

Zener Diode Chip Series

CD4678 thru CD4717

Features

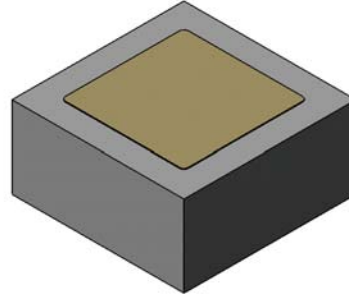
- All junctions completely protected with silicon dioxide
- Electrically equivalent to IN4678 thru IN4717
- 0.5 Watt capability with proper heat sinking
- 50 μ A low operating current Zener Diodes
- Compatible with all wire bonding and die attach techniques with the exception of solder reflow

Maximum Ratings

Operating Temperature: -65°C to +175°C

Storage Temperature: -65°C to +175°C

Forward Voltage @ 200mA: 1.5 volts maximum



Electrical Specifications @ +25 °C (Unless Otherwise Specified)

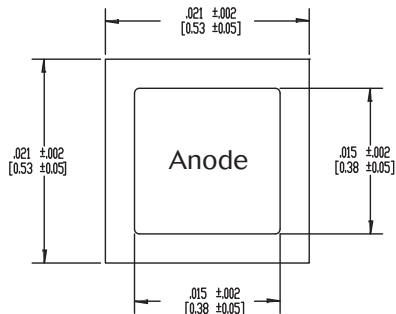
CDI TYPE NUMBER (NOTE 1)	NOMINAL ZENER VOLTAGE V_Z (NOTE 3)	ZENER TEST CURRENT I_{ZT}	MAXIMUM VOLTAGE REGULATION $3V_Z$ (NOTE 2)	MAXIMUM MAXIMUM REVERSE I_R @ V_R		MAXIMUM DC ZENER CURRENT I_{ZM}
	VOLTS	μ A	VOLTS	μ A	VOLTS	mA
CD4678	1.8	50	0.70	7.5	1.0	120.0
CD4679	2.0	50	0.70	5.0	1.0	110.0
CD4680	2.2	50	0.75	4.0	1.0	100.0
CD4681	2.4	50	0.80	2.0	1.0	90.0
CD4682	2.7	50	0.80	1.0	1.0	90.0
CD4683	3.0	50	0.90	0.8	1.0	85.0
CD4684	3.3	50	0.95	7.5	1.5	80.0
CD4685	3.6	50	0.95	7.5	2.0	75.0
CD4686	3.9	50	0.97	5.0	2.0	70.0
CD4687	4.3	50	0.99	4.0	2.0	65.0
CD4688	4.7	50	0.99	10.0	3.0	60.0
CD4689	5.1	50	0.97	10.0	3.0	55.0
CD4690	5.6	50	0.96	10.0	4.0	50.0
CD4691	6.2	50	0.95	10.0	5.0	45.0
CD4692	6.8	50	0.90	10.0	5.1	35.0
CD4693	7.5	50	0.75	10.0	5.7	31.8
CD4694	8.2	50	0.50	1.0	6.2	29.0
CD4695	8.7	50	0.10	1.0	6.6	27.4
CD4696	9.1	50	0.08	1.0	6.9	26.2
CD4697	10.0	50	0.10	1.0	7.6	24.8
CD4698	11.0	50	0.11	0.05	8.4	21.6
CD4699	12.0	50	0.12	0.05	9.1	20.4
CD4700	13.0	50	0.13	0.05	9.8	19.0
CD4701	14.0	50	0.14	0.05	10.6	17.5
CD4702	15.0	50	0.15	0.05	11.4	16.3
CD4703	16.0	50	0.16	0.05	12.1	15.4
CD4704	17.0	50	0.17	0.05	12.9	14.5
CD4705	18.0	50	0.18	0.05	13.6	13.2
CD4706	19.0	50	0.19	0.05	14.4	12.5
CD4707	20.0	50	0.20	0.01	15.2	11.9
CD4708	22.0	50	0.22	0.01	16.7	10.8
CD4709	24.0	50	0.24	0.01	18.2	9.9
CD4710	25.0	50	0.25	0.01	19.0	9.5
CD4711	27.0	50	0.27	0.01	20.4	8.8
CD4712	28.0	50	0.28	0.01	21.2	8.5
CD4713	30.0	50	0.30	0.01	22.8	7.9
CD4714	33.0	50	0.33	0.01	25.0	7.2
CD4715	36.0	50	0.36	0.01	27.3	6.6
CD4716	39.0	50	0.39	0.01	29.8	6.1
CD4717	43.0	50	0.43	0.01	32.6	5.5

NOTE 1 The JEDEC type numbers shown above have a standard tolerance of $\pm 5\%$ of the nominal Zener voltage. V_Z is measured with the diode in thermal equilibrium at $25^\circ\text{C} \pm 3^\circ\text{C}$

NOTE 2 V_Z @ 100 μ A minus V_Z @ 10 μ A.

NOTE 3 Zener voltage is read using a pulse measurement, 10 milliseconds maximum.

Outline Drawing



DESIGN DATA

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

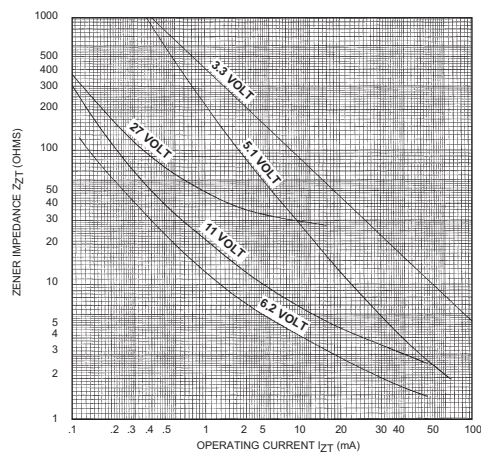
AL THICKNESS: 25,000 Å Minimum

GOLD THICKNESS: 4,000 Å Minimum

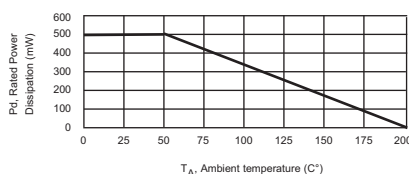
CHIP THICKNESS: 10 Mils

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

Graphs



ZENER IMPEDANCE VS. OPERATING CURRENT



POWER DERATING CURVE

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