CD4728A thru CD4764A

Zener Diode Chip Series

Rev. V3

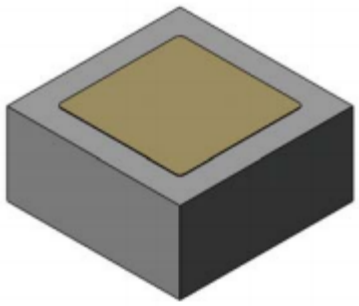
Features

- All Junctions Completely Protected with Silicon Dioxide
- 0.5 W Capability with Proper Heat Sinking
- Electrically Equivalent to 1N4728A - 1N4764A

Description

These 0.5 W zener diodes are electrically equivalent to the 1N4728A - 1N4764A series diodes. They are compatible with all wire bonding and die attach techniques with the exception of solder reflow.

Die



Electrical Specifications: T_A = +25°C

Part #	Zener Voltage V_Z @ I_{ZT} (Note 1)	Zener Test Current I_{ZT}	Zener Impedance Z_{ZT} @ I_{ZT} (Note 2)	Reverse Current I_R @ V_R I_R	Test Factor V_R	Knee Impedance Z_{ZK} (Note 2)	Test Current $3I_{ZK}$
	Nominal		Maximum	Maximum		Maximum	
	V	mA	Ohms	µA	V	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	3	5	700	0.5
CD4738A	8.2	31	4.5	3	6	700	0.5
CD4739A	9.1	28	5	3	7	700	0.5
CD4740A	10.0	25	7	3	7.6	700	0.25
CD4741A	11.0	23	8	2	8.4	700	0.25
CD4742A	12.0	21	9	1	9.1	700	0.25
CD4743A	13.0	29	10	0.5	9.9	700	0.25
CD4744A	15.0	17	14	0.1	11.4	700	0.25
CD4745A	16.0	15.5	16	0.1	12.2	700	0.25
CD4746A	18.0	14	20	0.1	13.7	750	0.25
CD4747A	20.0	12.5	22	0.1	15.2	750	0.25
CD4748A	22.0	11.5	23	0.1	16.7	750	0.25
CD4749A	24.0	10.5	25	0.1	18.2	750	0.25

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* Restrictions on Hazardous Substances, European Union Directive 2011/65/EU.

Electrical Specifications: T_A = +25°C

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	Nominal		Maximum	Maximum		Maximum	
	V	mA	Ohms	µA	V	Ohms	mA
CD4750A	27.0	9.5	35	0.1	20.6	750	0.25
CD4751A	30.0	8.5	40	0.1	22.8	1000	0.25
CD4752A	33.0	7.5	45	0.1	25.1	1000	0.25
CD4753A	36.0	7.0	50	0.1	27.4	1000	0.25
CD4754A	39.0	6.5	60	0.1	29.7	1000	0.25
CD4755A	43.0	6.0	70	0.1	32.7	1500	0.25
CD4756A	47.0	5.5	80	0.1	35.8	1500	0.25
CD4757A	51.0	5.0	95	0.1	38.8	1500	0.25
CD4758A	56.0	4.5	110	0.1	42.6	2000	0.25
CD4759A	62.0	4.0	125	0.1	47.1	2000	0.25
CD4760A	68.0	3.7	150	0.1	51.7	2000	0.25
CD4761A	75.0	3.3	175	0.1	56.0	2000	0.25
CD4762A	82.0	3.0	200	0.1	62.2	3000	0.25
CD4763A	91.0	2.8	250	0.1	69.2	3000	0.25
CD4764A	100.0	2.5	350	0.1	76.0	3000	0.25

1. Zener voltage range equals nominal Zener voltage. +5% for “A” Suffix. No Suffix denotes +10%. Zener voltage is
2. read using a pulse measurement, 10 milliseconds maximum. "C" suffix = +2% and "D" suffix = +1%.
3. Zener impedance is derived by superimposing on I_{ZT} a 60Hz rms AC current equal to 10% of I_{ZT}.

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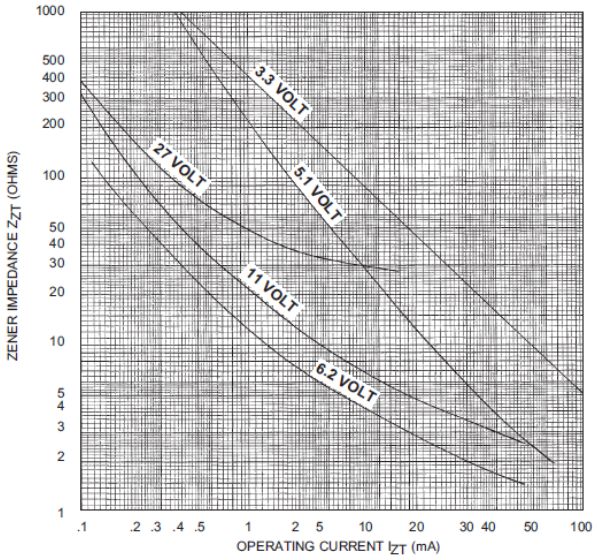
Rev. V3

Absolute Maximum Ratings[4,5]

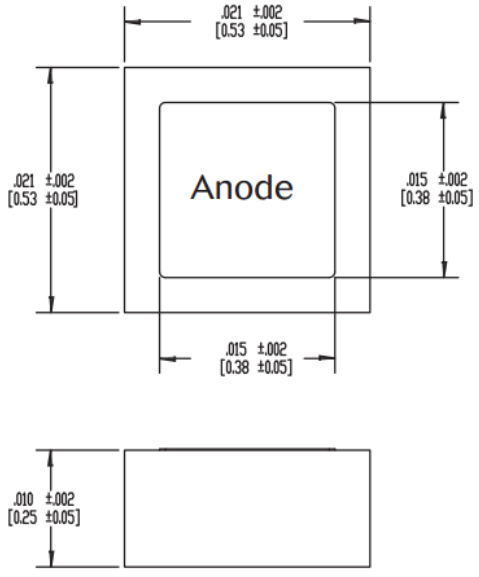
Parameter	Absolute Maximum
Forward Voltage	1.5 V @ 200 mA
Operating Temperature	-65°C to +175°C
Storage Temperature	-65°C to +175°C

4. Exceeding any one or combination of these limits may cause permanent damage to this device.
5. VPT Components does not recommend sustained operation near these survivability limits.

Zener Impedance vs. Operating Current



Die



Metallization:	Top: (anode) AL Back: (cathode) Au
AL Thickness:	25,000 Å Minimum
Gold Thickness:	4,000 Å Minimum
Chip Thickness:	10 mils
Circuit Layout Data:	For Zener operation, cathode must be operated positive with respect to anode.