

CMDZ5221B THRU CMDZ5261B

**SURFACE MOUNT
SILICON ZENER DIODE
2.4 VOLTS THRU 47 VOLTS
250mW, 5% TOLERANCE**

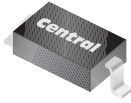


www.centralemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMDZ5221B Series Silicon Zener Diode is a high quality voltage regulator, manufactured in a super-mini surface mount package, designed for use in industrial, commercial, entertainment and computer applications.

SUPERmini™



SOD-323 CASE

MARKING CODE: SEE MARKING CODES ON ELECTRICAL CHARACTERISTICS TABLE

MAXIMUM RATINGS: (T_A=25°C)

Power Dissipation
Operating and Storage Temperature
Thermal Resistance

SYMBOL

P_D
T_J, T_{stg}
Θ_{JA}

UNITS

mW
°C
°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C), V_F=0.9V MAX @ I_F=10mA (FOR ALL TYPES)

| TYPE | ZENER VOLTAGE V _Z @ I _{ZT} | | | TEST CURRENT I _{ZT} | MAXIMUM ZENER IMPEDANCE | | | MAXIMUM REVERSE CURRENT | | MAXIMUM ZENER VOLTAGE TEMPERATURE COEFFICIENT ΘV _Z | MARKING CODE |
|-----------|---|-----|-------|---------------------------------|-----------------------------------|-----------------------------------|---------------------------------|---------------------------------|-----|--|--------------|
| | MIN | NOM | MAX | | Z _{ZT} @ I _{ZT} | Z _{ZK} @ I _{ZK} | I _R @ V _R | I _R @ V _R | | | |
| | V | V | V | mA | Ω | Ω | mA | μA | V | %/°C | |
| CMDZ5221B | 2.280 | 2.4 | 2.520 | 20 | 30 | 1200 | 0.25 | 100 | 1.0 | -0.085 | X1 |
| CMDZ5222B | 2.375 | 2.5 | 2.625 | 20 | 30 | 1250 | 0.25 | 100 | 1.0 | -0.085 | X2 |
| CMDZ5223B | 2.565 | 2.7 | 2.835 | 20 | 30 | 1300 | 0.25 | 75 | 1.0 | -0.080 | X3 |
| CMDZ5224B | 2.660 | 2.8 | 2.940 | 20 | 30 | 1400 | 0.25 | 75 | 1.0 | -0.080 | X4 |
| CMDZ5225B | 2.850 | 3.0 | 3.150 | 20 | 29 | 1600 | 0.25 | 50 | 1.0 | -0.075 | X5 |
| CMDZ5226B | 3.135 | 3.3 | 3.465 | 20 | 28 | 1600 | 0.25 | 25 | 1.0 | -0.070 | X6 |
| CMDZ5227B | 3.420 | 3.6 | 3.780 | 20 | 24 | 1700 | 0.25 | 15 | 1.0 | -0.065 | X7 |
| CMDZ5228B | 3.705 | 3.9 | 4.095 | 20 | 23 | 1900 | 0.25 | 10 | 1.0 | -0.060 | X8 |
| CMDZ5229B | 4.085 | 4.3 | 4.515 | 20 | 22 | 2000 | 0.25 | 5.0 | 1.0 | ±0.055 | X9 |
| CMDZ5230B | 4.465 | 4.7 | 4.935 | 20 | 19 | 1900 | 0.25 | 5.0 | 2.0 | ±0.030 | XA |
| CMDZ5231B | 4.845 | 5.1 | 5.355 | 20 | 17 | 1600 | 0.25 | 5.0 | 2.0 | ±0.030 | XB |
| CMDZ5232B | 5.320 | 5.6 | 5.880 | 20 | 11 | 1600 | 0.25 | 5.0 | 3.0 | +0.038 | XC |
| CMDZ5233B | 5.700 | 6.0 | 6.300 | 20 | 7.0 | 1600 | 0.25 | 5.0 | 3.5 | +0.038 | XD |
| CMDZ5234B | 5.890 | 6.2 | 6.510 | 20 | 7.0 | 1000 | 0.25 | 5.0 | 4.0 | +0.045 | XE |
| CMDZ5235B | 6.460 | 6.8 | 7.140 | 20 | 5.0 | 750 | 0.25 | 3.0 | 5.0 | +0.050 | XF |
| CMDZ5236B | 7.125 | 7.5 | 7.875 | 20 | 6.0 | 500 | 0.25 | 3.0 | 6.0 | +0.058 | XG |
| CMDZ5237B | 7.790 | 8.2 | 8.610 | 20 | 8.0 | 500 | 0.25 | 3.0 | 6.5 | +0.062 | XH |
| CMDZ5238B | 8.265 | 8.7 | 9.135 | 20 | 8.0 | 600 | 0.25 | 3.0 | 6.5 | +0.065 | XJ |
| CMDZ5239B | 8.645 | 9.1 | 9.555 | 20 | 10 | 600 | 0.25 | 3.0 | 7.0 | +0.068 | XK |
| CMDZ5240B | 9.500 | 10 | 10.50 | 20 | 17 | 600 | 0.25 | 3.0 | 8.0 | +0.075 | XL |
| CMDZ5241B | 10.45 | 11 | 11.55 | 20 | 22 | 600 | 0.25 | 2.0 | 8.4 | +0.076 | XN |
| CMDZ5242B | 11.40 | 12 | 12.60 | 20 | 30 | 600 | 0.25 | 1.0 | 9.1 | +0.077 | XO |

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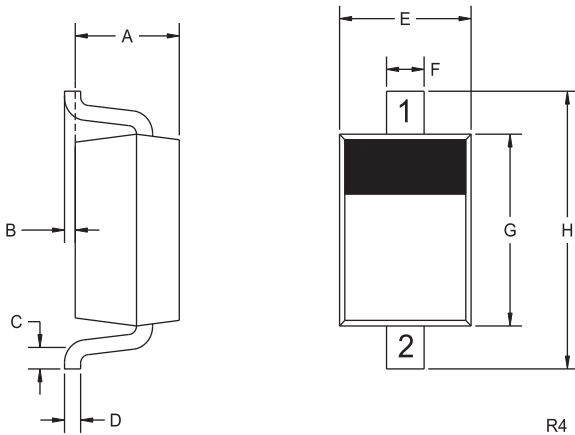
SURFACE MOUNT
SILICON ZENER DIODE
2.4 VOLTS THRU 47 VOLTS
250mW, 5% TOLERANCE



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 $V_Z @ I_{ZT}$ | | | TEST CURRENT | MAXIMUM ZENER IMPEDANCE | | | MAXIMUM REVERSE CURRENT | | MAXIMUM ZENER VOLTAGE TEMPERATURE COEFFICIENT | MARKING CODE |
|-----------|---------------------------------|-----|-------|--------------|-------------------------|-------------------|---------------|-------------------------|---------------------|---|--------------|
| | MIN | NOM | MAX | I_{ZT} | $Z_{ZT} @ I_{ZT}$ | $Z_{ZK} @ I_{ZK}$ | $I_R @ V_R$ | θ_{VZ} | | | |
| | V | V | V | mA | Ω | Ω | μA | V | %/ $^\circ\text{C}$ | | |
| CMDZ5243B | 12.35 | 13 | 13.65 | 9.5 | 13 | 600 | 0.25 | 0.5 | 9.9 | +0.079 | XP |
| CMDZ5244B | 13.30 | 14 | 14.70 | 9.0 | 15 | 600 | 0.25 | 0.1 | 10 | +0.082 | XQ |
| CMDZ5245B | 14.25 | 15 | 15.75 | 8.5 | 16 | 600 | 0.25 | 0.1 | 11 | +0.082 | XR |
| CMDZ5246B | 15.20 | 16 | 16.80 | 7.8 | 17 | 600 | 0.25 | 0.1 | 12 | +0.083 | XS |
| CMDZ5247B | 16.15 | 17 | 17.85 | 7.4 | 19 | 600 | 0.25 | 0.1 | 13 | +0.084 | XT |
| CMDZ5248B | 17.10 | 18 | 18.90 | 7.0 | 21 | 600 | 0.25 | 0.1 | 14 | +0.085 | XU |
| CMDZ5249B | 18.05 | 19 | 19.95 | 6.6 | 23 | 600 | 0.25 | 0.1 | 14 | +0.086 | XV |
| CMDZ5250B | 19.00 | 20 | 21.00 | 6.2 | 25 | 600 | 0.25 | 0.1 | 15 | +0.086 | XX |
| CMDZ5251B | 20.90 | 22 | 23.10 | 5.6 | 29 | 600 | 0.25 | 0.1 | 17 | +0.087 | XY |
| CMDZ5252B | 22.80 | 24 | 25.20 | 5.2 | 33 | 600 | 0.25 | 0.1 | 18 | +0.088 | XZ |
| CMDZ5253B | 23.75 | 25 | 26.25 | 5.0 | 35 | 600 | 0.25 | 0.1 | 19 | +0.089 | Y1 |
| CMDZ5254B | 25.65 | 27 | 28.35 | 4.6 | 41 | 600 | 0.25 | 0.1 | 21 | +0.090 | Y2 |
| CMDZ5255B | 26.60 | 28 | 29.40 | 4.5 | 44 | 600 | 0.25 | 0.1 | 21 | +0.091 | Y3 |
| CMDZ5256B | 28.50 | 30 | 31.50 | 4.2 | 49 | 600 | 0.25 | 0.1 | 23 | +0.091 | Y4 |
| CMDZ5257B | 31.35 | 33 | 34.65 | 3.8 | 58 | 700 | 0.25 | 0.1 | 25 | +0.092 | Y5 |
| CMDZ5258B | 34.20 | 36 | 37.80 | 3.4 | 70 | 700 | 0.25 | 0.1 | 27 | +0.093 | Y6 |
| CMDZ5259B | 37.05 | 39 | 40.95 | 3.2 | 80 | 800 | 0.25 | 0.1 | 30 | +0.094 | Y7 |
| CMDZ5260B | 40.85 | 43 | 45.15 | 3.0 | 93 | 900 | 0.25 | 0.1 | 33 | +0.095 | Y8 |
| CMDZ5261B | 44.65 | 47 | 49.35 | 2.7 | 105 | 1000 | 0.25 | 0.1 | 36 | +0.095 | Y9 |

SOD-323 CASE - MECHANICAL OUTLINE



| SYMBOL | DIMENSIONS | | | |
|--------|------------|-------|-------------|------|
| | INCHES | | MILLIMETERS | |
| A | 0.031 | 0.039 | 0.80 | 1.00 |
| B | 0.000 | 0.004 | 0.00 | 0.10 |
| C | 0.008 | - | 0.20 | - |
| D | 0.004 | 0.007 | 0.11 | 0.19 |
| E | 0.045 | 0.053 | 1.15 | 1.35 |
| F | - | 0.014 | - | 0.35 |
| G | 0.063 | 0.071 | 1.60 | 1.80 |
| H | 0.094 | 0.102 | 2.40 | 2.60 |

SOD-323 (REV: R4)

LEAD CODE:

- 1) CATHODE
- 2) ANODE

R4

R4 (8-January 2010)



OUTSTANDING SUPPORT AND SUPERIOR SERVICES

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

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd 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

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).

CONTACT US

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