

CLL4678 THRU CLL4717

**SURFACE MOUNT  
LOW LEVEL SILICON ZENER DIODES  
1.8 VOLTS THRU 43 VOLTS  
500mW, 5% TOLERANCE**



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**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CLL4678 Series Silicon Low Level Zener Diode is a high quality voltage regulator designed for applications requiring an extremely low operating current and low leakage.

**MARKING: CATHODE BAND**



**SOD-80 CASE**

**MAXIMUM RATINGS:** (T<sub>A</sub>=25°C)

Power Dissipation  
Operating and Storage Junction Temperature

**SYMBOL**

P<sub>D</sub> 500  
T<sub>J</sub>, T<sub>stg</sub> -65 to +200

**UNIT**

mW  
°C

**ELECTRICAL CHARACTERISTICS:** (T<sub>A</sub>=25°C), V<sub>F</sub>=1.5V MAX @ I<sub>F</sub>=100mA (FOR ALL TYPES)

TYPE	ZENER VOLTAGE V <sub>Z</sub> @ I <sub>ZT</sub>			TEST CURRENT	MAXIMUM REVERSE LEAKAGE CURRENT		MAXIMUM VOLTAGE CHANGE**	MAXIMUM ZENER CURRENT
	MIN	NOM	MAX	I <sub>ZT</sub>	I <sub>R</sub> @ V <sub>R</sub>		ΔV <sub>Z</sub>	I <sub>ZM</sub>
	V	V	V	μA	μA	V	V	mA
CLL4678	1.710	1.8	1.890	50	7.5	1.0	0.70	120.0
CLL4679	1.900	2.0	2.100	50	5.0	1.0	0.70	110.0
CLL4680	2.090	2.2	2.310	50	4.0	1.0	0.75	100.0
CLL4681	2.280	2.4	2.520	50	2.0	1.0	0.80	95.0
CLL4682	2.565	2.7	2.835	50	1.0	1.0	0.85	90.0
CLL4683	2.850	3.0	3.150	50	0.8	1.0	0.90	85.0
CLL4684	3.135	3.3	3.465	50	7.5	1.5	0.95	80.0
CLL4685	3.420	3.6	3.780	50	7.5	2.0	0.95	75.0
CLL4686	3.705	3.9	4.095	50	5.0	2.0	0.97	70.0
CLL4687	4.085	4.3	4.515	50	4.0	2.0	0.99	65.0
CLL4688	4.465	4.7	4.935	50	10	3.0	0.99	60.0
CLL4689	4.845	5.1	5.355	50	10	3.0	0.97	55.0
CLL4690	5.320	5.6	5.880	50	10	4.0	0.96	50.0
CLL4691	5.890	6.2	6.510	50	10	5.0	0.95	45.0
CLL4692	6.460	6.8	7.140	50	10	5.1	0.90	35.0
CLL4693	7.125	7.5	7.875	50	10	5.7	0.75	31.8
CLL4694	7.790	8.2	8.610	50	1.0	6.2	0.50	29.0
CLL4695	8.265	8.7	9.135	50	1.0	6.6	0.10	27.4
CLL4696	8.645	9.1	9.555	50	1.0	6.9	0.08	26.2

\*\* ΔV<sub>Z</sub>=V<sub>Z</sub> @ 100μA MINUS V<sub>Z</sub> @ 10μA

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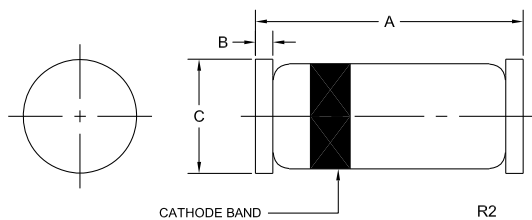


**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_A=25^\circ\text{C}$ ),  $V_F=1.5\text{V MAX @ } I_F=100\text{mA}$  (FOR ALL TYPES)

TYPE	ZENER VOLTAGE $V_Z @ I_{ZT}$			TEST CURRENT	MAXIMUM REVERSE LEAKAGE CURRENT		MAXIMUM VOLTAGE CHANGE**	MAXIMUM ZENER CURRENT
	MIN	NOM	MAX	$I_{ZT}$	$I_R @ V_R$		$\Delta V_Z$	$I_{ZM}$
	V	V	V	$\mu\text{A}$	$\mu\text{A}$	V	V	mA
CLL4697	9.500	10	10.50	50	1.0	7.6	0.10	24.8
CLL4698	10.45	11	11.55	50	0.05	8.4	0.11	21.6
CLL4699	11.40	12	12.60	50	0.05	9.1	0.12	20.4
CLL4700	12.35	13	13.65	50	0.05	9.8	0.13	19.0
CLL4701	13.30	14	14.70	50	0.05	10.6	0.14	17.5
CLL4702	14.25	15	15.75	50	0.05	11.4	0.15	16.3
CLL4703	15.20	16	16.80	50	0.05	12.1	0.16	15.4
CLL4704	16.15	17	17.85	50	0.05	12.9	0.17	14.5
CLL4705	17.10	18	18.90	50	0.05	13.6	0.18	13.2
CLL4706	18.05	19	19.95	50	0.05	14.4	0.19	12.5
CLL4707	19.00	20	21.00	50	0.01	15.2	0.20	11.9
CLL4708	20.90	22	23.10	50	0.01	16.7	0.22	10.8
CLL4709	22.80	24	25.20	50	0.01	18.2	0.24	9.9
CLL4710	23.75	25	26.25	50	0.01	19.0	0.25	9.5
CLL4711	25.65	27	28.35	50	0.01	20.4	0.27	8.8
CLL4712	26.60	28	29.40	50	0.01	21.2	0.28	8.5
CLL4713	28.50	30	31.50	50	0.01	22.8	0.30	7.9
CLL4714	31.35	33	34.65	50	0.01	25.0	0.33	7.2
CLL4715	34.20	36	37.80	50	0.01	27.3	0.36	6.6
CLL4716	37.05	39	40.95	50	0.01	29.6	0.39	6.1
CLL4717	40.85	43	45.15	50	0.01	32.6	0.43	5.5

\*\*  $\Delta V_Z = V_Z @ 100\mu\text{A}$  MINUS  $V_Z @ 10\mu\text{A}$

**SOD-80 CASE - MECHANICAL OUTLINE**



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.130	0.146	3.30	3.71
B	0.014		0.35	
C (DIA)	0.049	0.067	1.25	1.70

SOD-80 (REV:R2)

**MARKING: CATHODE BAND**

R7 (8-January 2010)