



Micro Commercial Components  
 20736 Marilla Street Chatsworth  
 CA 91311  
 Phone: (818) 701-4933  
 Fax: (818) 701-4933

**1N4728A  
 THRU  
 1N4761A**

**1.0 Watt  
 Zener Diode  
 3.3 to 75 Volts**

**Features**

- Hermetic Glass Package
- Silicon Planar Zener Diodes
- Lead Free Finish/Rohs Compliant (Note2) ("P" Suffix designates Compliant. See ordering information)
- Moisture Sensitivity: Level 1

**Mechanical Data**

- Case: DO-41 Glass Package
- Marking : Cathode band and type number
- Weight: 0.309 grams (Approx.)

**Maximum Ratings**

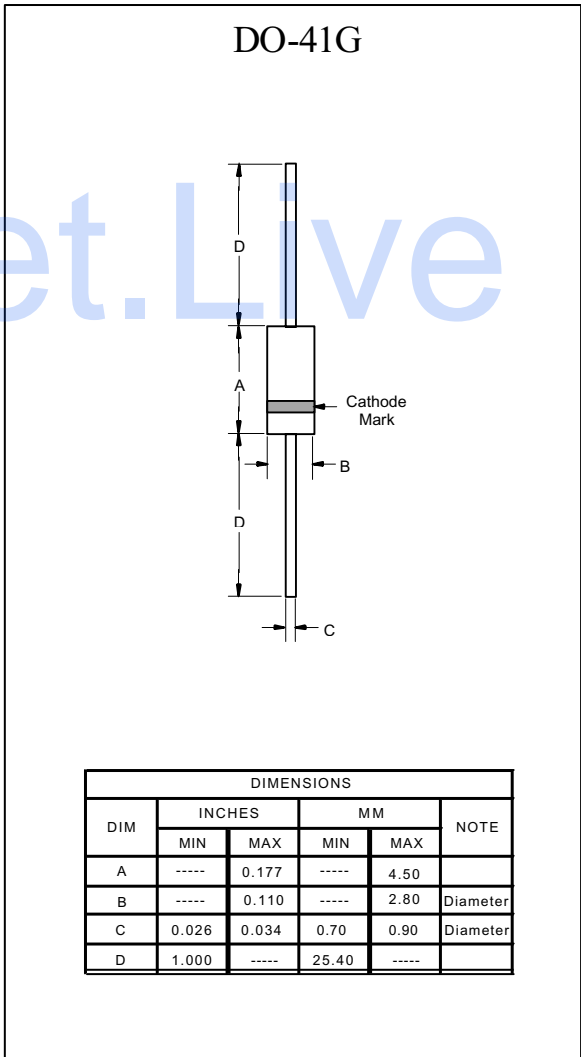
- Operating Temperature: -65°C to +200°C
- Storage Temperature: -65°C to +200°C
- For capacitive load, derate current by 20%

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

DC Power Dissipation	P <sub>d</sub>	1.0W	T <sub>A</sub> ≤ 50°C
Forward Voltage Drop	V <sub>F</sub>	1.2V	
Thermal Resistance	R <sub>thJA</sub>	100K/W	Note 1
Power Derating from 100°C	P <sub>tot</sub>	10mW/°C	

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

(2). Lead in Glass Exemption Applied, see EU Directive Annex 7(C)-I.



**Electrical Characteristics** ( $T_A = 25^\circ\text{C}$  unless otherwise noted). Maximum  $V_F = 1.2\text{V}$  at  $I_F = 200\text{mA}$ 

MCC Part Number	Zener Voltage	Test Current	Maximum Dynamic Impedance			Maximum Reverse Leakage Current		Surge Current	Maximum Regulator Current
	$V_Z @ I_{ZT}$ Volts	$I_{ZT}$ mA	$Z_{ZT} @ I_{ZT}$ OHMS	$Z_{ZK} @ I_{ZK}$ OHMS	$I_{ZK}$ mA	$I_R @ V_R$ $\mu\text{A}$	$V_R$ Volts	$I_R$ mA	$I_{ZM}$ mA
1N4728A	3.3	76	10	400	1	100	1	1380	276
1N4729A	3.6	69	10	400	1	100	1	1260	252
1N4730A	3.9	64	9	400	1	50	1	1190	234
1N4731A	4.3	58	9	400	1	10	1	1070	217
1N4732A	4.7	53	8	500	1	10	1	970	193
1N4733A	5.1	49	7	550	1	10	1	890	178
1N4734A	5.6	45	5	600	1	10	2	810	162
1N4735A	6.2	41	2	700	1	10	3	730	146
1N4736A	6.8	37	3.5	700	1	10	4	660	133
1N4737A	7.5	34	4	700	0.5	10	5	605	121
1N4738A	8.2	31	4.5	700	0.5	10	6	550	110
1N4739A	9.1	28	5	700	0.5	10	7	500	100
1N4740A	10	25	7	700	0.25	10	7.6	454	91
1N4741A	11	23	8	700	0.25	5	8.4	414	83
1N4742A	12	21	9	700	0.25	5	9.1	380	76
1N4743A	13	19	10	700	0.25	5	9.9	344	69
1N4744A	15	17	14	700	0.25	5	11.4	304	61
1N4745A	16	15.5	16	700	0.25	5	12.2	285	57
1N4746A	18	14	20	750	0.25	5	13.7	250	50
1N4747A	20	12.5	22	750	0.25	5	15.2	225	45
1N4748A	22	11.5	23	750	0.25	5	16.7	205	41
1N4749A	24	10.5	25	750	0.25	5	18.2	190	38
1N4750A	27	9.5	35	750	0.25	5	20.6	170	34
1N4751A	30	8.5	40	1000	0.25	5	22.8	150	30
1N4752A	33	7.5	45	1000	0.25	5	25.1	135	27
1N4753A	36	7	50	1000	0.25	5	27.4	125	25
1N4754A	39	6.5	60	1000	0.25	5	29.7	115	23
1N4755A	43	6	70	1500	0.25	5	32.7	110	22
1N4756A	47	5.5	80	1500	0.25	5	35.8	95	19
1N4757A	51	5	95	1500	0.25	5	38.8	90	18
1N4758A	56	4.5	110	2000	0.25	5	42.6	80	16
1N4759A	62	4	125	2000	0.25	5	47.1	70	14
1N4760A	68	3.7	150	2000	0.25	5	51.7	65	13
1N4761A	75	3.3	175	2000	0.25	5	56	60	12

- Note**
- 1: The JEDEC type number shown with an A suffix have a 5% tolerance on nominal zener voltage. C signifies 2%.
  - 2: The Zener impedance is derived from the 60 Hz ac voltage, which results when an ac current having an rms value equal to 10% of the DC 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 eliminate unstable units.
  - 3: The reverse surge current is measured at  $25^\circ\text{C}$  ambient using a 1/2 square wave or equivalent sine wave pulse 1/120 second duration superimposed on  $I_{ZT}$ .
  - 4: Voltage measurements to be performed 90 seconds after application of DC current.
  - 5: RoHs Compliant already and Pb-free sticker on reel, box & carton indicated RoHs compliant.

# 1N4728A thru 1N4761A



**Figure 1. Typical Thermal Resistance versus Lead Length**



**Figure 2. Effect of Zener Current**



**Figure 3. Effect of Zener Current on Zener Impedance**



**Figure 4. Effect of Zener Voltage on Zener Impedance**



This graph represents 90 percentile data points.  
For worst case design characteristics, multiply surge power by 2/3.

**Figure 5. Maximum Surge Power**



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### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 5Kpcs/Reel
Part Number-AP	Ammo Packing: 2.5Kpcs/Ammo Box
Part Number-BP	Bulk: 50Kpcs/Carton

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