

**CMPZ4099  
THRU  
CMPZ4124**

**LOW NOISE ZENER DIODE  
6.8 VOLTS THRU 43 VOLTS  
350mW, 5% TOLERANCE**



**SOT-23 CASE**

**Central™**  
**Semiconductor Corp.**

#### DESCRIPTION

The CENTRAL SEMICONDUCTOR CMPZ4099 Series types are high quality Silicon Zener Diodes designed for low leakage, low current and low noise applications.

**NOTE:** For lower voltage devices, see CMPZ4614 series.

#### MAXIMUM RATINGS

Power Dissipation (@ $T_A=25^{\circ}\text{C}$ )  
Operating and Storage Temperature

#### SYMBOL

$P_D$  350  
 $T_J, T_{stg}$  -65 to +150

#### UNIT

mW  
 $^{\circ}\text{C}$

#### ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ ) $V_F=1.0\text{V MAX @ } I_F=200\text{mA}$ FOR ALL TYPES

| TYPE      | ZENER VOLTAGE |       |       | TEST CURRENT  | MAXIMUM ZENER IMPEDENCE | MAX REVERSE LEAKAGE CURRENT |       | MAXIMUM ZENER CURRENT | MAXIMUM NOISE DENSITY          |
|-----------|---------------|-------|-------|---------------|-------------------------|-----------------------------|-------|-----------------------|--------------------------------|
|           | $V_Z@I_{ZT}$  |       |       | $I_{ZT}$      | $Z_{ZT}@I_{ZT}$         | $I_R@V_R$                   |       | $I_{ZM}$              | $N_D@I_{ZT}$                   |
|           | MIN           | NOM   | MAX   |               |                         |                             |       |                       |                                |
|           | VOLTS         | VOLTS | VOLTS | $\mu\text{A}$ | $\Omega$                | $\mu\text{A}$               | VOLTS | mA                    | $\mu\text{V}/\sqrt{\text{Hz}}$ |
| CMPZ4099* | 6.460         | 6.8   | 7.140 | 250           | 200                     | 10                          | 5.2   | 35.0                  | 40                             |
| CMPZ4100* | 7.125         | 7.5   | 7.865 | 250           | 200                     | 10                          | 5.7   | 31.8                  | 40                             |
| CMPZ4101* | 7.790         | 8.2   | 8.610 | 250           | 200                     | 1.0                         | 6.3   | 29.0                  | 40                             |
| CMPZ4102* | 8.265         | 8.7   | 9.135 | 250           | 200                     | 1.0                         | 6.7   | 27.4                  | 40                             |
| CMPZ4103* | 8.645         | 9.1   | 9.555 | 250           | 200                     | 1.0                         | 7.0   | 26.2                  | 40                             |
| CMPZ4104* | 9.500         | 10    | 10.50 | 250           | 200                     | 1.0                         | 7.6   | 24.8                  | 40                             |
| CMPZ4105* | 10.45         | 11    | 11.55 | 250           | 200                     | 0.05                        | 8.5   | 21.6                  | 40                             |
| CMPZ4106* | 11.40         | 12    | 12.60 | 250           | 200                     | 0.05                        | 9.2   | 20.4                  | 40                             |
| CMPZ4107* | 12.35         | 13    | 13.65 | 250           | 200                     | 0.05                        | 9.9   | 19.0                  | 40                             |
| CMPZ4108* | 13.30         | 14    | 14.70 | 250           | 200                     | 0.05                        | 10.7  | 17.5                  | 40                             |
| CMPZ4109* | 14.25         | 15    | 15.75 | 250           | 100                     | 0.05                        | 11.4  | 16.3                  | 40                             |
| CMPZ4110* | 15.20         | 16    | 16.80 | 250           | 100                     | 0.05                        | 12.2  | 15.4                  | 40                             |
| CMPZ4111* | 16.15         | 17    | 17.85 | 250           | 100                     | 0.05                        | 13.0  | 14.5                  | 40                             |
| CMPZ4112* | 17.10         | 18    | 18.90 | 250           | 100                     | 0.05                        | 13.7  | 13.2                  | 40                             |
| CMPZ4113* | 18.05         | 19    | 19.95 | 250           | 150                     | 0.05                        | 14.5  | 12.5                  | 40                             |
| CMPZ4114* | 19.00         | 20    | 21.00 | 250           | 150                     | 0.01                        | 15.2  | 11.9                  | 40                             |
| CMPZ4115* | 20.90         | 22    | 23.10 | 250           | 150                     | 0.01                        | 16.8  | 10.8                  | 40                             |
| CMPZ4116* | 22.80         | 24    | 25.20 | 250           | 150                     | 0.01                        | 18.3  | 9.9                   | 40                             |

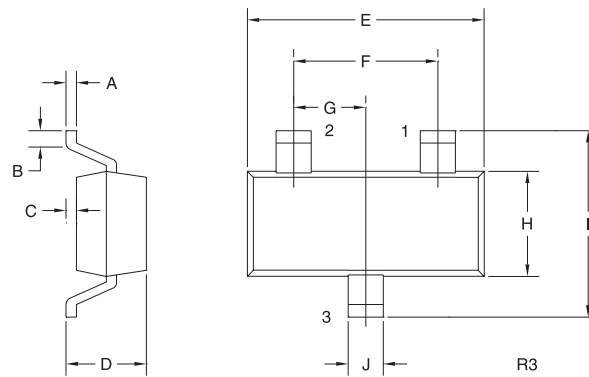
\* Available on special order only, please consult factory.

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^{\circ}\text{C}$ ),  $V_F=1.0\text{V MAX @ } I_F = 200\text{mA}$  FOR ALL TYPES.

| TYPE      | ZENER VOLTAGE |       |       | TEST CURRENT  | MAXIMUM ZENER IMPEDENCE | MAX REVERSE LEAKAGE CURRENT |       | MAXIMUM ZENER CURRENT | MAXIMUM NOISE DENSITY          |
|-----------|---------------|-------|-------|---------------|-------------------------|-----------------------------|-------|-----------------------|--------------------------------|
|           | $V_Z@I_{ZT}$  |       |       | $I_{ZT}$      | $Z_{ZT}@I_{ZT}$         | $I_R@V_R$                   |       | $I_{ZM}$              | $N_D@I_{ZT}$                   |
|           | MIN           | NOM   | MAX   |               |                         |                             |       |                       |                                |
|           | VOLTS         | VOLTS | VOLTS | $\mu\text{A}$ | $\Omega$                | $\mu\text{A}$               | VOLTS | mA                    | $\mu\text{V}/\sqrt{\text{Hz}}$ |
| CMPZ4117* | 23.75         | 25    | 26.25 | 250           | 150                     | 0.01                        | 19.0  | 9.5                   | 40                             |
| CMPZ4118* | 25.65         | 27    | 28.35 | 250           | 150                     | 0.01                        | 20.5  | 8.8                   | 40                             |
| CMPZ4119* | 26.60         | 28    | 29.40 | 250           | 200                     | 0.01                        | 21.3  | 8.5                   | 40                             |
| CMPZ4120* | 28.50         | 30    | 31.50 | 250           | 200                     | 0.01                        | 22.8  | 7.9                   | 40                             |
| CMPZ4121* | 31.35         | 33    | 34.65 | 250           | 200                     | 0.01                        | 25.1  | 7.2                   | 40                             |
| CMPZ4122* | 34.20         | 36    | 37.80 | 250           | 200                     | 0.01                        | 27.4  | 6.6                   | 40                             |
| CMPZ4123* | 37.05         | 39    | 40.95 | 250           | 200                     | 0.01                        | 29.7  | 6.1                   | 40                             |
| CMPZ4124* | 40.85         | 43    | 45.15 | 250           | 250                     | 0.01                        | 32.7  | 5.5                   | 40                             |

\* Available on special order only, please consult factory.

### SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) ANODE
- 2) NO CONNECTION
- 3) CATHODE

| DIMENSIONS |        |       |             |      |
|------------|--------|-------|-------------|------|
| SYMBOL     | INCHES |       | MILLIMETERS |      |
|            | MIN    | MAX   | MIN         | MAX  |
| A          | 0.003  | 0.007 | 0.08        | 0.18 |
| B          | 0.006  | -     | 0.15        | -    |
| C          | -      | 0.005 | -           | 0.13 |
| D          | 0.035  | 0.043 | 0.89        | 1.09 |
| E          | 0.110  | 0.120 | 2.80        | 3.05 |
| F          | 0.075  |       | 1.90        |      |
| G          | 0.037  |       | 0.95        |      |
| H          | 0.047  | 0.055 | 1.19        | 1.40 |
| I          | 0.083  | 0.098 | 2.10        | 2.49 |
| J          | 0.014  | 0.020 | 0.35        | 0.50 |

SOT-23 (REV: R3)

R3 ( 28-Mar 2001)