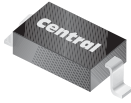


**CMDZ1L8 THRU CMDZ47L**

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

**SUPERmini™****SOD-323 CASE**[www.centrasemi.com](http://www.centrasemi.com)**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMDZ1L8 Series Silicon Low Level Zener Diode is a high quality voltage regulator, manufactured in a SUPERmini™ surface mount package, designed for applications requiring a low operating current, low leakage, and a sharp knee.

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

**MAXIMUM RATINGS:** ( $T_A=25^{\circ}\text{C}$ )

Power Dissipation

Operating and Storage Junction Temperature

Thermal Resistance

**SYMBOL** $P_D$  $T_J, T_{stg}$  $\Theta_{JA}$ 

250

-65 to +150

500

**UNIT**

mW

 $^{\circ}\text{C}$  $^{\circ}\text{C/W}$ **ELECTRICAL CHARACTERISTICS:** ( $T_A=25^{\circ}\text{C}$ ),  $V_F=0.9\text{V}$  Max @  $I_F=10\text{mA}$  (for all types)

| TYPE    | ZENER VOLTAGE<br>$V_Z @ I_{ZT}$ |     |       | TEST CURRENT  | MAXIMUM ZENER IMPEDANCE | MAXIMUM REVERSE CURRENT |      | MAXIMUM TEMPERATURE COEFFICIENT | MARKING CODE |
|---------|---------------------------------|-----|-------|---------------|-------------------------|-------------------------|------|---------------------------------|--------------|
|         | MIN                             | NOM | MAX   | $I_{ZT}$      | $Z_{ZT} @ I_{ZT}$       | $I_R @ V_R$             |      | $\Theta V_Z$                    |              |
|         | V                               | V   | V     | $\mu\text{A}$ | $\Omega$                | $\mu\text{A}$           | V    | $\%/^{\circ}\text{C}$           |              |
| CMDZ1L8 | 1.710                           | 1.8 | 1.890 | 500           | 1200                    | 25                      | 1.0  | -0.085                          | 7N           |
| CMDZ2L0 | 1.900                           | 2.0 | 2.100 | 500           | 1100                    | 25                      | 1.0  | -0.080                          | 8N           |
| CMDZ2L2 | 2.090                           | 2.2 | 2.310 | 500           | 1000                    | 25                      | 1.0  | -0.065                          | 9N           |
| CMDZ2L4 | 2.280                           | 2.4 | 2.520 | 500           | 900                     | 25                      | 1.0  | -0.060                          | AP           |
| CMDZ2L5 | 2.375                           | 2.5 | 2.625 | 500           | 900                     | 10                      | 1.0  | -0.060                          | BP           |
| CMDZ2L7 | 2.565                           | 2.7 | 2.835 | 500           | 900                     | 10                      | 1.0  | $\pm 0.055$                     | CP           |
| CMDZ2L8 | 2.660                           | 2.8 | 2.940 | 500           | 900                     | 10                      | 1.0  | $\pm 0.055$                     | DP           |
| CMDZ3L0 | 2.850                           | 3.0 | 3.150 | 500           | 900                     | 5.0                     | 1.0  | $\pm 0.055$                     | EP           |
| CMDZ3L3 | 3.135                           | 3.3 | 3.465 | 500           | 900                     | 5.0                     | 1.0  | $\pm 0.055$                     | FP           |
| CMDZ3L6 | 3.420                           | 3.6 | 3.780 | 500           | 900                     | 5.0                     | 1.0  | $\pm 0.030$                     | GP           |
| CMDZ3L9 | 3.705                           | 3.9 | 4.095 | 500           | 900                     | 5.0                     | 1.0  | $\pm 0.030$                     | HP           |
| CMDZ4L3 | 4.085                           | 4.3 | 4.515 | 500           | 900                     | 5.0                     | 1.0  | $\pm 0.030$                     | JP           |
| CMDZ4L7 | 4.465                           | 4.7 | 4.935 | 500           | 750                     | 1.0                     | 1.5  | $\pm 0.030$                     | KP           |
| CMDZ5L1 | 4.845                           | 5.1 | 5.355 | 500           | 400                     | 1.0                     | 1.5  | $\pm 0.030$                     | LP           |
| CMDZ5L6 | 5.320                           | 5.6 | 5.880 | 500           | 325                     | 1.0                     | 2.0  | +0.038                          | NP           |
| CMDZ6L2 | 5.890                           | 6.2 | 6.510 | 500           | 90                      | 1.0                     | 2.0  | +0.045                          | OP           |
| CMDZ6L8 | 6.460                           | 6.8 | 7.140 | 500           | 60                      | 1.0                     | 3.5  | +0.050                          | PP           |
| CMDZ7L5 | 7.125                           | 7.5 | 7.875 | 500           | 60                      | 1.0                     | 3.5  | +0.058                          | QP           |
| CMDZ8L2 | 7.790                           | 8.2 | 8.610 | 500           | 60                      | 1.0                     | 6.0  | +0.062                          | RP           |
| CMDZ9L1 | 8.645                           | 9.1 | 9.555 | 500           | 60                      | 1.0                     | 6.0  | +0.068                          | SP           |
| CMDZ10L | 9.50                            | 10  | 10.50 | 500           | 80                      | 1.0                     | 8.0  | +0.075                          | TP           |
| CMDZ11L | 10.45                           | 11  | 11.55 | 500           | 80                      | 1.0                     | 8.0  | +0.076                          | UP           |
| CMDZ12L | 11.40                           | 12  | 12.60 | 500           | 80                      | 1.0                     | 10.5 | +0.077                          | VP           |
| CMDZ13L | 12.35                           | 13  | 13.65 | 500           | 80                      | 1.0                     | 10.5 | +0.079                          | XP           |
| CMDZ15L | 14.25                           | 15  | 15.75 | 500           | 80                      | 1.0                     | 11.5 | +0.082                          | YP           |

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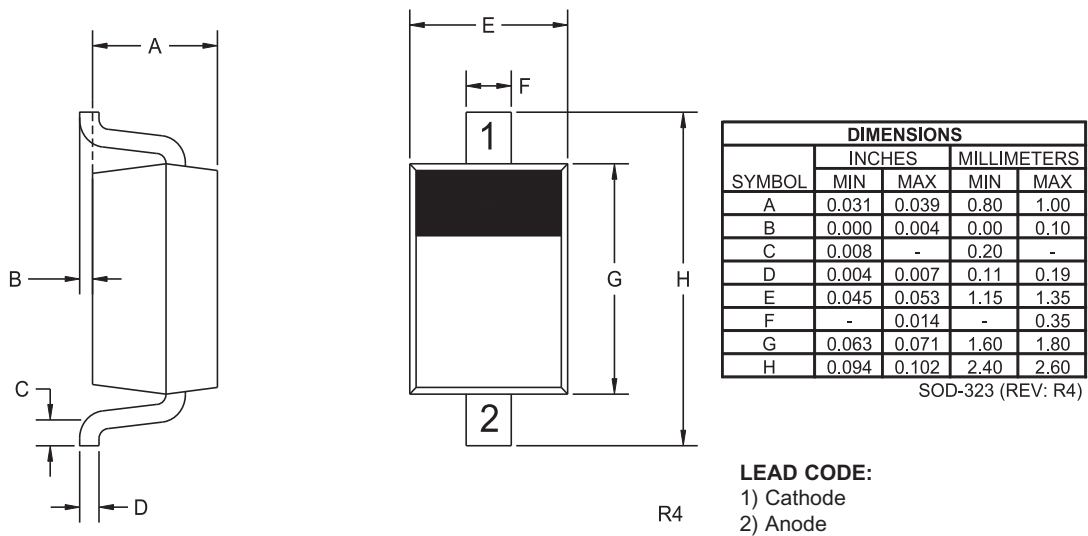
**CMDZ1L8 THRU CMDZ47L**

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

| TYPE    | ZENER VOLTAGE<br>$V_Z$ @ $I_{ZT}$ |     |       | TEST CURRENT  | MAXIMUM ZENER IMPEDANCE | MAXIMUM REVERSE CURRENT |    | MAXIMUM TEMPERATURE COEFFICIENT | MARKING CODE |
|---------|-----------------------------------|-----|-------|---------------|-------------------------|-------------------------|----|---------------------------------|--------------|
|         | MIN                               | NOM | MAX   | $I_{ZT}$      | $Z_{ZT}$ @ $I_{ZT}$     | $I_R$ @ $V_R$           |    | $\phi V_Z$                      |              |
|         | V                                 | V   | V     | $\mu\text{A}$ | $\Omega$                | $\mu\text{A}$           | V  | $\%/^\circ\text{C}$             |              |
| CMDZ16L | 15.20                             | 16  | 16.80 | 500           | 80                      | 1.0                     | 14 | +0.083                          | ZP           |
| CMDZ18L | 17.10                             | 18  | 18.90 | 500           | 80                      | 1.0                     | 16 | +0.085                          | 1P           |
| CMDZ20L | 19.00                             | 20  | 21.00 | 500           | 100                     | 1.0                     | 18 | +0.086                          | 2P           |
| CMDZ22L | 20.90                             | 22  | 23.10 | 500           | 100                     | 1.0                     | 20 | +0.087                          | 3P           |
| CMDZ24L | 22.80                             | 24  | 25.20 | 500           | 120                     | 1.0                     | 22 | +0.088                          | 4P           |
| CMDZ27L | 25.65                             | 27  | 28.35 | 500           | 150                     | 1.0                     | 24 | +0.090                          | 5P           |
| CMDZ30L | 28.50                             | 30  | 31.50 | 500           | 200                     | 1.0                     | 27 | +0.091                          | 6P           |
| CMDZ33L | 31.35                             | 33  | 34.65 | 500           | 250                     | 1.0                     | 30 | +0.092                          | 7P           |
| CMDZ36L | 34.20                             | 36  | 37.80 | 500           | 300                     | 1.0                     | 33 | +0.093                          | 8P           |
| CMDZ39L | 37.05                             | 39  | 40.95 | 500           | 350                     | 1.0                     | 36 | +0.094                          | 9P           |
| CMDZ43L | 40.85                             | 43  | 45.15 | 500           | 400                     | 1.0                     | 40 | +0.095                          | AR           |
| CMDZ47L | 44.65                             | 47  | 49.35 | 500           | 450                     | 1.0                     | 44 | +0.095                          | BR           |

**SOD-323 CASE - MECHANICAL OUTLINE**

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## 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

#### Corporate Headquarters & Customer Support Team

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Main Fax: (631) 435-1824  
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[www.centrasemi.com](http://www.centrasemi.com)

**Worldwide Field Representatives:**  
[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

**Worldwide Distributors:**  
[www.centrasemi.com/wwdistributors](http://www.centrasemi.com/wwdistributors)

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