

- ZENER DIODE
- LEADLESS PACKAGE FOR SURFACE MOUNT
- LOW REVERSE LEAKAGE CHARACTERISTICS
- LOW NOISE CHARACTERISTICS
- DOUBLE SLUG CONSTRUCTION

CDLL6309 thru CDLL6355

MAXIMUM RATINGS

Junction and Storage Temperature: -65°C to $+200^{\circ}\text{C}$

DC Power Dissipation: 500mW @ 50°C

Power Derating: 3.33mW/C above 50°C

Forward Voltage at 200mA: 1.1 Volts maximum

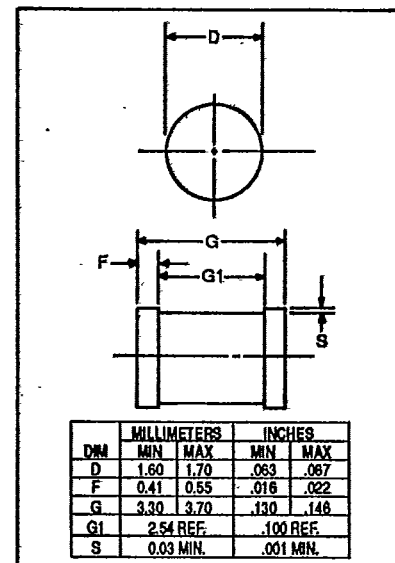
ELECTRICAL CHARACTERISTICS @ 25°C , unless otherwise specified.

CDI TYPE NO.	NOMINAL ZENER VOLTAGE (Note 1)	ZENER TEST CURRENT I_{ZT}	Z_{ZT} @ I_{ZT} (Note 3)	Z_{ZK} @ $250\mu\text{A}$ (Note 3)	I_{ZM}	$V_{Z(\text{reg})}$ (Note 2)	MAX REVERSE LEAKAGE CURRENT I_R @ V_R		N_D @ $250\mu\text{A}$ 1-3 kHz
	VOLTS	mA	OHMS	OHMS	mA	VOLTS	μA	VOLTS	$\mu\text{V}/\text{Hz}$
CDLL6309	2.4	20	30	1200	177	1.0	100	1.0	1.0
CDLL6310	2.7	20	30	1300	157	1.0	60	1.0	1.0
CDLL6311	3.0	20	29	1400	141	1.0	30	1.0	1.0
CDLL6312	3.3	20	24	1400	128	1.0	5.0	1.0	1.0
CDLL6313	3.6	20	22	1400	109	1.0	3.0	1.0	1.0
CDLL6314	3.9	20	20	1700	118	1.0	2.0	1.0	1.0
CDLL6315	4.3	20	18	1400	99	0.9	2.0	1.0	1.0
CDLL6316	4.7	20	16	1500	90	0.5	5.0	1.5	1.0
CDLL6317	5.1	20	14	1300	83	0.4	5.0	2.0	1.0
CDLL6318	5.6	20	8.0	1200	76	0.4	5.0	2.5	2.0
CDLL6319	6.2	20	3.0	800	68	0.3	5.0	3.5	5.0
CDLL6320	6.8	20	3.0	400	63	0.35	2.0	4.0	5.0
CDLL6321	7.5	20	4.0	400	57	0.4	2.0	5.0	5.0
CDLL6322	8.2	20	5.0	400	52	0.4	1.0	6.0	20
CDLL6323	9.1	20	6.0	500	47	0.5	1.0	7.0	40
CDLL6324	10	20	6.0	500	43	0.5	1.0	8.0	80
CDLL6325	11	20	7.0	550	39	0.5	1.0	8.5	100
CDLL6326	12	20	7.0	550	35	0.55	1.0	9.0	100
CDLL6327	13	9.5	8.0	550	33	0.55	.05	9.9	100
CDLL6328	15	8.5	10	600	28	.70	.05	11	100
CDLL6329	16	7.8	12	600	27	.75	.05	12	100
CDLL6330	18	7.0	14	600	24	.85	.05	14	100
CDLL6331	20	6.2	18	500	21	.95	.05	15	100
CDLL6332	22	5.6	20	500	19	1.05	.05	17	100
CDLL6333	24	5.2	24	500	18	1.15	.05	18	100
CDLL6334	27	4.6	27	500	16	1.30	.05	21	100
CDLL6335	30	4.2	32	500	14	1.45	.05	23	100
CDLL6336	33	3.8	40	600	13	1.60	.05	25	100
CDLL6337	36	3.4	50	600	12	1.75	.05	27	100
CDLL6338	39	3.2	55	700	11	1.90	.05	30	100
CDLL6339	43	3.0	65	800	9.9	2.10	.05	33	80
CDLL6340	47	2.7	75	900	9.0	2.25	.05	36	80
CDLL6341	51	2.5	85	1000	8.3	2.50	.05	39	80
CDLL6342	56	2.2	100	1200	7.6	2.70	.05	43	80
CDLL6343	62	2.0	125	1300	6.8	2.90	.05	47	80
CDLL6344	68	1.8	155	1500	6.3	3.20	.05	52	80
CDLL6345	75	1.7	180	1600	5.7	3.40	.05	56	80
CDLL6346	82	1.5	220	1800	5.2	3.80	.05	62	80
CDLL6347	91	1.4	270	2100	4.7	4.20	0.05	69	80
CDLL6348	100	1.3	340	2400	4.3	4.40	0.05	76	80
CDLL6349	110	1.1	500	2800	3.9	4.80	0.05	84	80
CDLL6350	120	1.0	600	3200	3.5	5.20	0.05	91	80
CDLL6351	130	0.95	850	4100	3.3	5.60	0.05	99	80
CDLL6352	150	.85	1000	4500	2.8	7.00	0.05	114	80
CDLL6353	160	.80	1200	5000	2.7	7.50	0.05	122	80
CDLL6354	180	.68	1500	5600	2.4	9.00	0.05	137	80
CDLL6355	200	.65	1800	6500	2.1	12.0	0.05	152	80

NOTE 1 The JEDEC type numbers shown above have a standard tolerance of $\pm 5\%$ of the nominal Zener voltage. Nominal zener voltage is measured with the device junction in thermal equilibrium and the temperature of the end cap of the case equalling $30^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

NOTE 2 $V_{Z \text{ REG}} = V_Z$ @ 50% of I_{ZM} minus V_Z @ 10% of I_{ZM} .

NOTE 3 Zener impedance is derived by superimposing on I_{ZT} or I_{ZK} a 60Hz rms a.c. current equal to 10% of I_{ZT} or I_{ZK} .



DESIGN DATA

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

LEAD FINISH: Tin/Lead

THERMAL RESISTANCE: 100 $^{\circ}\text{C}/\text{W}$ (Typical) junction to END CAP

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

WEIGHT: 0.05 grams (Typical)

MOUNTING POSITION: Any.

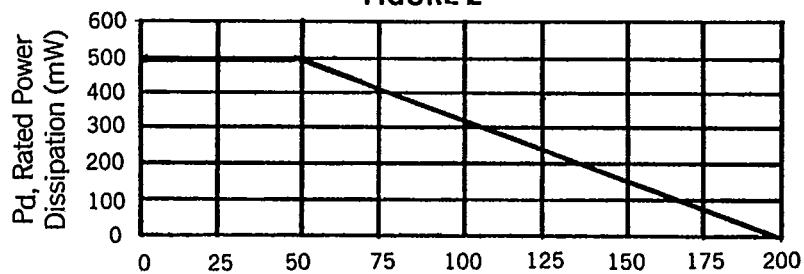


COMPENSATED DEVICES INCORPORATED

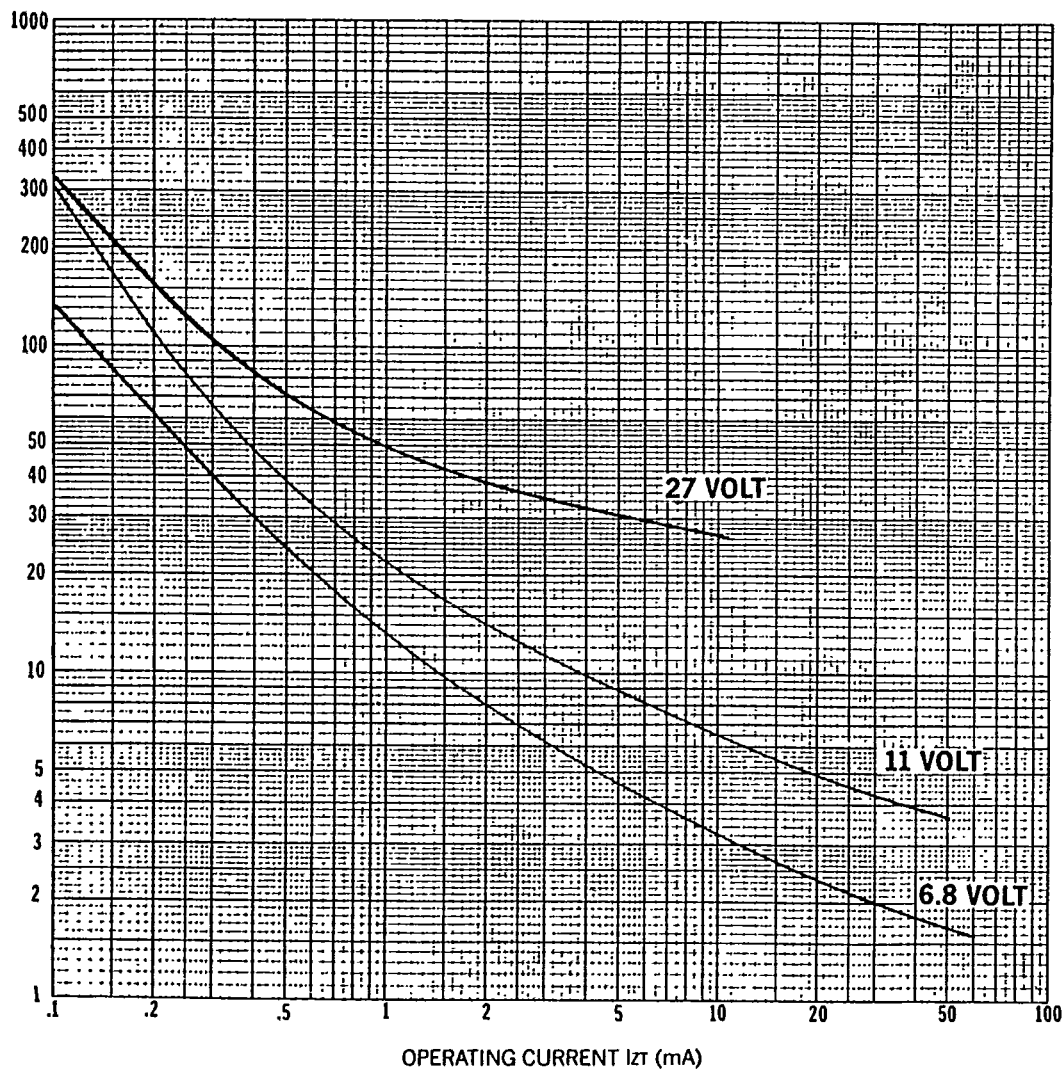
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CDLL6309 thru CDLL6355**FIGURE 2**

TA, Ambient temperature (°C)

POWER DERATING CURVE**FIGURE 3**

OPERATING CURRENT Izt (mA)

**TYPICAL CHANGE OF ZENER IMPEDANCE
WITH CHANGE IN OPERATING CURRENT**

PACKAGING DATA

BULK PACK

PACKAGE	QUANTITY PER CONTAINER	
	PLASTIC BAGS	VIALS
DO-213AA (MELF, LL34, SOD-80)	5,000	500
DO-213AB (MELF, LL41)	5,000	500

TAPE & REEL

PACKAGE	TAPE WIDTH (MM)	REEL SIZE (INCHES)	QUANTITY PER REEL
DO-213AA (MELF, LL34, SOD-80)	8	7	2,000
		13	10,000
DO-213AB (MELF, LL41)	12	7	1,500
		13	6,000

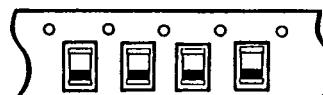
ORIENTATION OPTIONS

Option 1



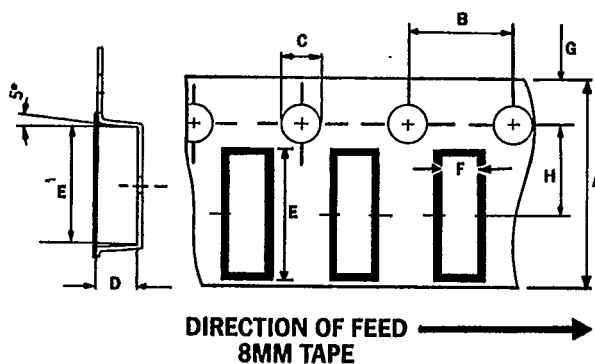
CATHODE BAND AT
SPROCKET HOLE SIDE
(STANDARD)

Option 2

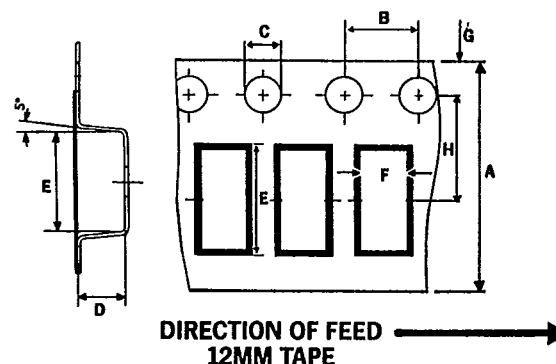


CATHODE BAND AWAY FROM
SPROCKET HOLE SIDE
(ON REQUEST)

TAPE DIMENSIONS



Accumulated pitch tolerance is ± 0.2 mm over 10 pitches



Accumulated pitch tolerance is ± 0.2 mm over 10 pitches

ALL DIMENSIONS IN MM

	A	B	C	D	E	F	G	H
8MM TAPE	8.0 ± 0.3	4.0 ± 0.1	1.5 ± 0.1	2.0 MAX	2.0 MAX	4.0 MAX	1.75 ± 0.1	3.5 ± 0.05
12MM TAPE	12.0 ± 0.3	4.0 ± 0.1	1.5 ± 0.1	3.0 MAX	3.0 MAX	5.5 MAX	1.75 ± 0.1	5.5 ± 0.05