

## Zener Diodes

### PRODUCT SUMMARY

$V_Z$  Range: 3.3 to 100 Volts

Power Dissipation: 1.0 W

### FEATURES

Silicon Planar Power Zener Diodes.

For use in stabilizing and clipping circuits with high power rating.

Standard Zener voltage tolerance is  $\pm 10\%$ . Add suffix "A" for  $\pm 5\%$  tolerance. Other Zener voltages and tolerances are available upon request.

These diodes are also available in the MELF case with type designation 1N4728 thru 1N4764

For bidirectional product, contact local Technical Sales office.

### MECHANICAL DATA

Case: DO-41 Glass or DO-41 Plastic Case

Weight: approx. 0.35g

 **Pb-free; RoHS-compliant**

### MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

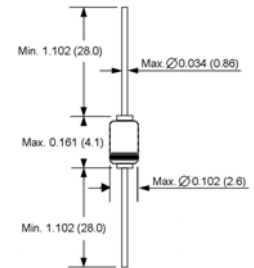
(Ratings at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	Value	Unit
Zener current		See Next Page	
Power dissipation at $T_{amb} = 50^\circ\text{C}$	$P_{tot}$	1.0 <sup>(1)</sup>	W
Thermal resistance junction to ambient air	$R_{\theta JA}$	170 <sup>(1)</sup>	$^\circ\text{C/W}$
Junction temperature	$T_j$	175	$^\circ\text{C}$
Storage temperature range	$T_s$	-65 to +175	$^\circ\text{C}$

**Notes:** 1. Valid provided that electrodes at a distance of 10mm from case are kept at ambient temperature.

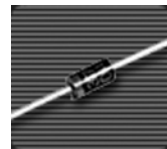


DO-204AL (DO-41 Glass)

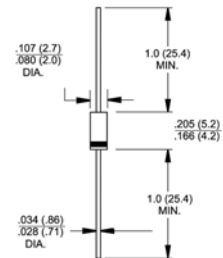


Dimensions in inches and (millimeters)

Note: Suffix: "-P" to order Molded Plastic Package  
Suffix: "-G" to order Molded Glass Package



DO-204AL (DO-41)



Dimensions in inches and (millimeters)

## ELECTRICAL CHARACTERISTICS

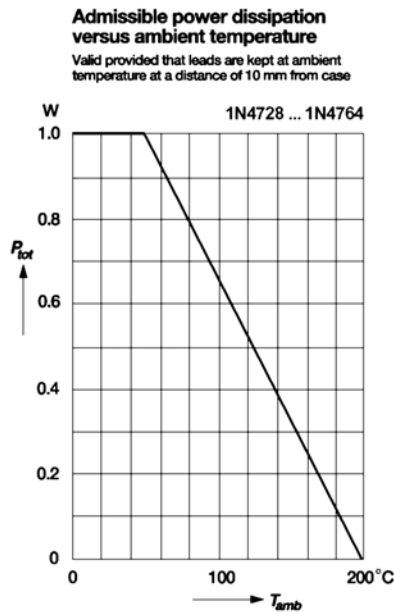
(T<sub>A</sub>=25°C unless otherwise noted) Maximum V<sub>F</sub>=1.2V at I<sub>F</sub>=200mA

Type number	Nominal zener voltage <sup>(3)</sup> at I <sub>ZT</sub> V <sub>Z</sub> (Volts)	Test current I <sub>ZT</sub> (mA)	Maximum zener impedance <sup>(1)</sup>			Maximum reverse leakage current		Surge current at T <sub>A</sub> =25°C I <sub>R</sub> (mA)	Maximum regulator current <sup>(2)</sup> at T <sub>A</sub> =50°C I <sub>ZM</sub> (mA)
			Z <sub>ZT</sub> at I <sub>ZT</sub> (Ω)	Z <sub>ZK</sub> (Ω)	at I <sub>ZK</sub> (mA)	I <sub>R</sub> (uA)	at V <sub>R</sub> (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	1000	0.25	5	22.8	150	30
1N4752	33	7.5	45	1000	0.25	5	25.1	135	27
1N4753	36	7.0	50	1000	0.25	5	27.4	125	25
1N4754	39	6.5	60	1000	0.25	5	29.7	115	23
1N4755	43	6.0	70	1500	0.25	5	32.7	110	22
1N4756	47	5.5	80	1500	0.25	5	35.8	95	19
1N4757	51	5.0	95	1500	0.25	5	38.8	90	18
1N4758	56	4.5	110	2000	0.25	5	42.6	80	16
1N4759	62	4.0	125	2000	0.25	5	47.1	70	14
1N4760	68	3.7	150	2000	0.25	5	51.7	65	13
1N4761	75	3.3	175	2000	0.25	5	56.0	60	12
1N4762	82	3.0	200	3000	0.25	5	62.2	55	11
1N4763	91	2.8	250	3000	0.25	5	69.2	50	10
1N4764	100	2.5	350	3000	0.25	5	76.0	45	9

- Notes:**
1. The Zener impedance is derived from the 1KHZ AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current (I<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed on I<sub>ZT</sub> or I<sub>ZK</sub>. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units
  2. Valid provided that electrodes at a distance of 10 mm from case are kept at ambient temperature
  3. Measured under thermal equilibrium and DC test conditions

## RATINGS AND CHARACTERISTIC CURVES

( $T_A=25^{\circ}\text{C}$  unless otherwise noted)



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