- **ZENER DIODE CHIPS**
- **ALL JUNCTIONS COMPLETELY PROTECTED WITH SILICON DIOXIDE**
- **ELECTRICALLY EQUIVALENT TO 1N4678 THRU 1N4717**
- **0.5 WATT CAPABILITY WITH PROPER HEAT SINKING**
- **50μA, LOW OPERATING CURRENT, ZENER DIODES**
- **COMPATIBLE WITH ALL WIRE BONDING AND DIE ATTACH TECHNIQUES, WITH THE EXCEPTION OF SOLDER REFLOW**

CD4678 thru CD4717

MAXIMUM RATINGS

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

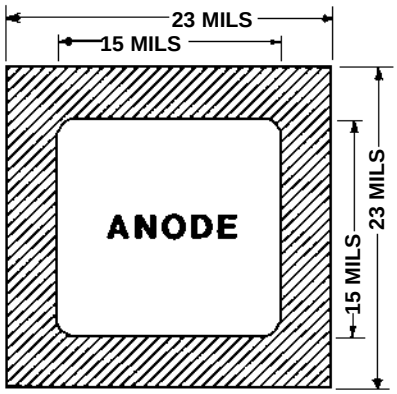
ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified.

CDI TYPE NUMBER (Note 1)	NOMINAL ZENER VOLTAGE V_Z (Note 3)	ZENER TEST CURRENT I_{ZT}	MAXIMUM VOLTAGE REGULATION ΔV_Z (Note 2)	MAXIMUM REVERSE LEAKAGE CURRENT I_R @ V_R		MAXIMUM DC ZENER CURRENT I_{ZM}
	VOLTS	μA	VOLTS	μA	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	95.0
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 ± 5% oF the nominal Zener voltage. Vz is measured with the diode in thermal equilibrium at 25°C ± 3°C.

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

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



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

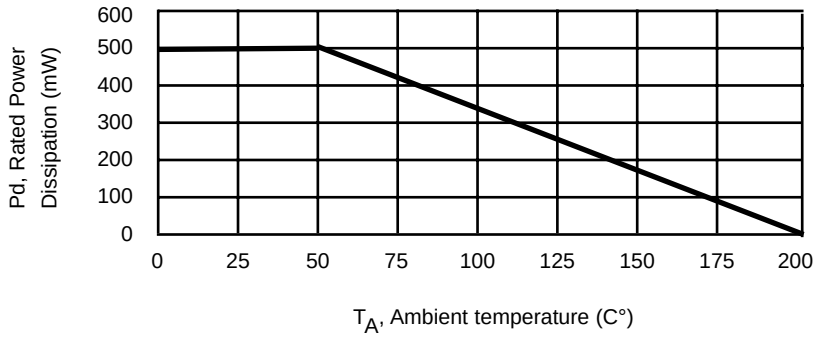
CIRCUIT LAYOUT DATA:
For Zener operation, cathode must be operated positive with respect to anode.

TOLERANCES: ALL
Dimensions ± 2 mils

COMPENSATED DEVICES INCORPORATED
22 COREY STREET, MELROSE, MASSACHUSETTS 02176
PHONE (781) 665-1071 FAX (781) 665-7379
WEBSITE: http://www.cdi-diodes.com E-mail: mail@cdi-diodes.com

CD4678 thru CD4717

FIGURE 2



POWER DERATING CURVE

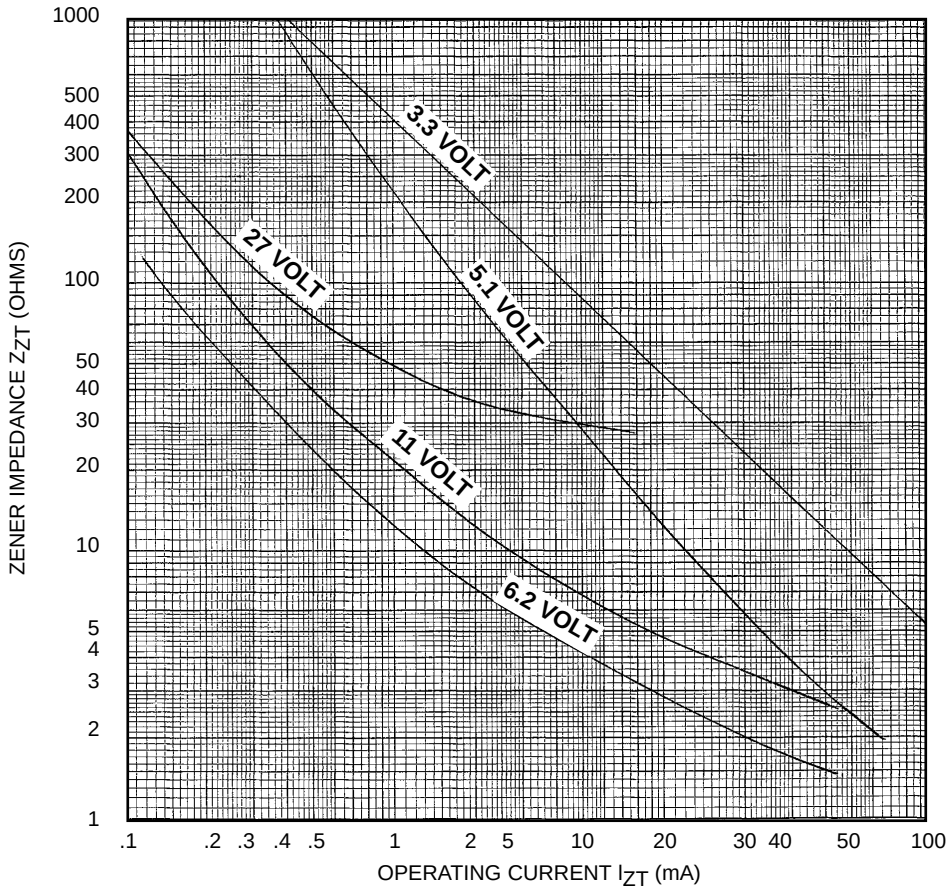


FIGURE 3

ZENER IMPEDANCE VS. OPERATING CURRENT