

CMSZ5221B
THRU
CMSZ5261B

250mW ZENER DIODE
5% TOLERANCE

SUPERmini™



SOT-323 CASE

Central™
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMSZ5221B Series Silicon Zener Diode is a high quality voltage regulator for use in industrial, commercial, entertainment and computer applications. Higher voltage devices are available on special order.

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 250
T_J, T_{stg} -65 to +175
θ_{JA} 500

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 | | | TEST CURRENT | MAXIMUM ZENER IMPEDANCE | | | MAXIMUM REVERSE CURRENT | | MAX. TEMP. COEFF. | MARK. CODE |
|-----------|----------------------------------|-------|-------|--------------|-------------------------|-----------------------------------|------|---------------------------------|-------|-------------------|------------|
| | V _Z @ I _{ZT} | | | | I _{ZT} | Z _{ZT} @ I _{ZT} | | I _R @ V _R | | | |
| | MIN | NOM | MAX | Ω | | Ω | mA | μA | VOLTS | % /°C | |
| | VOLTS | VOLTS | VOLTS | mA | Ω | Ω | mA | μA | VOLTS | % /°C | |
| CMSZ5221B | 2.280 | 2.4 | 2.520 | 20 | 30 | 1200 | 0.25 | 100 | 1.0 | -0.085 | 8A1 |
| CMSZ5222B | 2.375 | 2.5 | 2.625 | 20 | 30 | 1250 | 0.25 | 100 | 1.0 | -0.085 | 8B1 |
| CMSZ5223B | 2.565 | 2.7 | 2.835 | 20 | 30 | 1300 | 0.25 | 75 | 1.0 | -0.080 | 8C1 |
| CMSZ5224B | 2.660 | 2.8 | 2.940 | 20 | 30 | 1400 | 0.25 | 75 | 1.0 | -0.080 | 8D1 |
| CMSZ5225B | 2.850 | 3.0 | 3.150 | 20 | 29 | 1600 | 0.25 | 50 | 1.0 | -0.075 | 8E1 |
| CMSZ5226B | 3.135 | 3.3 | 3.465 | 20 | 28 | 1600 | 0.25 | 25 | 1.0 | -0.070 | 8AC |
| CMSZ5227B | 3.420 | 3.6 | 3.780 | 20 | 24 | 1700 | 0.25 | 15 | 1.0 | -0.065 | 8BC |
| CMSZ5228B | 3.705 | 3.9 | 4.095 | 20 | 23 | 1900 | 0.25 | 10 | 1.0 | -0.060 | 8CC |
| CMSZ5229B | 4.085 | 4.3 | 4.515 | 20 | 22 | 2000 | 0.25 | 5.0 | 1.0 | ±0.055 | 8DC |
| CMSZ5230B | 4.465 | 4.7 | 4.935 | 20 | 19 | 1900 | 0.25 | 5.0 | 2.0 | ±0.030 | 8EC |
| CMSZ5231B | 4.845 | 5.1 | 5.335 | 20 | 17 | 1600 | 0.25 | 5.0 | 2.0 | ±0.030 | 8FC |
| CMSZ5232B | 5.320 | 5.6 | 5.880 | 20 | 11 | 1600 | 0.25 | 5.0 | 3.0 | +0.038 | 8GC |
| CMSZ5233B | 5.700 | 6.0 | 6.300 | 20 | 7.0 | 1600 | 0.25 | 5.0 | 3.5 | +0.038 | 8HC |
| CMSZ5234B | 5.890 | 6.2 | 6.510 | 20 | 7.0 | 1000 | 0.25 | 3.0 | 4.0 | +0.045 | 8JC |
| CMSZ5235B | 6.460 | 6.8 | 7.140 | 20 | 5.0 | 750 | 0.25 | 3.0 | 5.0 | +0.050 | 8KC |
| CMSZ5236B | 7.125 | 7.5 | 7.875 | 20 | 6.0 | 500 | 0.25 | 3.0 | 6.0 | +0.058 | 8LC |
| CMSZ5237B | 7.790 | 8.2 | 8.610 | 20 | 8.0 | 500 | 0.25 | 3.0 | 6.5 | +0.062 | 8MC |
| CMSZ5238B | 8.265 | 8.7 | 9.135 | 20 | 8.0 | 600 | 0.25 | 3.0 | 6.5 | +0.065 | 8NC |
| CMSZ5239B | 8.645 | 9.1 | 9.555 | 20 | 10 | 600 | 0.25 | 3.0 | 7.0 | +0.068 | 8PC |
| CMSZ5240B | 9.500 | 10 | 10.50 | 20 | 17 | 600 | 0.25 | 2.0 | 8.0 | +0.075 | 8QC |
| CMSZ5241B | 10.45 | 11 | 11.55 | 20 | 22 | 600 | 0.25 | 1.0 | 8.4 | +0.076 | 8RC |
| CMSZ5242B | 11.40 | 12 | 12.60 | 20 | 30 | 600 | 0.25 | 0.5 | 9.1 | +0.077 | 8SC |

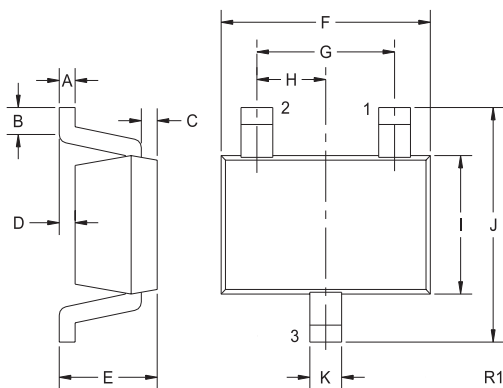
R1 (26-September 2002)

250mW ZENER DIODE
5% TOLERANCE

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$) $V_F=0.9\text{V MAX @ } I_F=10\text{mA}$ FOR ALL TYPES.

| TYPE | ZENER VOLTAGE | | | TEST CURRENT | MAXIMUM ZENER IMPEDANCE | | | MAXIMUM REVERSE CURRENT | | MAX. TEMP. COEFF. | MARK. CODE |
|-----------|----------------|-----------|-----------|--------------|-------------------------|-------------------|----------|-------------------------|---------------|-------------------|------------|
| | $V_Z @ I_{ZT}$ | | | | I_{ZT} | $Z_{ZT} @ I_{ZT}$ | | $I_R @ V_R$ | | | |
| | MIN VOLTS | NOM VOLTS | MAX VOLTS | mA | | Ω | Ω | mA | μA | VOLTS | |
| CMSZ5243B | 12.35 | 13 | 13.65 | 9.5 | 13 | 600 | 0.25 | 0.1 | 9.9 | +0.079 | 8TC |
| CMSZ5244B | 13.30 | 14 | 14.70 | 9.0 | 15 | 600 | 0.25 | 0.1 | 10 | +0.082 | 8UC |
| CMSZ5245B | 14.25 | 15 | 15.75 | 8.5 | 16 | 600 | 0.25 | 0.1 | 11 | +0.082 | 8VC |
| CMSZ5246B | 15.20 | 16 | 16.80 | 7.8 | 17 | 600 | 0.25 | 0.1 | 12 | +0.083 | 8WC |
| CMSZ5247B | 16.15 | 17 | 17.85 | 7.4 | 19 | 600 | 0.25 | 0.1 | 13 | +0.084 | 8XC |
| CMSZ5248B | 17.10 | 18 | 18.90 | 7.0 | 21 | 600 | 0.25 | 0.1 | 14 | +0.085 | 8YC |
| CMSZ5249B | 18.05 | 19 | 19.95 | 6.6 | 23 | 600 | 0.25 | 0.1 | 14 | +0.086 | 8ZC |
| CMSZ5250B | 19.00 | 20 | 21.00 | 6.2 | 25 | 600 | 0.25 | 0.1 | 15 | +0.086 | 1A8 |
| CMSZ5251B | 20.90 | 22 | 23.10 | 5.6 | 29 | 600 | 0.25 | 0.1 | 17 | +0.087 | 1B8 |
| CMSZ5252B | 22.80 | 24 | 25.20 | 5.2 | 33 | 600 | 0.25 | 0.1 | 18 | +0.088 | 1C8 |
| CMSZ5253B | 23.75 | 25 | 26.25 | 5.0 | 35 | 600 | 0.25 | 0.1 | 19 | +0.089 | 1D8 |
| CMSZ5254B | 25.65 | 27 | 28.35 | 4.6 | 41 | 600 | 0.25 | 0.1 | 21 | +0.090 | 1E8 |
| CMSZ5255B | 26.60 | 28 | 29.40 | 4.5 | 44 | 600 | 0.25 | 0.1 | 21 | +0.091 | 1F8 |
| CMSZ5256B | 28.50 | 30 | 31.60 | 4.2 | 49 | 600 | 0.25 | 0.1 | 23 | +0.091 | 1G8 |
| CMSZ5257B | 31.35 | 33 | 34.65 | 3.8 | 58 | 700 | 0.25 | 0.1 | 25 | +0.092 | 1H8 |
| CMSZ5258B | 34.20 | 36 | 37.80 | 3.4 | 70 | 700 | 0.25 | 0.1 | 27 | +0.093 | 1J8 |
| CMSZ5259B | 37.05 | 39 | 40.95 | 3.2 | 80 | 800 | 0.25 | 0.1 | 30 | +0.094 | 1K8 |
| CMSZ5260B | 40.85 | 43 | 45.15 | 3.0 | 93 | 900 | 0.25 | 0.1 | 33 | +0.095 | 1L8 |
| CMSZ5261B | 44.65 | 47 | 49.35 | 2.7 | 105 | 1000 | 0.25 | 0.1 | 36 | +0.095 | 1M8 |

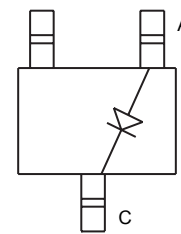
SOT-323 CASE - MECHANICAL OUTLINE



| SYMBOL | DIMENSIONS | | | |
|--------|------------|-------|-------------|------|
| | INCHES | | MILLIMETERS | |
| A | 0.004 | 0.008 | 0.10 | 0.20 |
| B | 0.004 | - | 0.10 | - |
| C | 0.004 | 0.008 | 0.10 | 0.20 |
| D | - | 0.004 | - | 0.10 |
| E | 0.031 | 0.043 | 0.80 | 1.10 |
| F | 0.071 | 0.087 | 1.80 | 2.20 |
| G | 0.051 | | 1.30 | |
| H | 0.026 | | 0.65 | |
| I | 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: R1)

NO CONNECTION



LEAD CODE:

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

R1 (26-September 2002)