

- ZENER DIODE CHIPS
- ALL JUNCTIONS COMPLETELY PROTECTED WITH SILICON DIOXIDE
- ELECTRICALLY EQUIVALENT TO 1N4728A THRU 1N4764A
- 1 WATT CAPABILITY WITH PROPER HEAT SINKING
- COMPATIBLE WITH ALL WIRE BONDING AND DIE ATTACH TECHNIQUES, WITH THE EXCEPTION OF SOLDER REFLOW

CD4728A  
thru  
CD4764A

### MAXIMUM RATINGS

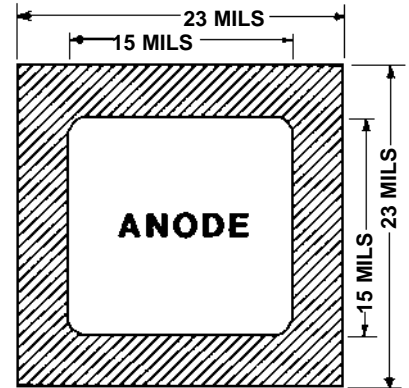
Operating Temperature: -65°C to +175°C  
Storage Temperature: -65°C to +175°C  
Forward Voltage @ 200 mA: 1.5 Volts Maximum

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified

TYPE NUMBER	NOMINAL ZENER VOLTAGE (V <sub>Z</sub> ) (Note 1)	TEST CURRENT (I <sub>ZT</sub> )	MAXIMUM ZENER IMPEDANCE (Z <sub>ZT</sub> @ I <sub>ZT</sub> ) (Note 2)	MAXIMUM REVERSE CURRENT (I <sub>R</sub> @ V <sub>R</sub> )	TEST VOLTAGE (V <sub>R</sub> )	MAXIMUM KNEE IMPEDANCE (Z <sub>ZK</sub> ) (Note 2)	TEST CURRENT (I <sub>ZK</sub> )
	VOLTS	mA	OHMS	μA	VOLTS	OHMS	mA
CD4728A	3.3	76	10	100	1	400	1.0
CD4729A	3.6	69	10	100	1	400	1.0
CD4730A	3.9	64	9	100	1	400	1.0
CD4731A	4.3	58	9	10	1	400	1.0
CD4732A	4.7	53	8	10	1	500	1.0
CD4733A	5.1	49	7	5	1	550	1.0
CD4734A	5.6	45	5	5	2	600	1.0
CD4735A	6.2	41	2	5	3	700	1.0
CD4736A	6.8	37	3.5	3	4	700	1.0
CD4737A	7.5	34	4.0	3	5	700	0.5
CD4738A	8.2	31	4.5	3	6	700	0.5
CD4739A	9.1	28	5.0	3	7	700	0.5
CD4740A	10	25	7	3	7.6	700	0.25
CD4741A	11	23	8	2	8.4	700	0.25
CD4742A	12	21	9	1	9.1	700	0.25
CD4743A	13	19	10	0.5	9.9	700	0.25
CD4744A	15	17	14	0.1	11.4	700	0.25
CD4745A	16	15.5	16	0.1	12.2	700	0.25
CD4746A	18	14	20	0.1	13.7	750	0.25
CD4747A	20	12.5	22	0.1	15.2	750	0.25
CD4748A	22	11.5	23	0.1	16.7	750	0.25
CD4749A	24	10.5	25	0.1	18.2	750	0.25
CD4750A	27	9.5	35	0.1	20.6	750	0.25
CD4751A	30	8.5	40	0.1	22.8	1000	0.25
CD4752A	33	7.5	45	0.1	25.1	1000	0.25
CD4753A	36	7.0	50	0.1	27.4	1000	0.25
CD4754A	39	6.5	60	0.1	29.7	1000	0.25
CD4755A	43	6.0	70	0.1	32.7	1500	0.25
CD4756A	47	5.5	80	0.1	35.8	1500	0.25
CD4757A	51	5.0	95	0.1	38.8	1500	0.25
CD4758A	56	4.5	110	0.1	42.6	2000	0.25
CD4759A	62	4.0	125	0.1	47.1	2000	0.25
CD4760A	68	3.7	150	0.1	51.7	2000	0.25
CD4761A	75	3.3	175	0.1	56.0	2000	0.25
CD4762A	82	3.0	200	0.1	62.2	3000	0.25
CD4763A	91	2.8	250	0.1	69.2	3000	0.25
CD4764A	100	2.5	350	0.1	76.0	3000	0.25

**NOTE 1** Zener voltage range equals nominal Zener voltage ± 5% for "A" Suffix. No Suffix denotes ± 10%. Zener voltage is read using a pulse measurement, 10 milliseconds maximum. "C" suffix = ± 2% and "D" suffix = ± 1%.

**NOTE 2** Zener impedance is derived by superimposing on I<sub>ZT</sub> A 60Hz rms a.c. current equal to 10% of I<sub>ZT</sub>.



BACKSIDE IS CATHODE

FIGURE 1

### DESIGN DATA

**METALLIZATION:**  
Top: (Anode).....Al  
Back: (Cathode).....Au

**AL THICKNESS**.....25,000 Å Min

**GOLD THICKNESS**.....4,000 Å Min

**CHIP THICKNESS**.....10 Mils

**CIRCUIT LAYOUT DATA:**  
For Zener operation, cathode must be operated positive with respect to anode.

**TOLERANCES: ALL**  
Dimensions ± 2 mils



**COMPENSATED DEVICES INCORPORATED**

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# CD4728A thru CD4764A

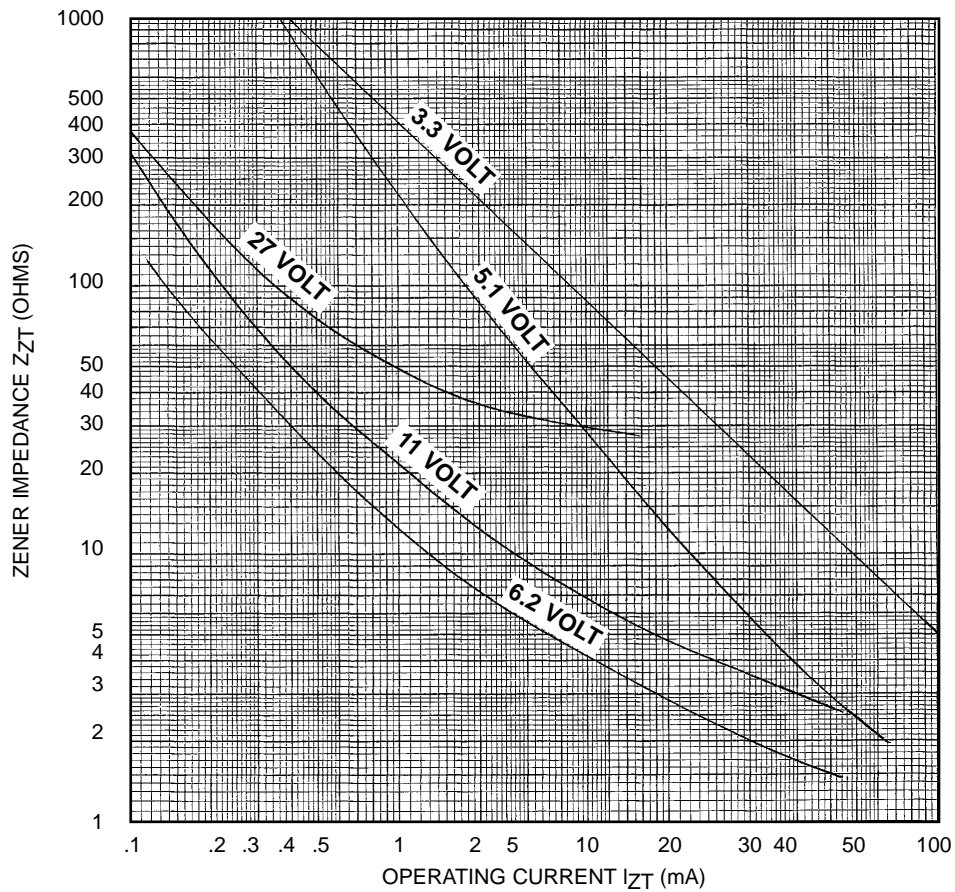


FIGURE 3

ZENER IMPEDANCE VS. OPERATING CURRENT