6 Lake Street, Lawrence, MA 01841
1-800-446-1158 / (978) 620-2600 / Fax: (978) 689-0803
Website: http: //www.microsemi.com

TECHNICAL DATA SHEET

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_{EC} = +125°C
Power Derating: 10mW / °C above T_{EC} = +125°C
Forward Voltage @ 200mA: 1.1 volts maximum

ELECTRICAL CHARACTERISTICS *(T_A = 25°C, unless otherwise specified)*

TYPE NUMBER (NOTE 1)	NOMINAL ZENER VOLTAGE V_Z @ I_{ZT} (NOTE 2)	ZENER TEST CURRENT I_{ZT}	MAX. ZENER IMPEDANCE B-C-D SUFFIX Z_{ZT} @ I_{ZT} (NOTE 3)	MAXIMUM REVERSE LEAKAGE CURRENT I_R (NOTE 4)	MAXIMUM REVERSE LEAKAGE CURRENT V_R = VOLTS NON & A-SUFFIX	MAXIMUM REVERSE LEAKAGE CURRENT V_R = VOLTS B-C-D-SUFFIX	B-C-D SUFFIX MAIMUM DC ZENER I_{ZM}	REGULATION FACTOR CURRENT ΔV_Z (NOTE 5)	LOW V_Z CURRENT I_{ZL}
	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

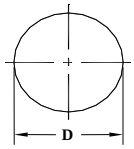
NOTE 1: No Suffix type numbers are ±20% with guaranteed limits for only V_Z, I_R, and V_F. Units with "A" suffix are ±10% with guaranteed limits for V_Z, I_R, and V_F. Units with guaranteed limits for all six parameters are indicated by a "B" suffix for ±5.0% units, "C" suffix for ±2.0% and "D" suffix for ±1.0%.

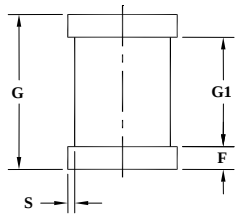
NOTE 2: Zener voltage is measured with the device junction in thermal equilibrium at an ambient temperature of 25°C ± 3°C.

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

NOTE 4: Reverse leakage currents are measured at V_R as shown on the table.

NOTE 5: ΔV_Z is the maximum difference between V_Z at I_{ZT} and V_Z at I_{ZL} 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: ($R_{\theta JEC}$):
100 °C/W maximum at L = 0 inch

THERMAL IMPEDANCE: ($Z_{\theta JX}$):
35°C/W maximum

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

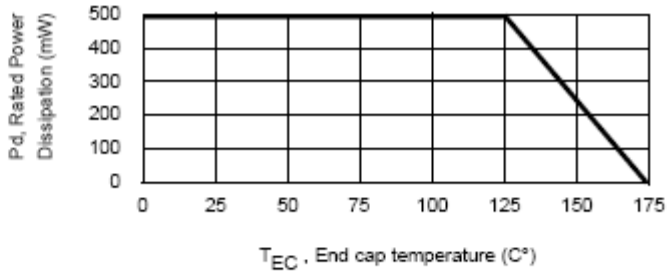
MOUTING SURFACE SELECTION:
The Axial Coefficient of Expansion (COE) of this device is approximately +6PPM/°C. The COE of the Mounting Surface System should be selected to provide a suitable match with this device.

6 Lake Street, Lawrence, MA 01844
1-800-446-1158 / (978) 794-1666 / Fax: (978) 689-0803
Website: http: //www.microsemi.com

TECHNICAL DATA SHEET

CDLL5518 thru CDLL5546D

FIGURE 2



POWER DERATING CURVE

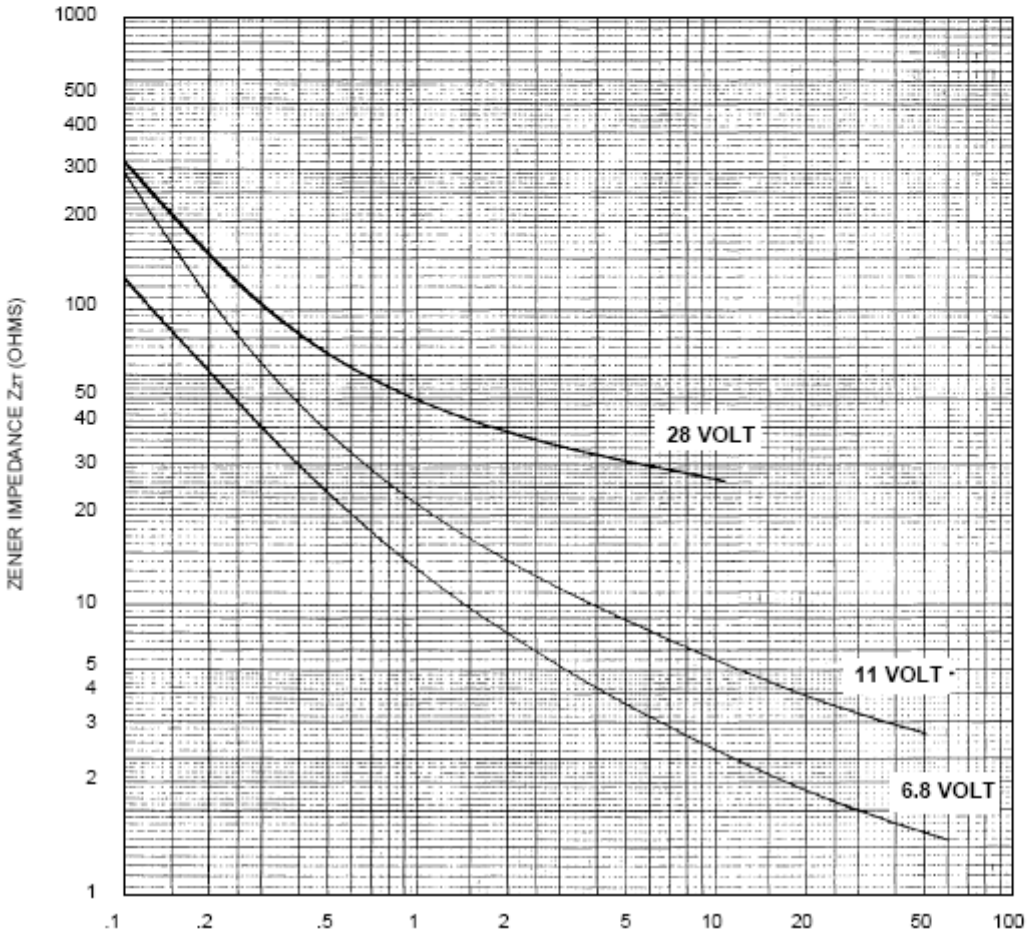


FIGURE 3
ZENER IMPEDANCE VS. OPERATION CURRENT