

**CMSZDA2V4 THRU CMSZDA47V**

**SURFACE MOUNT  
DUAL, COMMON ANODE  
SILICON ZENER DIODES  
275mW, 2.4 THRU 47 VOLTS**

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

The CENTRAL SEMICONDUCTOR CMSZDA2V4 Series silicon dual zener diode is a highly quality voltage regulator, connected in a common anode configuration, for use in industrial, commercial, entertainment and computer applications.

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

275

-65 to +150

455

**UNITS**

mW

 $^{\circ}\text{C}$  $^{\circ}\text{C/W}$ **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                             | NOM | MAX  | $I_{ZT}$     | $Z_{ZT} @ I_{ZT}$       | $Z_{ZK} @ I_{ZK}$ |     | $I_R @ V_R$             |      | $I_{ZM}$              | $\Theta V_Z$                       |              |
|           | V                               | V   | V    | mA           | $\Omega$                | $\Omega$          | mA  | $\mu\text{A}$           | V    | mA                    | % / $^{\circ}\text{C}$             |              |
| CMSZDA2V4 | 2.2                             | 2.4 | 2.6  | 5.0          | 100                     | 600               | 1.0 | 50                      | 1.0  | 63                    | -0.06                              | W3W          |
| CMSZDA2V7 | 2.5                             | 2.7 | 2.9  | 5.0          | 100                     | 600               | 1.0 | 20                      | 1.0  | 57                    | -0.06                              | W4W          |
| CMSZDA3V0 | 2.8                             | 3.0 | 3.2  | 5.0          | 95                      | 600               | 1.0 | 10                      | 1.0  | 54                    | -0.06                              | W5W          |
| CMSZDA3V3 | 3.1                             | 3.3 | 3.5  | 5.0          | 95                      | 600               | 1.0 | 5.0                     | 1.0  | 47                    | -0.06                              | W6W          |
| CMSZDA3V6 | 3.4                             | 3.6 | 3.8  | 5.0          | 95                      | 600               | 1.0 | 2.0                     | 1.0  | 45                    | -0.06                              | W7W          |
| CMSZDA3V9 | 3.7                             | 3.9 | 4.1  | 5.0          | 90                      | 600               | 1.0 | 2.0                     | 1.0  | 43                    | -0.06                              | W8W          |
| CMSZDA4V3 | 4.0                             | 4.3 | 4.6  | 5.0          | 90                      | 600               | 1.0 | 1.0                     | 1.0  | 40                    | -0.05                              | W9W          |
| CMSZDA4V7 | 4.4                             | 4.7 | 5.0  | 5.0          | 80                      | 500               | 1.0 | 3.0                     | 2.0  | 38                    | -0.03                              | Z1Z          |
| CMSZDA5V1 | 4.8                             | 5.1 | 5.4  | 5.0          | 60                      | 480               | 1.0 | 2.0                     | 2.0  | 35                    | 0.02                               | Z2Z          |
| CMSZDA5V6 | 5.2                             | 5.6 | 6.0  | 5.0          | 40                      | 400               | 1.0 | 1.0                     | 2.0  | 32                    | 0.03                               | Z3Z          |
| CMSZDA6V2 | 5.8                             | 6.2 | 6.6  | 5.0          | 10                      | 150               | 1.0 | 3.0                     | 4.0  | 28                    | 0.04                               | Z4Z          |
| CMSZDA6V8 | 6.5                             | 6.8 | 7.2  | 5.0          | 15                      | 80                | 1.0 | 2.0                     | 4.0  | 25                    | 0.05                               | Z5Z          |
| CMSZDA7V5 | 7.0                             | 7.5 | 7.9  | 5.0          | 15                      | 80                | 1.0 | 1.0                     | 5.0  | 23                    | 0.05                               | Z6Z          |
| CMSZDA8V2 | 7.7                             | 8.2 | 8.7  | 5.0          | 15                      | 80                | 1.0 | 0.7                     | 5.0  | 21                    | 0.06                               | Z7Z          |
| CMSZDA9V1 | 8.5                             | 9.1 | 9.6  | 5.0          | 15                      | 100               | 1.0 | 0.5                     | 6.0  | 18                    | 0.06                               | Z8Z          |
| CMSZDA10V | 9.4                             | 10  | 10.6 | 5.0          | 20                      | 150               | 1.0 | 0.2                     | 7.0  | 16                    | 0.07                               | Z9Z          |
| CMSZDA11V | 10.4                            | 11  | 11.6 | 5.0          | 20                      | 150               | 1.0 | 0.1                     | 8.0  | 15                    | 0.07                               | Y1Y          |
| CMSZDA12V | 11.4                            | 12  | 12.7 | 5.0          | 25                      | 150               | 1.0 | 0.1                     | 8.0  | 13                    | 0.07                               | Y2Y          |
| CMSZDA13V | 12.4                            | 13  | 14.1 | 5.0          | 30                      | 170               | 1.0 | 0.1                     | 8.0  | 12                    | 0.08                               | Y3Y          |
| CMSZDA15V | 13.8                            | 15  | 15.6 | 5.0          | 30                      | 200               | 1.0 | 0.05                    | 10.5 | 11                    | 0.08                               | Y4Y          |
| CMSZDA16V | 15.3                            | 16  | 17.1 | 5.0          | 40                      | 200               | 1.0 | 0.05                    | 11.2 | 10                    | 0.08                               | Y5Y          |

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# CMSZDA2V4 THRU CMSZDA47V

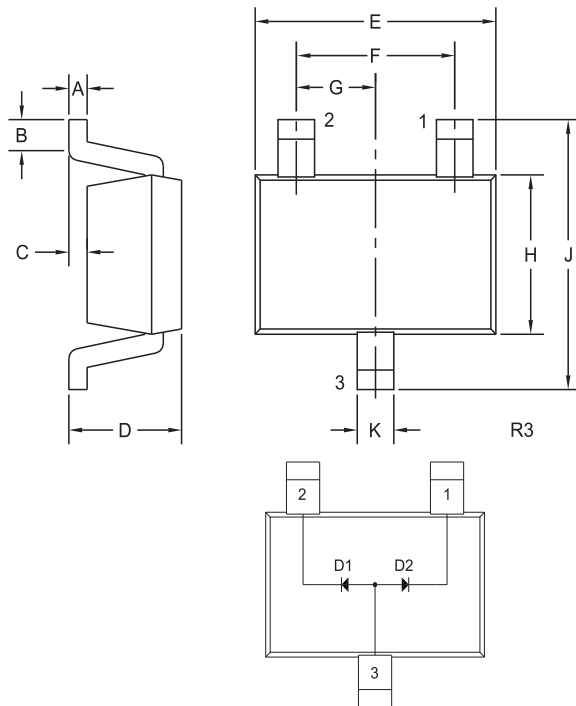
**SURFACE MOUNT  
DUAL, COMMON ANODE  
SILICON ZENER DIODES  
275mW, 2.4 THRU 47 VOLTS**



**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<br>$V_Z @ I_{ZT}$ |     |      | TEST CURRENT<br>$I_{ZT}$ | MAXIMUM ZENER IMPEDANCE |                   |             | MAXIMUM REVERSE CURRENT |      | MAXIMUM ZENER CURRENT<br>$I_{ZM}$ | MAXIMUM ZENER VOLTAGE TEMP. COEFF.<br>$\theta_{VZ}$ | MARKING CODE |
|-----------|---------------------------------|-----|------|--------------------------|-------------------------|-------------------|-------------|-------------------------|------|-----------------------------------|-----------------------------------------------------|--------------|
|           | MIN                             | NOM | MAX  |                          | $Z_{ZT} @ I_{ZT}$       | $Z_{ZK} @ I_{ZK}$ | $I_R @ V_R$ |                         |      |                                   |                                                     |              |
|           | V                               | V   | V    |                          | mA                      | $\Omega$          | $\Omega$    | $\mu A$                 | V    |                                   | mA                                                  |              |
| CMSZDA18V | 16.8                            | 18  | 19.1 | 5.0                      | 45                      | 225               | 1.0         | 0.05                    | 12.6 | 9.2                               | 0.08                                                | Y6Y          |
| CMSZDA20V | 18.8                            | 20  | 21.2 | 5.0                      | 55                      | 225               | 1.0         | 0.05                    | 14   | 8.3                               | 0.08                                                | Y7Y          |
| CMSZDA22V | 20.8                            | 22  | 23.3 | 5.0                      | 55                      | 250               | 1.0         | 0.05                    | 15.4 | 7.6                               | 0.09                                                | Y8Y          |
| CMSZDA24V | 22.8                            | 24  | 25.6 | 5.0                      | 70                      | 250               | 1.0         | 0.05                    | 16.8 | 7.0                               | 0.09                                                | Y9Y          |
| CMSZDA27V | 25.1                            | 27  | 28.9 | 2.0                      | 80                      | 300               | 0.5         | 0.05                    | 18.9 | 6.2                               | 0.09                                                | 10W          |
| CMSZDA30V | 28                              | 30  | 32   | 2.0                      | 80                      | 300               | 0.5         | 0.05                    | 21   | 5.6                               | 0.09                                                | 11W          |
| CMSZDA33V | 31                              | 33  | 35   | 2.0                      | 80                      | 325               | 0.5         | 0.05                    | 23.1 | 5.0                               | 0.09                                                | 12W          |
| CMSZDA36V | 34                              | 36  | 38   | 2.0                      | 90                      | 350               | 0.5         | 0.05                    | 25.2 | 4.6                               | 0.09                                                | 13W          |
| CMSZDA39V | 37                              | 39  | 41   | 2.0                      | 130                     | 350               | 0.5         | 0.05                    | 27.3 | 4.3                               | 0.09                                                | 14W          |
| CMSZDA43V | 40                              | 43  | 46   | 2.0                      | 150                     | 375               | 0.5         | 0.05                    | 30.1 | 3.9                               | 0.10                                                | 15W          |
| CMSZDA47V | 44                              | 47  | 50   | 2.0                      | 170                     | 375               | 0.5         | 0.05                    | 32.9 | 3.5                               | 0.10                                                | 16W          |

## SOT-323 CASE - MECHANICAL OUTLINE



| DIMENSIONS |        |       |             |      |
|------------|--------|-------|-------------|------|
| SYMBOL     | INCHES |       | MILLIMETERS |      |
|            | MIN    | MAX   | MIN         | MAX  |
| A          | 0.002  | 0.008 | 0.05        | 0.20 |
| B          | 0.004  | -     | 0.10        | -    |
| C          | -      | 0.004 | -           | 0.10 |
| D          | 0.031  | 0.043 | 0.80        | 1.10 |
| E          | 0.071  | 0.087 | 1.80        | 2.20 |
| F          | 0.051  |       | 1.30        |      |
| G          | 0.026  |       | 0.65        |      |
| H          | 0.045  | 0.053 | 1.15        | 1.35 |
| J          | 0.079  | 0.087 | 2.00        | 2.20 |
| K          | 0.008  | 0.016 | 0.20        | 0.40 |

SOT-323 (REV: R3)

### LEAD CODE:

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

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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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