



# THE DATASHEET OF CMOZ13V TR



**CMOZ2V4 THRU CMOZ43V**

**SURFACE MOUNT  
SILICON ZENER DIODE  
2.4 VOLTS THRU 43 VOLTS  
5% TOLERANCE**



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**ULTRAmimi™**



**SOD-523 CASE**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMOZ2V4 Series Zener Diode is a high quality voltage regulator in an epoxy-molded ULTRAmimi™ package, designed for applications requiring low leakage.

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

| MAXIMUM RATINGS: (T <sub>A</sub> =25°C unless otherwise noted) | SYMBOL                            |             | UNITS |
|--|-----------------------------------|-------------|-------|
| Power Dissipation (Note 1) (T <sub>A</sub> =50°C)              | P <sub>D</sub>                    | 350         | mW    |
| Power Dissipation (Note 2)                                     | P <sub>D</sub>                    | 300         | mW    |
| Power Dissipation (Note 3)                                     | P <sub>D</sub>                    | 250         | mW    |
| Operating and Storage Junction Temperature                     | T <sub>J</sub> , T <sub>stg</sub> | -65 to +150 | °C    |
| Thermal Resistance (P <sub>D</sub> =300mW)                     | θ <sub>JA</sub>                   | 417         | °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<br>V <sub>Z</sub> @ I <sub>ZT</sub> |       |       | TEST CURRENT<br>I <sub>ZT</sub><br>mA | MAXIMUM ZENER IMPEDANCE<br>Z <sub>ZT</sub> @ I <sub>ZT</sub><br>Ω | MAXIMUM REVERSE CURRENT<br>I <sub>R</sub> @ V <sub>R</sub> |     | MARKING CODE |
|---------|---|-------|-------|---------------------------------------|---|--|-----|--------------|
|         | MIN V   | NOM V | MAX V |                                       |   | μA   | V   |              |
| CMOZ2V4 | 2.28  | 2.4   | 2.52  | 5.0                                   | 100   | 25   | 1.0 | F1           |
| CMOZ2V6 | 2.47  | 2.6   | 2.73  | 5.0                                   | 100   | 25   | 1.0 | F1A          |
| CMOZ2V7 | 2.57  | 2.7   | 2.84  | 5.0                                   | 100   | 10   | 1.0 | F2           |
| CMOZ3V0 | 2.85  | 3.0   | 3.15  | 5.0                                   | 95  | 5.0  | 1.0 | F3           |
| CMOZ3V3 | 3.14  | 3.3   | 3.47  | 5.0                                   | 95  | 2.0  | 1.0 | F4           |
| CMOZ3V6 | 3.42  | 3.6   | 3.78  | 5.0                                   | 90  | 2.0  | 1.0 | F5           |
| CMOZ3V9 | 3.71  | 3.9   | 4.10  | 5.0                                   | 90  | 2.0  | 1.0 | F6           |
| CMOZ4V3 | 4.09  | 4.3   | 4.52  | 5.0                                   | 90  | 1.0  | 1.0 | F7           |
| CMOZ4V7 | 4.47  | 4.7   | 4.94  | 5.0                                   | 80  | 3.0  | 2.0 | F8           |
| CMOZ5V1 | 4.85  | 5.1   | 5.36  | 5.0                                   | 60  | 2.0  | 2.0 | F9           |
| CMOZ5V6 | 5.32  | 5.6   | 5.88  | 5.0                                   | 40  | 1.0  | 2.0 | F0           |
| CMOZ6V2 | 5.89  | 6.2   | 6.51  | 5.0                                   | 10  | 3.0  | 4.0 | H1           |
| CMOZ6V8 | 6.46  | 6.8   | 7.14  | 5.0                                   | 15  | 2.0  | 4.0 | H2           |
| CMOZ7V5 | 7.12  | 7.5   | 7.88  | 5.0                                   | 15  | 1.0  | 5.0 | H3           |
| CMOZ8V2 | 7.79  | 8.2   | 8.61  | 5.0                                   | 15  | 0.7  | 5.0 | H4           |
| CMOZ9V1 | 8.65  | 9.1   | 9.56  | 5.0                                   | 15  | 0.5  | 6.0 | H5           |
| CMOZ10V | 9.50  | 10    | 10.50 | 5.0                                   | 20  | 0.2  | 7.0 | H6           |

- Notes: (1) Ceramic or aluminum core PC Board with copper mounting pad area of 4.0mm<sup>2</sup>  
 (2) FR-4 Epoxy PC Board with copper mounting pad area of 4.0mm<sup>2</sup>  
 (3) FR-4 Epoxy PC Board with copper mounting pad area of 1.4mm<sup>2</sup>

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CMOZ2V4 THRU CMOZ43V

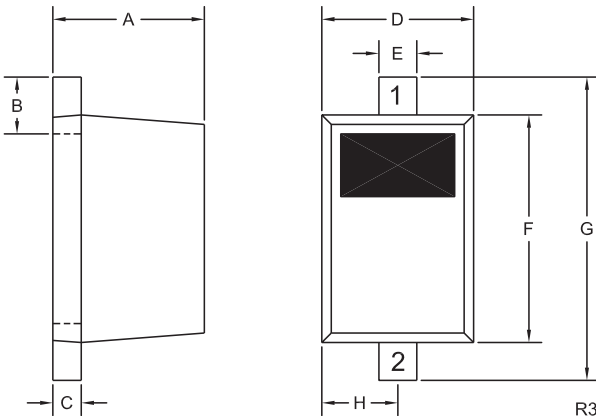
SURFACE MOUNT  
SILICON ZENER DIODE  
2.4 VOLTS THRU 43 VOLTS  
5% TOLERANCE



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<br>$V_Z @ I_{ZT}$ |       |       | TEST CURRENT<br>$I_{ZT}$ | MAXIMUM ZENER IMPEDANCE<br>$Z_{ZT} @ I_{ZT}$ | MAXIMUM REVERSE CURRENT<br>$I_R @ V_R$ |      | MARKING CODE |
|---------|---------------------------------|-------|-------|--------------------------|--|--|------|--------------|
|         | MIN V                           | NOM V | MAX V | mA                       | $\Omega$                                     | $\mu\text{A}$                          | V    |              |
| CMOZ11V | 10.45                           | 11    | 11.55 | 5.0                      | 20   | 0.1                                    | 8.0  | H7           |
| CMOZ12V | 11.40                           | 12    | 12.60 | 5.0                      | 25   | 0.1                                    | 8.0  | H8           |
| CMOZ13V | 12.35                           | 13    | 13.65 | 5.0                      | 30   | 0.1                                    | 8.0  | H9           |
| CMOZ15V | 14.25                           | 15    | 15.75 | 5.0                      | 30   | 0.05                                   | 10.5 | H0           |
| CMOZ16V | 15.20                           | 16    | 16.80 | 5.0                      | 40   | 0.05                                   | 11.2 | J1           |
| CMOZ18V | 17.10                           | 18    | 18.90 | 5.0                      | 45   | 0.05                                   | 12.6 | J2           |
| CMOZ20V | 19.00                           | 20    | 21.00 | 5.0                      | 55   | 0.05                                   | 14.0 | J3           |
| CMOZ22V | 20.90                           | 22    | 23.10 | 5.0                      | 55   | 0.05                                   | 15.4 | J4           |
| CMOZ24V | 22.80                           | 24    | 25.20 | 5.0                      | 70   | 0.05                                   | 16.8 | J5           |
| CMOZ27V | 25.65                           | 27    | 28.35 | 5.0                      | 80   | 0.05                                   | 18.9 | J6           |
| CMOZ30V | 28.50                           | 30    | 31.50 | 5.0                      | 80   | 0.05                                   | 21.0 | J7           |
| CMOZ33V | 31.35                           | 33    | 34.65 | 5.0                      | 80   | 0.05                                   | 23.1 | J8           |
| CMOZ36V | 34.20                           | 36    | 37.80 | 5.0                      | 90   | 0.05                                   | 25.2 | J9           |
| CMOZ39V | 37.05                           | 39    | 40.95 | 5.0                      | 130  | 0.05                                   | 27.3 | J0           |
| CMOZ43V | 40.85                           | 43    | 45.15 | 5.0                      | 150  | 0.05                                   | 30.1 | K1           |

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

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

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- Inventory bonding
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- Custom bar coding for shipments
- Custom product packing

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- Custom electrical curves
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- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
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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

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centrasemi.com](http://www.centrasemi.com)

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