

**ZENER DIODE, 500mW – LEADLESS PACKAGE FOR SURFACE MOUNT**  
**– LOW REVERSE LEAKAGE CHARACTERISTICS**  
**– METALLURGICALLY BONDED**

Qualified per MIL-PRF-19500/437

**DEVICES**

**1N5518BUR-1 Thru 1N5546BUR-1**  
**And**  
**CDLL5518 Thru CDLL5546D**

**QUALIFIED LEVELS**

**JAN**  
**JANTX**  
**JANTXV**

**MAXIMUM RATING AT 25°C**

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

**ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C, unless otherwise specified)**

TYPE NUMBER (NOTE 1)	NOMINAL ZENER VOLTAGE V <sub>Z</sub> @ I <sub>ZT</sub> (NOTE 2)	ZENER TEST CURRENT I <sub>ZT</sub>	MAX. ZENER IMPEDANCE B-C-D SUFFIX Z <sub>Z</sub> @ I <sub>ZT</sub> (NOTE 3)	MAXIMUM REVERSE LEAKAGE CURRENT			B-C-D SUFFIX MIMUM DC ZENER I <sub>ZM</sub>	REGULATION FACTOR CURRENT ΔV <sub>Z</sub> (NOTE 5)	LOW V <sub>Z</sub> CURRENT I <sub>ZL</sub>
				I <sub>R</sub> (NOTE 4)		V <sub>R</sub> = VOLTS			
				μAdc	NON & A-SUFFIX				
	VOLTS	mA	Ohms	μAdc			mA	VOLTS	mA
CDLL5518B	3.3	20	26	5.0	0.90	1.0	115	0.90	2.0
CDLL5519B	3.6	20	24	3.0	0.90	1.0	105	0.90	2.0
CDLL5520B	3.9	20	22	1.0	0.90	1.0	98	0.85	2.0
CDLL5521B	4.3	20	18	3.0	1.0	1.5	88	0.75	2.0
CDLL5522B	4.7	10	22	2.0	1.5	2.0	81	0.60	1.0
CDLL5523B	5.1	5.0	26	2.0	2.0	2.5	75	0.65	0.25
CDLL5524B	5.6	3.0	30	2.0	3.0	3.5	68	0.30	0.25
CDLL5525B	6.2	1.0	30	1.0	4.5	5.0	61	0.20	0.01
CDLL5526B	6.8	1.0	30	1.0	5.5	6.2	56	0.10	0.01
CDLL5527B	7.5	1.0	35	0.5	6.0	6.8	51	0.05	0.01
CDLL5528B	8.2	1.0	40	0.5	6.5	7.5	46	0.05	0.01
CDLL5529B	9.1	1.0	45	0.1	7.0	8.2	42	0.05	0.01
CDLL5530B	10.0	1.0	60	0.05	8.0	9.1	38	0.10	0.01
CDLL5531B	11.0	1.0	80	0.05	9.0	9.9	35	0.20	0.01
CDLL5532B	12.0	1.0	90	0.05	9.5	10.8	32	0.20	0.01
CDLL5533B	13.0	1.0	90	0.01	10.5	11.7	29	0.20	0.01
CDLL5534B	14.0	1.0	100	0.01	11.5	12.6	27	0.20	0.01
CDLL5535B	15.0	1.0	100	0.01	12.5	13.5	25	0.20	0.01
CDLL5536B	16.0	1.0	100	0.01	13.0	14.4	24	0.20	0.01
CDLL5537B	17.0	1.0	100	0.01	14.0	15.3	22	0.20	0.01
CDLL5538B	18.0	1.0	100	0.01	15.0	16.2	21	0.20	0.01
CDLL5539B	19.0	1.0	100	0.01	16.0	17.1	20	0.20	0.01
CDLL5540B	20.0	1.0	100	0.01	17.0	18.0	19	0.20	0.01
CDLL5541B	22.0	1.0	100	0.01	18.0	19.8	17	0.25	0.01
CDLL5542B	24.0	1.0	100	0.01	20.0	21.6	16	0.30	0.01
CDLL5543B	25.0	1.0	100	0.01	21.0	22.4	15	0.35	0.01
CDLL5544B	28.0	1.0	100	0.01	23.0	25.2	14	0.40	0.01
CDLL5545B	30.0	1.0	100	0.01	24.0	27.0	13	0.45	0.01
CDLL5546B	33.0	1.0	100	0.01	28.0	29.7	12	0.50	0.01

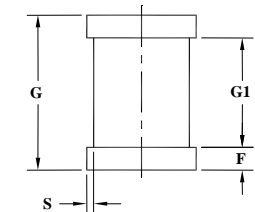
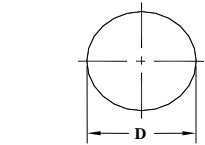
**NOTE 1:** No Suffix type numbers are ±20% with guaranteed limits for only V<sub>Z</sub>, I<sub>R</sub>, and V<sub>F</sub>. Units with “A” suffix are ±10% with guaranteed limits for V<sub>Z</sub>, I<sub>R</sub>, and V<sub>F</sub>. Units with guaranteed limits for all six parameters are indicated by a “B” suffix for ±5.0% units, “C” suffix for ±2.0% and “D” suffix for ±1.0%.

**NOTE 2:** Zener voltage is measured with the device junction in thermal equilibrium at an ambient temperature of 25°C ± 3°C.

**NOTE 3:** Zener impedance is derived by superimposing on I<sub>ZT</sub> A 60Hz rms a.c. current equal to 10% of I<sub>ZT</sub>.

**NOTE 4:** Reverse leakage currents are measured at V<sub>R</sub> as shown on the table.

**NOTE 5:** ΔV<sub>Z</sub> is the maximum difference between V<sub>Z</sub> at I<sub>ZT</sub> and V<sub>Z</sub> at I<sub>ZL</sub> measured with the device junction in thermal equilibrium.



	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
D	1.60	1.70	0.063	0.067
F	0.41	0.55	0.016	0.022
G	3.30	3.70	.130	.146
G1	2.54 REF.		.100 REF.	
S	0.03 MIN		.001 MIN	

**FIGURE 1**

**DESIGN DATA**

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

**LEAD FINISH:** Tin / Lead

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

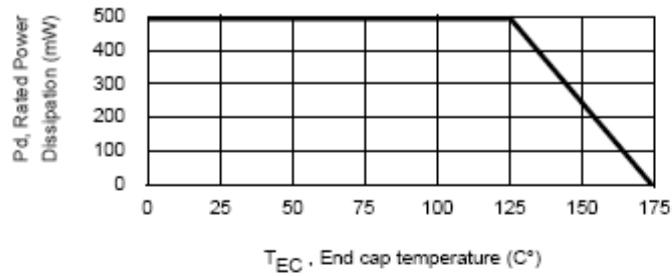
**THERMAL IMPEDANCE: (Z<sub>θJX</sub>):**  
 35°C/W maximum

**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.

## CDLL5518 thru CDLL5546D

FIGURE 2



POWER DERATING CURVE

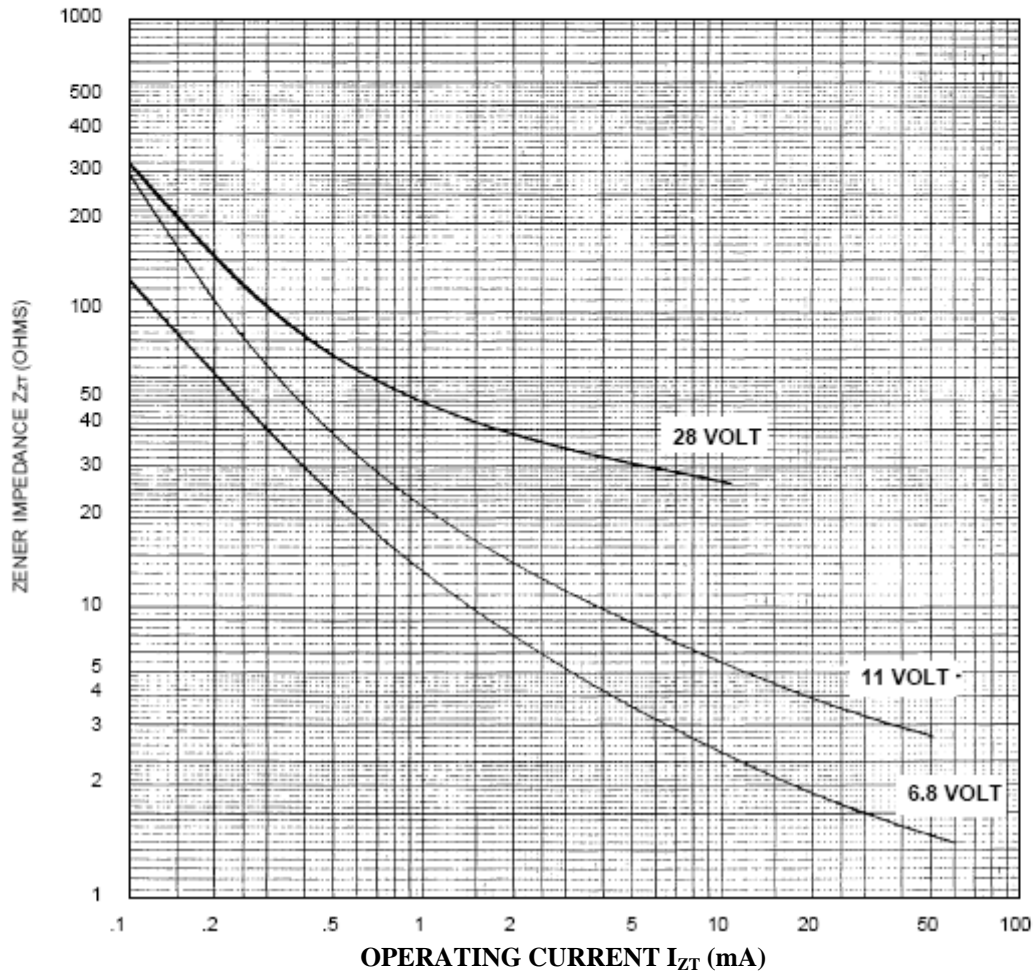


FIGURE 3  
 ZENER IMPEDANCE VS. OPERATION CURRENT