

**CMPZDC2V4 THRU CMPZDC47V**

**SURFACE MOUNT  
DUAL, COMMON CATHODE  
SILICON ZENER DIODES  
2.4 VOLTS THRU 47 VOLTS  
350mW**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPZDC2V4 series dual silicon Zener diode is a highly quality voltage regulator, connected in a common cathode configuration, for use in industrial, commercial, entertainment and computer applications.

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



**SOT-23 CASE**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$ )  
Power Dissipation  
Operating and Storage Temperature  
Thermal Resistance

| SYMBOL         |             | UNITS              |
|----------------|-------------|--------------------|
| $P_D$          | 350         | mW                 |
| $T_J, T_{stg}$ | -65 TO +175 | $^\circ\text{C}$   |
| $\theta_{JA}$  | 429         | $^\circ\text{C/W}$ |

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

| TYPE      | ZENER VOLTAGE<br>$V_Z @ I_{ZT}$ |      | TEST CURRENT | MAXIMUM ZENER IMPEDANCE |                   |     | MAXIMUM REVERSE CURRENT |          | MAXIMUM ZENER CURRENT | MAXIMUM ZENER VOLTAGE TEMP. COEFF. | MARKING CODE |
|-----------|---------------------------------|------|--------------|-------------------------|-------------------|-----|-------------------------|----------|-----------------------|------------------------------------|--------------|
|           | MIN                             | MAX  | $I_{ZT}$     | $Z_{ZT} @ I_{ZT}$       | $Z_{ZK} @ I_{ZK}$ |     | $I_R @ V_R$             | $I_{ZM}$ | $\theta V_Z$          |                                    |              |
|           | V                               | V    | mA           | $\Omega$                | $\Omega$          | mA  | $\mu\text{A}$           | V        | mA                    | % / $^\circ\text{C}$               |              |
| CMPZDC2V4 | 2.2                             | 2.6  | 5.0          | 100                     | 600               | 1.0 | 50                      | 1.0      | 63                    | -0.06                              | CCW3         |
| CMPZDC2V7 | 2.5                             | 2.9  | 5.0          | 100                     | 600               | 1.0 | 20                      | 1.0      | 57                    | -0.06                              | CCW4         |
| CMPZDC3V0 | 2.8                             | 3.2  | 5.0          | 95                      | 600               | 1.0 | 10                      | 1.0      | 54                    | -0.06                              | CCW5         |
| CMPZDC3V3 | 3.1                             | 3.5  | 5.0          | 95                      | 600               | 1.0 | 5.0                     | 1.0      | 47                    | -0.06                              | CCW6         |
| CMPZDC3V6 | 3.4                             | 3.8  | 5.0          | 95                      | 600               | 1.0 | 2.0                     | 1.0      | 45                    | -0.06                              | CCW7         |
| CMPZDC3V9 | 3.7                             | 4.1  | 5.0          | 90                      | 600               | 1.0 | 2.0                     | 1.0      | 43                    | -0.06                              | CCW8         |
| CMPZDC4V3 | 4.0                             | 4.6  | 5.0          | 90                      | 600               | 1.0 | 1.0                     | 1.0      | 40                    | -0.05                              | CCW9         |
| CMPZDC4V7 | 4.4                             | 5.0  | 5.0          | 80                      | 500               | 1.0 | 3.0                     | 2.0      | 38                    | -0.03                              | CCZ1         |
| CMPZDC5V1 | 4.8                             | 5.4  | 5.0          | 60                      | 480               | 1.0 | 2.0                     | 2.0      | 35                    | 0.02                               | CCZ2         |
| CMPZDC5V6 | 5.2                             | 6.0  | 5.0          | 40                      | 400               | 1.0 | 1.0                     | 2.0      | 32                    | 0.03                               | CCZ3         |
| CMPZDC6V2 | 5.8                             | 6.6  | 5.0          | 10                      | 150               | 1.0 | 3.0                     | 4.0      | 28                    | 0.04                               | CCZ4         |
| CMPZDC6V8 | 6.4                             | 7.2  | 5.0          | 15                      | 80                | 1.0 | 2.0                     | 4.0      | 25                    | 0.05                               | CCZ5         |
| CMPZDC7V5 | 7.0                             | 7.9  | 5.0          | 15                      | 80                | 1.0 | 1.0                     | 5.0      | 23                    | 0.05                               | CCZ6         |
| CMPZDC8V2 | 7.7                             | 8.7  | 5.0          | 15                      | 80                | 1.0 | 0.7                     | 5.0      | 21                    | 0.06                               | CCZ7         |
| CMPZDC9V1 | 8.5                             | 9.6  | 5.0          | 15                      | 100               | 1.0 | 0.5                     | 6.0      | 18                    | 0.06                               | CCZ8         |
| CMPZDC10V | 9.4                             | 10.6 | 5.0          | 20                      | 150               | 1.0 | 0.2                     | 7.0      | 16                    | 0.07                               | CCZ9         |
| CMPZDC11V | 10.4                            | 11.6 | 5.0          | 20                      | 150               | 1.0 | 0.1                     | 8.0      | 15                    | 0.07                               | CCY1         |
| CMPZDC12V | 11.4                            | 12.7 | 5.0          | 25                      | 150               | 1.0 | 0.1                     | 8.0      | 13                    | 0.07                               | CCY2         |
| CMPZDC13V | 12.4                            | 14.1 | 5.0          | 30                      | 170               | 1.0 | 0.1                     | 8.0      | 12                    | 0.08                               | CCY3         |
| CMPZDC15V | 13.8                            | 15.6 | 5.0          | 30                      | 200               | 1.0 | 0.05                    | 10.5     | 11                    | 0.08                               | CCY4         |
| CMPZDC16V | 15.3                            | 17.1 | 5.0          | 40                      | 200               | 1.0 | 0.05                    | 11.2     | 10                    | 0.08                               | CCY5         |
| CMPZDC18V | 16.8                            | 19.1 | 5.0          | 45                      | 225               | 1.0 | 0.05                    | 12.6     | 9.2                   | 0.08                               | CCY6         |
| CMPZDC20V | 18.8                            | 21.2 | 5.0          | 55                      | 225               | 1.0 | 0.05                    | 14.0     | 8.3                   | 0.08                               | CCY7         |
| CMPZDC22V | 20.8                            | 23.3 | 5.0          | 55                      | 250               | 1.0 | 0.05                    | 15.4     | 7.6                   | 0.09                               | CCY8         |

**CMPZDC2V4 THRU CMPZDC47V**

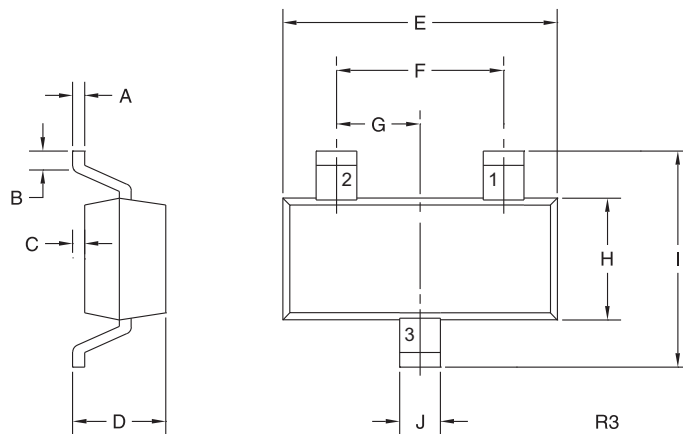
**SURFACE MOUNT  
DUAL, COMMON CATHODE  
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**ELECTRICAL CHARACTERISTICS PER DIODE - Continued:** ( $T_A=25^{\circ}\text{C}$ )  $V_F=0.9\text{V MAX @ } I_F=10\text{mA}$  (for all types)

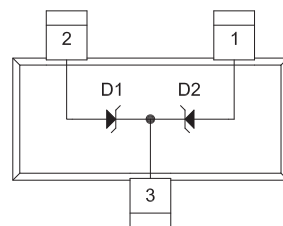
| TYPE      | ZENER VOLTAGE $V_Z @ I_{ZT}$ |      | TEST CURRENT $I_{ZT}$ | MAXIMUM ZENER IMPEDANCE |                   |     | MAXIMUM REVERSE CURRENT $I_R @ V_R$ | MAXIMUM ZENER CURRENT $I_{ZM}$ | MAXIMUM ZENER VOLTAGE TEMP. COEFF. $\ominus V_Z$ | MARKING CODE |      |
|-----------|------------------------------|------|-----------------------|-------------------------|-------------------|-----|-------------------------------------|--------------------------------|--|--------------|------|
|           | MIN                          | MAX  |                       | $Z_{ZT} @ I_{ZT}$       | $Z_{ZK} @ I_{ZK}$ |     |                                     |                                |  |              |      |
|           | V                            | V    | mA                    | $\Omega$                | $\Omega$          | mA  | $\mu\text{A @ V}$                   | mA                             | % / $^{\circ}\text{C}$                           |              |      |
| CMPZDC24V | 22.8                         | 25.6 | 5.0                   | 70                      | 250               | 1.0 | 0.05                                | 16.8                           | 7.0  | 0.09         | CCY9 |
| CMPZDC27V | 25.1                         | 28.9 | 2.0                   | 80                      | 300               | 0.5 | 0.05                                | 18.9                           | 6.2  | 0.09         | CC10 |
| CMPZDC30V | 28.0                         | 32.0 | 2.0                   | 80                      | 300               | 0.5 | 0.05                                | 21.0                           | 5.6  | 0.09         | CC11 |
| CMPZDC33V | 31.0                         | 35.0 | 2.0                   | 80                      | 325               | 0.5 | 0.05                                | 23.1                           | 5.0  | 0.09         | CC12 |
| CMPZDC36V | 34.0                         | 38.0 | 2.0                   | 90                      | 350               | 0.5 | 0.05                                | 25.2                           | 4.6  | 0.09         | CC13 |
| CMPZDC39V | 37.0                         | 41.0 | 2.0                   | 130                     | 350               | 0.5 | 0.05                                | 27.3                           | 4.3  | 0.09         | CC14 |
| CMPZDC43V | 40.0                         | 46.0 | 2.0                   | 150                     | 375               | 0.5 | 0.05                                | 30.1                           | 3.9  | 0.10         | CC15 |
| CMPZDC47V | 44.0                         | 50.0 | 2.0                   | 170                     | 375               | 0.5 | 0.05                                | 32.9                           | 3.5  | 0.10         | CC16 |

**SOT-23 CASE - MECHANICAL OUTLINE**



| SYMBOL | DIMENSIONS |       |             |      |
|--------|------------|-------|-------------|------|
|        | 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)



**LEAD CODE:**

- 1) Anode D2
- 2) Anode D1
- 3) Cathode D1, D2

**MARKING CODE:**

SEE MARKING CODES ON ELECTRICAL CHARACTERISTICS TABLE

R2 (10-August 2012)