



SEMICONDUCTOR

# 1N4728 THRU 1N4764

## 1W SILICON PLANAR ZENER DIODES

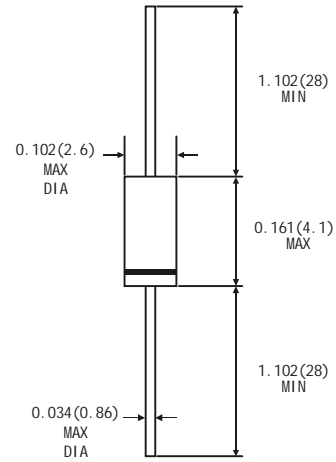
### FEATURES

- Silicon planar power zener diodes  
For use in stabilizing and clipping circuits with high power rating.
- Standards Zener voltage tolerance is  $\pm 10\%$ .  
Add suffix "A" for  $\pm 5\%$  tolerance Other tolerance available upon request

### MECHANICAL DATA

- *Case:* DO-41 glass case
- *Weight:* Approx. 0.35 gram

### DO-41(GLASS)



Dimensions in inches and (millimeters)

### ABSOLUTE MAXIMUM RATINGS(LIMITING VALUES) ( $T_A=25\text{ C}^\circ$ )

	<i>Symbols</i>	<i>Value</i>	<i>Units</i>
Zener current see table "Characteristics"			
Power dissipation at $T_A=25^\circ\text{C}$	$P_{tot}$	1 <sup>1)</sup>	mW
Junction temperature	$T_J$	175	$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-65 to +175	$^\circ\text{C}$

1) Valid provided that a distance of 8mm from case are kept at ambient temperature

### ELECTRICAL CHARACTERISTICS ( $T_A=25\text{ C}^\circ$ )

	<i>Symbols</i>	<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Units</i>
Thermal resistance junction to ambient air	$R_{thA}$			170 <sup>1)</sup>	$^\circ\text{C/W}$
Forward voltage at $I_F=200\text{mA}$	$V_F$			1.2	v

1) Valid provided that a distance of 8mm from case are kept at ambient temperature

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Type	Nominal Zener Voltage <sup>3)</sup>	Test Current	Maximum Zener Impedance <sup>1)</sup>			Maximum reverse leakage current		Surge current	Maximum regulator Current <sup>2)</sup>			
	$\frac{dI}{I_Z}$ $V_Z$ V	$I_{ZT}$ mA	$\frac{dI}{I_Z}$ $Z_{ZT}$ $\Omega$	$Z_{ZK}$ $\Omega$	$\frac{dI}{I_{ZK}}$ mA	$I_{R1}$ $\mu$ A	$\frac{dI}{V_R}$ V	$\frac{dI}{I_R}$ $T_A=0.25$ mA	$I_{ZM}$ mA			
1N4728	3.3	76	10	400	1.0	100	1.0	1380	276			
1N4729	3.6	69	10						1.0	1260	252	
1N4730	3.9	64	9				50	1.0	1190	234		
1N4731	4.3	58	9						1.0	1070	217	
1N4732	4.7	53	8	500				1.0	970	193		
1N4733	5.1	49	7	550				1.0	890	178		
1N4734	5.6	45	5	600				2.0	810	162		
1N4735	6.2	41	2	700		0.5	10	3.0	730	146		
1N4736	6.8	37	3.5							4.0	660	133
1N4737	7.5	34	4.0							5.0	605	121
1N4738	8.2	31	4.5						6.0	550	110	
1N4739	9.1	28	5.0						7.0	500	100	
1N4740	10	25	7						7.6	454	91	
1N4741	11	23	8						8.4	414	83	
1N4742	12	21	9						9.1	380	76	
1N4743	13	19	10						9.9	344	69	
1N4744	15	17	14						11.4	304	61	
1N4745	16	15.5	16	750	0.25	5	12.2	285	57			
1N4746	18	14	20						13.7	250	50	
1N4747	20	12.5	22						15.2	225	45	
1N4748	22	11.5	23						16.7	205	41	
1N4749	24	10.5	25						18.2	190	38	
1N4750	27	9.5	35						20.6	170	34	
1N4751	30	8.5	40				1000		22.8	150	30	
1N4752	33	7.5	45							25.1	135	27
1N4753	36	7.0	50							27.4	125	25
1N4754	39	6.5	60							29.7	115	23
1N4755	43	6.0	70	1500		32.7	110	22				
1N4756	47	5.5	80				35.8	95	19			
1N4757	51	5.0	95				38.8	90	18			
1N4758	56	4.5	110	2000		42.6	80	16				
1N4759	62	4.0	125				47.1	70	14			
1N4760	68	3.7	150				51.7	65	13			
1N4761	75	3.3	175				56.0	60	12			
1N4762	82	3.0	200	3000		62.2	55	11				
1N4763	91	2.8	250				69.2	50	10			
1N4764	100	2.5	350				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 ( $I_{ZT}$  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 10mm from case are kept at ambient temperature  
3) Measured under thermal equilibrium and DC test conditions.

# RATINGS AND CHARACTERISTIC CURVES 1N4728 THRU 1N4764

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Admissible power dissipation versus ambient temperature  
(Valid provided that leads at a distance of 10mm from case  
are kept at ambient temperature)

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