

- 50 $\mu$ A, LOW OPERATING CURRENT, ZENER DIODES
- LEADLESS PACKAGE FOR SURFACE MOUNT
- DOUBLE PLUG CONSTRUCTION
- METALLURGICALLY BONDED

CDLL4678  
thru  
CDLL4717

### MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C  
Storage Temperature: -65°C to +175°C  
Power Dissipation: 500mW @ T<sub>EC</sub> +125°C  
DC Power Derating: 10 mW / °C above T<sub>EC</sub> +125°C  
Forward Voltage : 1.1 Volts maximum @ 200 mA

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified.

CDI TYPE NUMBER  (Note 1)	NOMINAL ZENER VOLTAGE V <sub>Z</sub>	ZENER TEST CURRENT I <sub>ZT</sub>	MAXIMUM VOLTAGE REGULATION $\Delta V_Z$ (Note 2)	MAXIMUM REVERSE LEAKAGE CURRENT I <sub>R</sub> @ V <sub>R</sub>		MAXIMUM DC ZENER CURRENT I <sub>ZM</sub>
	VOLTS	$\mu$ A	VOLTS	$\mu$ A	VOLTS	mA
CDLL4678	1.8	50	0.70	7.5	1.0	120.0
CDLL4679	2.0	50	0.70	5.0	1.0	110.0
CDLL4680	2.2	50	0.75	4.0	1.0	100.0
CDLL4681	2.4	50	0.80	2.0	1.0	95.0
CDLL4682	2.7	50	0.80	1.0	1.0	90.0
CDLL4683	3.0	50	0.90	0.8	1.0	85.0
CDLL4684	3.3	50	0.95	7.5	1.5	80.0
CDLL4685	3.6	50	0.95	7.5	2.0	75.0
CDLL4686	3.9	50	0.97	5.0	2.0	70.0
CDLL4687	4.3	50	0.99	4.0	2.0	65.0
CDLL4688	4.7	50	0.99	10.0	3.0	60.0
CDLL4689	5.1	50	0.97	10.0	3.0	55.0
CDLL4690	5.6	50	0.96	10.0	4.0	50.0
CDLL4691	6.2	50	0.95	10.0	5.0	45.0
CDLL4692	6.8	50	0.90	10.0	5.1	35.0
CDLL4693	7.5	50	0.75	10.0	5.7	31.8
CDLL4694	8.2	50	0.50	1.0	6.2	29.0
CDLL4695	8.7	50	0.10	1.0	6.6	27.4
CDLL4696	9.1	50	0.08	1.0	6.9	26.2
CDLL4697	10.0	50	0.10	1.0	7.6	24.8
CDLL4698	11.0	50	0.11	0.05	8.4	21.6
CDLL4699	12.0	50	0.12	0.05	9.1	20.4
CDLL4700	13.0	50	0.13	0.05	9.8	19.0
CDLL4701	14.0	50	0.14	0.05	10.6	17.5
CDLL4702	15.0	50	0.15	0.05	11.4	16.3
CDLL4703	16.0	50	0.16	0.05	12.1	15.4
CDLL4704	17.0	50	0.17	0.05	12.9	14.5
CDLL4705	18.0	50	0.18	0.05	13.6	13.2
CDLL4706	19.0	50	0.19	0.05	14.4	12.5
CDLL4707	20.0	50	0.20	0.01	15.2	11.9
CDLL4708	22.0	50	0.22	0.01	16.7	10.8
CDLL4709	24.0	50	0.24	0.01	18.2	9.9
CDLL4710	25.0	50	0.25	0.01	19.0	9.5
CDLL4711	27.0	50	0.27	0.01	20.4	8.8
CDLL4712	28.0	50	0.28	0.01	21.2	8.5
CDLL4713	30.0	50	0.30	0.01	22.8	7.9
CDLL4714	33.0	50	0.33	0.01	25.0	7.2
CDLL4715	36.0	50	0.36	0.01	27.3	6.6
CDLL4716	39.0	50	0.39	0.01	29.8	6.1
CDLL4717	43.0	50	0.43	0.01	32.6	5.5

NOTE 1 All types are  $\pm$  5% tolerance. V<sub>Z</sub> is measured with the Diode in thermal equilibrium at 25°C  $\pm$  3°C.

NOTE 2 V<sub>Z</sub> @ 100  $\mu$ A minus V<sub>Z</sub> @ 10 $\mu$ A.

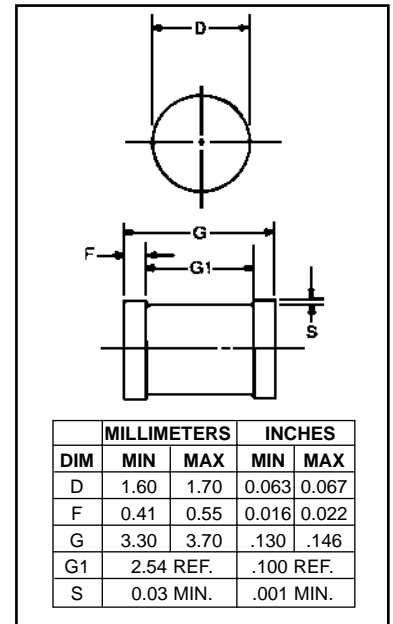


FIGURE 1

### DESIGN DATA

**CASE:** DO-213AA, Hermetically sealed glass case. (MELF, SOD-80, LL34)

**LEAD FINISH:** Tin / Lead

**THERMAL RESISTANCE:** (R<sub>ΘJC</sub>): 100 °C/W maximum at L = 0 inch

**THERMAL IMPEDANCE:** (Z<sub>ΘJX</sub>): 35 °C/W maximum

**POLARITY:** Diode to be operated with the banded (cathode) end positive.

**MOUNTING SURFACE SELECTION:** The Axial Coefficient of Expansion (COE) of this Device is Approximately +6PPM/°C. The COE of the Mounting Surface System Should Be Selected To Provide A Suitable Match With This Device.

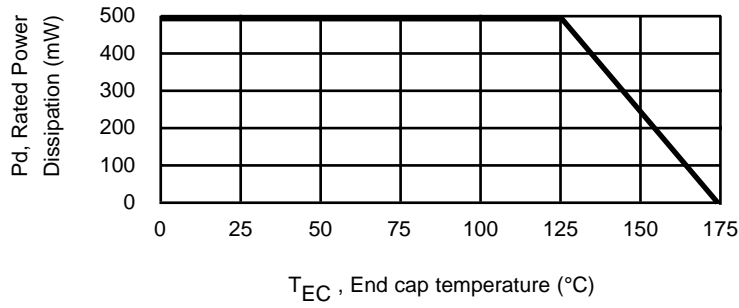


**COMPENSATED DEVICES INCORPORATED**

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](mailto:mail@cdi-diodes.com)

# CDLL4678 thru CDLL4717

FIGURE 2



POWER DERATING CURVE

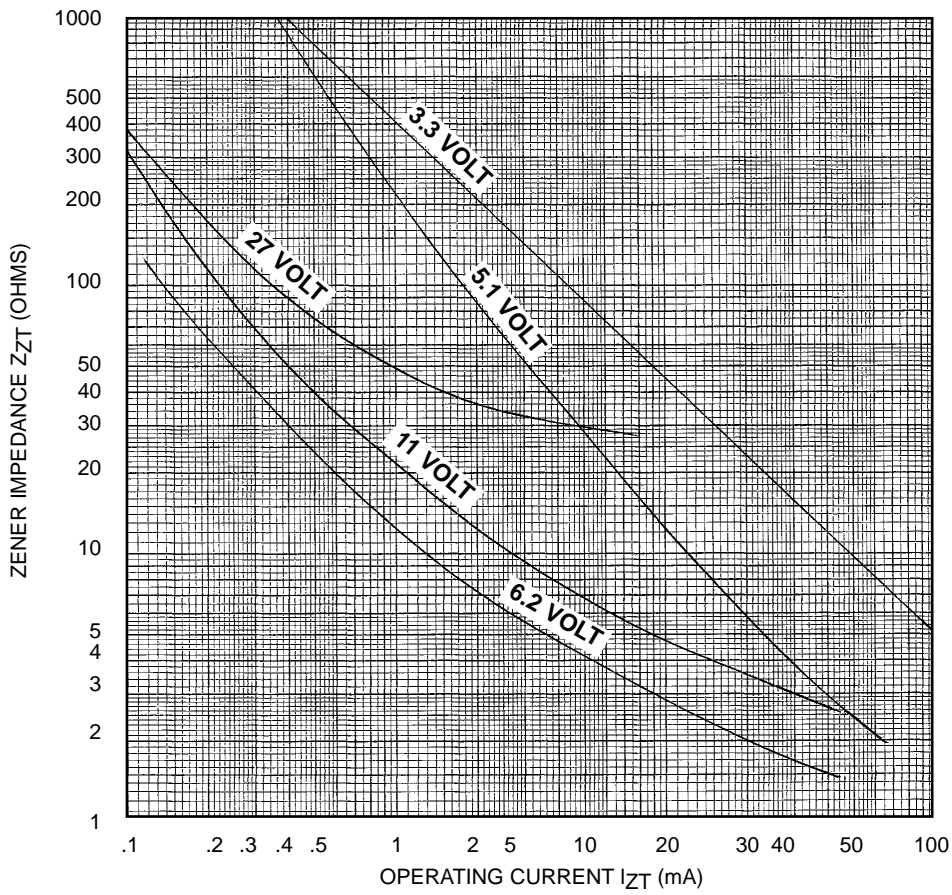


FIGURE 3

ZENER IMPEDANCE VS. OPERATING CURRENT