



# 1N4728 thru 1N4756

Zener Diodes

$V_z$  Range: 3.3 to 47 Volts Power Dissipation: 1.0W

## Features

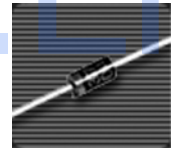
- ◆ Silicon Planar Power Zener Diodes.
- ◆ For use in stabilizing and clipping circuits with high power rating.
- ◆ Standard Zener voltage tolerance is  $\pm 10\%$ . Add suffix "A" for  $\pm 5\%$  tolerance. Other Zener voltages and tolerances are available upon request.
- ◆ These diodes are also available in the MELF case with type designation ZM4728 thru ZM4764
- ◆ For bidirectional product, contact local Technical Sales office.

## Mechanical Data

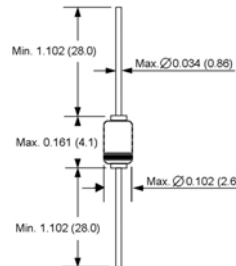
- ◆ Case: DO-41 Glass or DO-41 Plastic Case
- ◆ Weight: approx. 0.35g



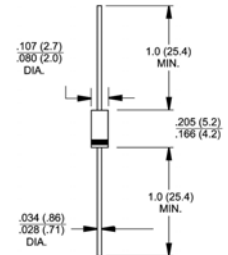
DO-204AL (DO-41 Glass)



DO-204AL (DO-41)



Dimensions in inches and (millimeters)



Dimensions in inches and (millimeters)

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

## 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.

## Electrical Characteristics

( $T_A=25^\circ\text{C}$  unless otherwise noted) Maximum  $V_Z=1.2V$  at  $I_Z=200\text{mA}$

Type number	Nominal zener voltage <sup>(3)</sup> at $I_{ZT}$ $V_Z$ (Volts)	Test current $I_{ZT}$ (mA)	Maximum zener impedance <sup>(1)</sup>			Maximum reverse leakage current		Surge current at $T_A=25^\circ\text{C}$ $I_R$ (mA)	Maximum regulator current <sup>(2)</sup> at $T_A=50^\circ\text{C}$ $I_{ZM}$ (mA)
			$Z_{ZT}$ at $I_{ZT}$ ( $\Omega$ )	$Z_{ZK}$ ( $\Omega$ )	at $I_{ZK}$ (mA)	$I_R$ ( $\mu\text{A}$ )	at $V_R$ (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.	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.	170	34
1N4751	30	8.5	40	1000	0.25	5	22.	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.	125	25
1N4754	39	6.5	60	1000	0.25	5	29.	115	23
1N4755	43	6.0	70	1500	0.25	5	32.	110	22
1N4756	47	5.5	80	1500	0.25	5	35.	95	19

- 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 ( $I_{ZT}$  or  $I_{ZK}$ ) is superimposed on  $I_{ZT}$  or  $I_{ZK}$ . 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)

### Admissible power dissipation versus ambient temperature

Valid provided that leads are kept at ambient  
temperature at a distance of 10 mm from case

