



Micro Commercial Components



Micro Commercial Components  
20736 Marilla Street Chatsworth  
CA 91311  
Phone: (818) 701-4933  
Fax: (818) 701-4939

# 1N4728 THRU 1N4761

**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%

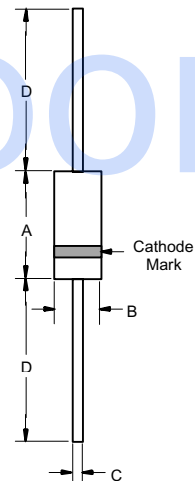
## Electrical Characteristics @ 25°C Unless Otherwise Specified

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 5.

DO-41G



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	-----	0.177	-----	4.50	
B	-----	0.110	-----	2.80	Diameter
C	0.026	0.034	0.70	0.90	Diameter
D	1.000	-----	25.40	-----	

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

MCC Part Number	Zener Voltage	Test Current	Maximum Dynamic Impedance			Maximum Reverse Leakage Current		Surge Current	Maximum Regulator Current
	V <sub>Z</sub> @ I <sub>ZT</sub>	I <sub>ZT</sub>	Z <sub>ZT</sub> @ I <sub>ZT</sub>	Z <sub>ZK</sub> @ I <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>R</sub> @ V <sub>R</sub>	V <sub>R</sub>	I <sub>R</sub>	I <sub>ZM</sub>
	Volts	mA	OHMS	OHMS	mA	uA	Volts	mA	mA
1N4728	3.3	76	10	400	1	100	1	1380	276
1N4729	3.6	69	10	400	1	100	1	1260	252
1N4730	3.9	64	9	400	1	50	1	1190	234
1N4731	4.3	58	9	400	1	10	1	1070	217
1N4732	4.7	53	8	500	1	10	1	970	193
1N4733	5.1	49	7	550	1	10	1	890	178
1N4734	5.6	45	5	600	1	10	2	810	162
1N4735	6.2	41	2	700	1	10	3	730	146
1N4736	6.8	37	3.5	700	1	10	4	660	133
1N4737	7.5	34	4	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	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	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	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	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	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	60	12

- Note**
- 1: The JEDEC type number shown with an A suffix have a 5% tolerance on nominal zener voltage. No suffix signifies a 10% tolerance, 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<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 eliminate unstable units.
  - 3: The reverse surge current is measured at 25°C ambient using a 1/2 square wave or equivalent sine wave pulse 1/120 second duration superimposed on I<sub>ZT</sub>.
  - 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 .

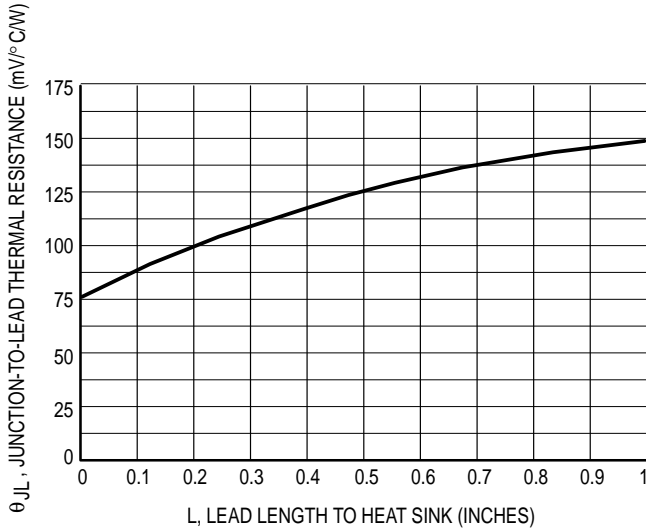


Figure 1. Typical Thermal Resistance versus Lead Length

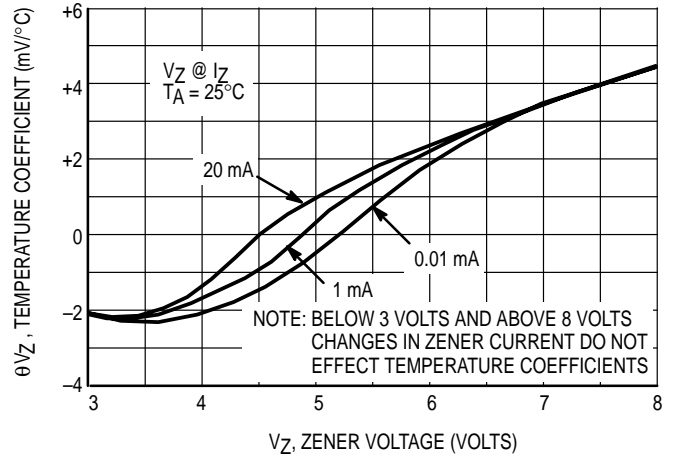


Figure 2. Effect of Zener Current

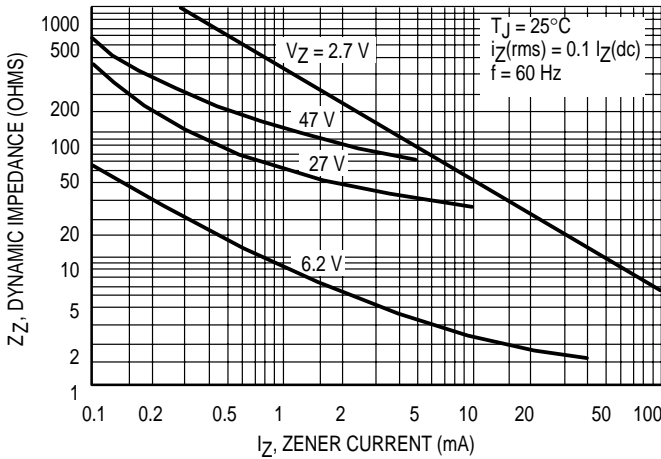


Figure 3. Effect of Zener Current on Zener Impedance

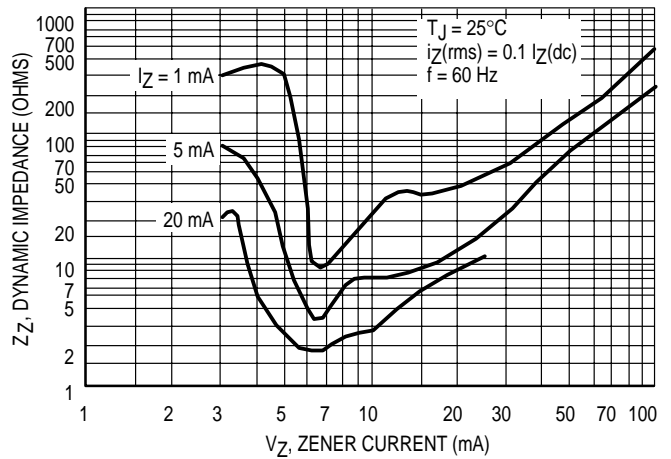
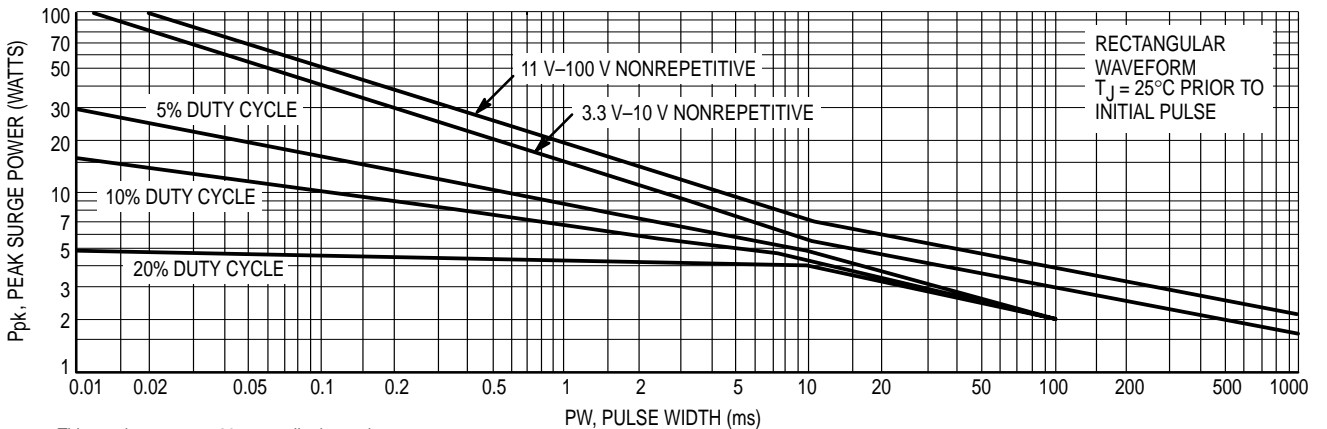


Figure 4. Effect of Zener Voltage on Zener Impedance



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

Figure 5. Maximum Surge Power



Micro Commercial Components

### 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

**\*\*\*IMPORTANT NOTICE\*\*\***

**Micro Commercial Components Corp.** reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp .** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp .** and all the companies whose products are represented on our website, harmless against all damages.

**\*\*\*LIFE SUPPORT\*\*\***

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

**\*\*\*CUSTOMER AWARENESS\*\*\***

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.