



CMOZ1L8 THRU CMOZ47L

**SURFACE MOUNT  
LOW LEVEL SILICON ZENER DIODE  
1.8 VOLTS THRU 47 VOLTS  
250mW, 5% TOLERANCE**



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ULTRAmulti™



SOD-523 CASE

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMOZ1L8 Series Low Level Zener Diode is a high quality voltage regulator in an epoxy-molded ULTRAmulti™ package, designed for applications requiring an extremely low operating current and low leakage.

**MARKING CODE: SEE MARKING CODE ON ELECTRICAL CHARACTERISTICS TABLE**

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

Power Dissipation  
Operating and Storage Junction Temperature  
Thermal Resistance

**SYMBOL**

P<sub>D</sub> 250  
T<sub>J</sub>, T<sub>stg</sub> -65 to +150  
θ<sub>JA</sub> 500

**UNITS**

mW  
°C  
°C/W

**ELECTRICAL CHARACTERISTICS:** (T<sub>A</sub>=25°C), V<sub>F</sub>=0.9 MAX @ I<sub>F</sub>=10mA (for all types)

TYPE	ZENER VOLTAGE V <sub>Z</sub> @ I <sub>ZT</sub>			TEST CURRENT I <sub>ZT</sub>	MAXIMUM ZENER IMPEDANCE Z <sub>ZT</sub> @ I <sub>ZT</sub>	MAXIMUM REVERSE CURRENT		MARKING CODE
	MIN	NOM	MAX			I <sub>R</sub>	@ V <sub>R</sub>	
	V	V	V			μA	V	
CMOZ1L8	1.71	1.8	1.89	250	1400	25	1.0	L8
CMOZ2L0	1.90	2.0	2.10	250	1400	25	1.0	L9
CMOZ2L2	2.09	2.2	2.31	250	1400	25	1.0	L0
CMOZ2L4	2.28	2.4	2.52	250	1400	25	1.0	M1
CMOZ2L5	2.37	2.5	2.63	250	1500	10	1.0	M2
CMOZ2L7	2.57	2.7	2.84	250	1500	5.0	1.0	M3
CMOZ3L0	2.85	3.0	3.15	250	1600	5.0	1.0	M30
CMOZ3L3	3.14	3.3	3.47	250	1600	5.0	1.0	M4
CMOZ3L6	3.42	3.6	3.78	250	1700	5.0	1.0	M5
CMOZ3L9	3.71	3.9	4.10	250	1600	5.0	1.0	M6
CMOZ4L3	4.09	4.3	4.52	250	1600	1.0	1.5	M7
CMOZ4L7	4.47	4.7	4.94	250	1500	1.0	1.5	M8
CMOZ5L1	4.85	5.1	5.36	250	1500	1.0	1.5	M9
CMOZ5L6	5.32	5.6	5.88	250	1400	1.0	2.0	M0
CMOZ6L2	5.89	6.2	6.51	250	1200	1.0	2.0	N1
CMOZ6L8	6.46	6.8	7.14	250	200	1.0	3.5	N2
CMOZ7L5	7.12	7.5	7.88	250	200	1.0	3.5	N3
CMOZ8L2	7.79	8.2	8.61	250	200	1.0	6.0	N4
CMOZ9L1	8.65	9.1	9.56	250	200	1.0	6.0	N5
CMOZ10L	9.50	10	10.50	250	200	1.0	8.0	N6
CMOZ11L	10.45	11	11.55	250	200	1.0	8.0	N7

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**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_A=25^\circ\text{C}$ ),  $V_F=0.9$  MAX @  $I_F=10\text{mA}$  (for all types)

TYPE	ZENER VOLTAGE $V_Z @ I_{ZT}$			TEST CURRENT	MAXIMUM ZENER IMPEDANCE	MAXIMUM REVERSE CURRENT		MARKING CODE
	MIN	NOM	MAX	$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$I_R$ @	$V_R$	
	V	V	V	$\mu\text{A}$	$\Omega$	$\mu\text{A}$	V	
CMOZ12L	11.40	12	12.60	250	200	1.0	10.5	N8
CMOZ13L	12.35	13	13.65	250	200	1.0	10.5	N9
CMOZ15L	14.25	15	15.75	250	100	1.0	11.5	N0
CMOZ16L	15.20	16	16.80	250	100	1.0	14	P1
CMOZ18L	17.10	18	18.90	250	100	1.0	16	P2
CMOZ20L	19.00	20	21.00	250	150	1.0	18	P3
CMOZ22L	20.90	22	23.10	250	150	1.0	20	P4
CMOZ24L	22.80	24	25.20	250	150	1.0	22	P5
CMOZ27L	25.65	27	28.35	250	150	1.0	24	P6
CMOZ30L	28.50	30	31.50	250	200	1.0	27	P7
CMOZ33L	31.35	33	34.65	250	250	1.0	30	P8
CMOZ36L	34.20	36	37.80	250	200	1.0	33	P9
CMOZ39L	37.05	39	40.95	250	200	1.0	36	P0
CMOZ43L	40.85	43	45.15	250	250	1.0	40	R1
CMOZ47L	44.65	47	49.35	250	250	1.0	43	R2

**SOD-523 CASE - MECHANICAL OUTLINE**



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.020	0.031	0.50	0.80
B	0.008	0.016	0.20	0.40
C	0.002	0.008	0.05	0.20
D	0.028	0.035	0.70	0.90
E	0.008	0.014	0.20	0.35
F	0.039	0.055	1.00	1.40
G	0.055	0.071	1.40	1.80
H	0.016		0.40	

SOD-523 (REV: R3)

**LEAD CODE:**

- 1) Cathode
- 2) Anode

R8 (11-April 2011)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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