derating factor			4 mW/K
Non-repetitive peak reverse power dissipation $T_j = 55\text{ }^\circ\text{C}$; $t_p = 8,3\text{ ms}$, square wave	P_{ZSM}	max.	10 W
Storage temperature	T_{stg}		-65 to + 200 $^\circ\text{C}$
Junction temperature	T_j		-65 to + 200 $^\circ\text{C}$

CHARACTERISTICS

$T_{amb} = 25\text{ }^\circ\text{C}$ unless otherwise stated

Forward voltage $I_F = 200\text{ mA}$	V_F	max.	1,1 V
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type number	working voltage V_Z (V) at I_{Ztest} (note 1) nom.	test current I_{Ztest} (mA)	max. Zener impedance Z_{ZT} (Ω) at I_{Ztest} (note 2)	differential resistance r_{diff} (Ω) at $I_{ZK} = 0,25\text{ mA}$ (note 2) max.	reverse current I_R (μA) at V_R max.	test voltage V_R (V)	temp. coeff. S_Z (%/K) (note 3) max.
1N5225B	3,0	20	29	1600	50	1,0	-0,075
1N5226B	3,3	20	28	1600	25	1,0	-0,070
1N5227B	3,6	20	24	1700	15	1,0	-0,065
1N5228B	3,9	20	23	1900	10	1,0	-0,060
1N5229B	4,3	20	22	2000	5	1,0	$\pm 0,055$
1N5230B	4,7	20	19	1900	5	2,0	$\pm 0,030$
1N5231B	5,1	20	17	1600	5	2,0	$\pm 0,030$
1N5232B	5,6	20	11	1600	5	3,0	+0,038
1N5233B	6,0	20	7	1600	5	3,5	+0,038
1N5234B	6,2	20	7	1000	5	4,0	+0,045
1N5235B	6,8	20	5	750	3	5,0	+0,050
1N5236B	7,5	20	6	500	3	6,0	+0,058
1N5237B	8,2	20	8	500	3	6,5	+0,062
1N5238B	8,7	20	8	600	3	6,5	+0,065
1N5239B	9,1	20	10	600	3	7,0	+0,068

type number	working voltage V_Z (V) at I_{Ztest} (note 1) nom.	test current I_{Ztest} (mA)	max. Zener impedance Z_{ZT} (Ω) at I_{Ztest} (note 2)	differential resistance r_{diff} (Ω) at $I_{ZK} = 0,25$ mA (note 2) max.	reverse current I_R (μ A) at V_R max.	test voltage V_R (V)	temp. coeff. S_Z (%/K) (note 3) max.
1N5240B	10	20	17	600	3	8,0	+ 0,075
1N5241B	11	20	22	600	2	8,4	+ 0,076
1N5242B	12	20	30	600	1	9,1	+ 0,077
1N5243B	13	9,5	13	600	0,5	9,9	+ 0,079
1N5244B	14	9,0	15	600	0,1	10	+ 0,082
1N5245B	15	8,5	16	600	0,1	11	+ 0,082
1N5246B	16	7,8	17	600	0,1	12	+ 0,083
1N5247B	17	7,4	19	600	0,1	13	+ 0,084
1N5248B	18	7,0	21	600	0,1	14	+ 0,085
1N5249B	19	6,6	23	600	0,1	14	+ 0,086
1N5250B	20	6,2	25	600	0,1	15	+ 0,086
1N5251B	22	5,6	29	600	0,1	17	+ 0,087
1N5252B	24	5,2	33	600	0,1	18	+ 0,088
1N5253B	25	5,0	35	600	0,1	19	+ 0,089
1N5254B	27	4,6	41	600	0,1	21	+ 0,090
1N5255B	28	4,5	44	600	0,1	21	+ 0,091
1N5256B	30	4,2	49	600	0,1	23	+ 0,091
1N5257B	33	3,8	58	700	0,1	25	+ 0,092
1N5258B	36	3,4	70	700	0,1	27	+ 0,093
1N5259B	39	3,2	80	800	0,1	30	+ 0,094
1N5260B	43	3,0	93	900	0,1	33	+ 0,095
1N5261B	47	2,7	105	1000	0,1	36	+ 0,095
1N5262B	51	2,5	125	1100	0,1	39	+ 0,096
1N5263B	56	2,2	150	1300	0,1	43	+ 0,096
1N5264B	60	2,1	170	1400	0,1	46	+ 0,097
1N5265B	62	2,0	185	1400	0,1	47	+ 0,097
1N5266B	68	1,8	230	1600	0,1	52	+ 0,097
1N5267B	75	1,7	270	1700	0,1	56	+ 0,098

Notes

- V_Z is measured with device at thermal equilibrium while held in clips at 10 mm from body in still air at 25 °C.
- $I_{(ac\ rms)}$ = 10% of I_{Ztest} resp. I_{ZK} , 60 Hz superimposed.
- For types 1N5225B to 1N5242B the current $I_Z = 7,5$ mA; for 1N5243B and higher $I_Z = I_{Ztest}$. Testpoints at $T_1 = 25$ °C, $T_2 = 125$ °C.

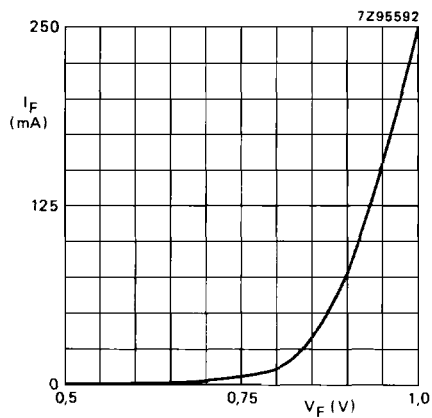


Fig. 2 $T_{amb} = 25\text{ }^{\circ}\text{C}$; typical values.

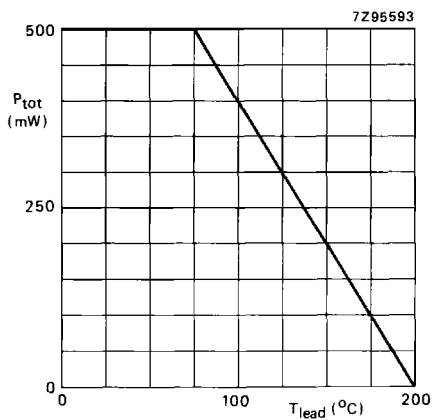


Fig. 3 Total power dissipation versus lead temperature.

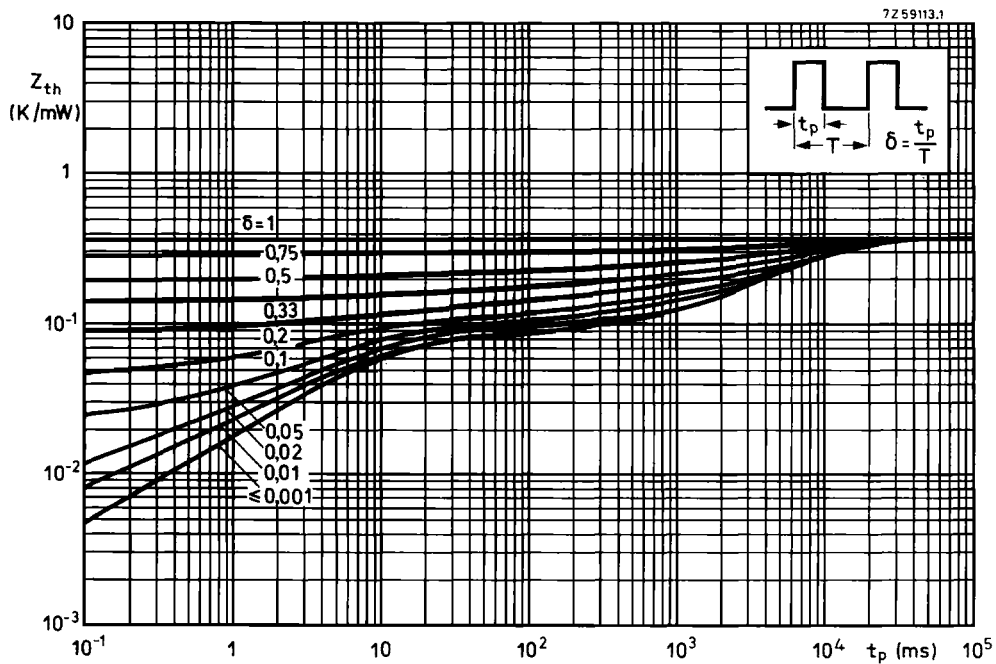


Fig. 4 Thermal impedance versus pulse duration.