

1N4728 thru 1N4764
1M110ZS thru 1M200ZS

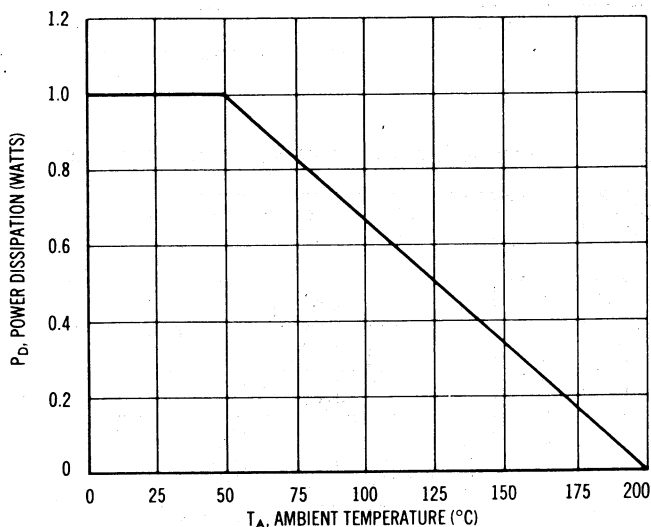
1 W
3.3 - 200 V

CASE 59

One-watt silicon zener diodes designed for constant voltage reference from 3.3 thru 100 volts, with 10% and 5.0% tolerances. These diodes are packaged in a void-free, transfer-molded thermosetting plastic case which is no larger than the conventional 400 mW glass package.

MAXIMUM RATINGS

Rating	Value	Unit
DC Power Dissipation	1.0	Watt
Derating Factor	6.67	mW/°C
Junction and Storage Temperature	-65 to +200	°C



**POWER RATING versus
AMBIENT TEMPERATURE**

MECHANICAL CHARACTERISTICS

CASE: Void free, transfer molded, thermosetting plastic.

FINISH: All external surfaces are corrosion resistant. Leads are readily solderable.

POLARITY: Cathode, indicated by color band. When operated in zener mode cathode will be positive with respect to anode.

MOUNTING POSITION: Any

WEIGHT: 0.42 gram (approximately)

1N4728 thru 1N4764 (continued)

IN--- type numbers have a standard tolerance of $\pm 10\%$ on the nominal zener voltage; "A" for $\pm 5.0\%$ units. For 1M--- type numbers, suffix 10 indicates 10% tolerance, suffix 5 indicates 5.0% tolerance.

ELECTRICAL CHARACTERISTICS (At 25°C unless otherwise specified)

$V_f = 1.5\text{ V max @ } I_f = 200\text{ mA}$ on all types.

Type No.	Nominal Zener Voltage $V_Z @ I_{ZT}$ Volts	Test Current I_{ZT} mA	Max Zener Impedance (Note 3)			REVERSE LEAKAGE CURRENT		Surge Current @ $T_A = 25^\circ\text{C}$ I_R	Max DC Zener Current I_{ZM} mA
			$Z_{ZT} @ I_{ZT}$ Ohms	$Z_{ZK} @ I_{ZK}$ Ohms	I_{ZK} mA	I_R $\mu\text{A Max @}$	V_R Volts		
1N4728	3.3	76	10	400	1.0	100	1	1380	276
1N4729	3.6	69	10	400	1.0	100	1	1260	252
1N4730	3.9	64	9	400	1.0	50	1	1190	234
1N4731	4.3	58	9	400	1.0	10	1	1070	217
1N4732	4.7	53	8	500	1.0	10	1	970	193
1N4733	5.1	49	7	550	1.0	10	1	890	178
1N4734	5.6	45	5	600	1.0	10	2	810	162
1N4735	6.2	41	2	700	1.0	10	3	730	146
1N4736	6.8	37	3.5	700	1.0	10	4	660	133
1N4737	7.5	34	4.0	700	0.5	10	5	605	121
1N4738	8.2	31	4.5	700	0.5	10	6	550	110
1N4739	9.1	28	5.0	700	0.5	10	7	500	100
1N4740	10	25	7	700	0.25	10	7.6	454	91
1N4741	11	23	8	700	0.25	5	8.4	414	83
1N4742	12	21	9	700	0.25	5	9.1	380	76
1N4743	13	19	10	700	0.25	5	9.9	344	69
1N4744	15	17	14	700	0.25	5	11.4	304	61
1N4745	16	15.5	16	700	0.25	5	12.2	285	57
1N4746	18	14	20	750	0.25	5	13.7	250	50
1N4747	20	12.5	22	750	0.25	5	15.2	225	45
1N4748	22	11.5	23	750	0.25	5	16.7	205	41
1N4749	24	10.5	25	750	0.25	5	18.2	190	38
1N4750	27	9.5	35	750	0.25	5	20.6	170	34
1N4751	30	8.5	40	1,000	0.25	5	22.8	150	30
1N4752	33	7.5	45	1,000	0.25	5	25.1	135	27
1N4753	36	7.0	50	1,000	0.25	5	27.4	125	25
1N4754	39	6.5	60	1,000	0.25	5	29.7	115	23
1N4755	43	6.0	70	1,500	0.25	5	32.7	110	22
1N4756	47	5.5	80	1,500	0.25	5	35.8	95	19
1N4757	51	5.0	95	1,500	0.25	5	38.8	90	18
1N4758	56	4.5	110	2,000	0.25	5	42.6	80	16
1N4759	62	4.0	125	2,000	0.25	5	47.1	70	14
1N4760	68	3.7	150	2,000	0.25	5	51.7	65	13
1N4761	75	3.3	175	2,000	0.25	5	56.0	60	12
1N4762	82	3.0	200	3,000	0.25	5	62.2	55	11
1N4763	91	2.8	250	3,000	0.25	5	69.2	50	10
1N4764	100	2.5	350	3,000	0.25	5	76.0	45	9
1M110ZS10	110	2.3	450	4,000	0.25	5.0	83.6	—	7.2
1M110ZS5	110	2.3	450	4,000	0.25	5.0	83.6	—	7.2
1M120ZS10	120	2.0	550	4,500	0.25	5.0	91.2	—	7.0
1M120ZS5	120	2.0	550	4,500	0.25	5.0	91.2	—	7.0
1M130ZS10	130	1.9	700	5,000	0.25	5.0	98.8	—	6.0
1M130ZS5	130	1.9	700	5,000	0.25	5.0	98.8	—	6.0
1M150ZS10	150	1.7	1,000	6,000	0.25	5.0	114	—	5.5
1M150ZS5	150	1.7	1,000	6,000	0.25	5.0	114	—	5.5
1M160ZS10	160	1.6	1,100	6,500	0.25	5.0	121.6	—	5.2
1M160ZS5	160	1.6	1,100	6,500	0.25	5.0	121.6	—	5.2
1M180ZS10	180	1.4	1,200	7,000	0.25	5.0	136.8	—	4.6
1M180ZS5	180	1.4	1,200	7,000	0.25	5.0	136.8	—	4.6
1M200ZS10	200	1.2	1,500	8,000	0.25	5.0	152	—	4.0
1M200ZS5	200	1.2	1,500	8,000	0.25	5.0	152	—	4.0

SPECIAL SELECTIONS AVAILABLE INCLUDE: (See Selector Guide for details)

1 — Nominal zener voltages between those shown.

2 — Matched sets: (Standard Tolerances are $\pm 5.0\%$, $\pm 3.0\%$, $\pm 2.0\%$, $\pm 1.0\%$) depending on voltage per device.

a. Two or more units for series connection with specified tolerance on total voltage. Series matched sets make possible higher zener voltages and provide lower temperature coefficients, lower dynamic impedance and greater power handling ability.

b. Two or more units matched to one another with any specified tolerance.

3 — Tight voltage tolerances: 1.0%, 2.0%, 3.0%.