

**CMKZ5221B THRU CMKZ5261B**  
**SURFACE MOUNT ULTRAmi™**  
**TRIPLE ISOLATED**  
**SILICON ZENER DIODE**  
**5% TOLERANCE**

**ULTRAmi™**



**SOT-363 CASE**

**Central™**  
**Semiconductor Corp.**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMKZ5221B Series contains three (3) isolated Silicon Zener Diodes packaged in an ULTRAmi™ SOT-363 surface mount case, designed 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:** ( $T_A=25^\circ\text{C}$ )

Power Dissipation  
 Operating and Storage Temperature  
 Thermal Resistance

**SYMBOL**

$P_D$  200  
 $T_J, T_{stg}$  -65 to +150  
 $\theta_{JA}$  625

**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.

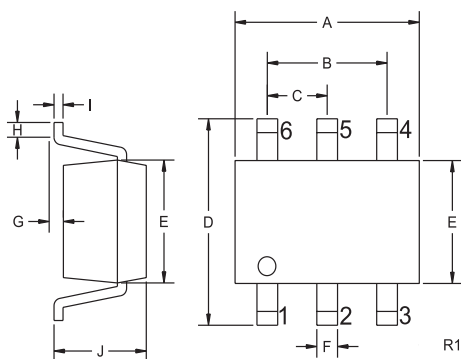
| TYPE      | ZENER VOLTAGE                    |       |       | TEST<br>CURRENT | MAXIMUM<br>ZENER IMPEDANCE        |                                   |      | MAXIMUM<br>REVERSE<br>CURRENT   |     | MAX.<br>TEMP.<br>COEFF. | MARK.<br>CODE |
|-----------|----------------------------------|-------|-------|-----------------|-----------------------------------|-----------------------------------|------|---------------------------------|-----|-------------------------|---------------|
|           | V <sub>Z</sub> @ I <sub>ZT</sub> |       |       |                 | Z <sub>ZT</sub> @ I <sub>ZT</sub> | Z <sub>ZT</sub> @ I <sub>ZK</sub> |      | I <sub>R</sub> @ V <sub>R</sub> |     |                         |               |
|           | MIN                              | NOM   | MAX   |                 |                                   | Ω                                 | Ω    | mA                              | μA  |                         |               |
|           | VOLTS                            | VOLTS | VOLTS |                 |                                   | mA                                | Ω    | mA                              | μA  | VOLTS                   |               |
| CMKZ5221B | 2.280                            | 2.4   | 2.520 | 20              | 30                                | 1200                              | 0.25 | 100                             | 1.0 | -0.085                  | 8A1T          |
| CMKZ5222B | 2.375                            | 2.5   | 2.625 | 20              | 30                                | 1250                              | 0.25 | 100                             | 1.0 | -0.085                  | 8B1T          |
| CMKZ5223B | 2.565                            | 2.7   | 2.835 | 20              | 30                                | 1300                              | 0.25 | 75                              | 1.0 | -0.080                  | 8C1T          |
| CMKZ5224B | 2.660                            | 2.8   | 2.940 | 20              | 30                                | 1400                              | 0.25 | 75                              | 1.0 | -0.080                  | 8D1T          |
| CMKZ5225B | 2.850                            | 3.0   | 3.150 | 20              | 29                                | 1600                              | 0.25 | 50                              | 1.0 | -0.075                  | 8E1T          |
| CMKZ5226B | 3.135                            | 3.3   | 3.465 | 20              | 28                                | 1600                              | 0.25 | 25                              | 1.0 | -0.070                  | 8ACT          |
| CMKZ5227B | 3.420                            | 3.6   | 3.780 | 20              | 24                                | 1700                              | 0.25 | 15                              | 1.0 | -0.065                  | 8BCT          |
| CMKZ5228B | 3.705                            | 3.9   | 4.095 | 20              | 23                                | 1900                              | 0.25 | 10                              | 1.0 | -0.060                  | 8CCT          |
| CMKZ5229B | 4.085                            | 4.3   | 4.515 | 20              | 22                                | 2000                              | 0.25 | 5.0                             | 1.0 | ±0.055                  | 8DCT          |
| CMKZ5230B | 4.465                            | 4.7   | 4.935 | 20              | 19                                | 1900                              | 0.25 | 5.0                             | 2.0 | ±0.030                  | 8ECT          |
| CMKZ5231B | 4.845                            | 5.1   | 5.335 | 20              | 17                                | 1600                              | 0.25 | 5.0                             | 2.0 | ±0.030                  | 8FCT          |
| CMKZ5232B | 5.320                            | 5.6   | 5.880 | 20              | 11                                | 1600                              | 0.25 | 5.0                             | 3.0 | +0.038                  | 8GCT          |
| CMKZ5233B | 5.700                            | 6.0   | 6.300 | 20              | 7.0                               | 1600                              | 0.25 | 5.0                             | 3.5 | +0.038                  | 8HCT          |
| CMKZ5234B | 5.890                            | 6.2   | 6.510 | 20              | 7.0                               | 1000                              | 0.25 | 3.0                             | 4.0 | +0.045                  | 8JCT          |
| CMKZ5235B | 6.460                            | 6.8   | 7.140 | 20              | 5.0                               | 750                               | 0.25 | 3.0                             | 5.0 | +0.050                  | 8KCT          |
| CMKZ5236B | 7.125                            | 7.5   | 7.875 | 20              | 6.0                               | 500                               | 0.25 | 3.0                             | 6.0 | +0.058                  | 8LCT          |
| CMKZ5237B | 7.790                            | 8.2   | 8.610 | 20              | 8.0                               | 500                               | 0.25 | 3.0                             | 6.5 | +0.062                  | 8MCT          |
| CMKZ5238B | 8.265                            | 8.7   | 9.135 | 20              | 8.0                               | 600                               | 0.25 | 3.0                             | 6.5 | +0.065                  | 8NCT          |
| CMKZ5239B | 8.645                            | 9.1   | 9.555 | 20              | 10                                | 600                               | 0.25 | 3.0                             | 7.0 | +0.068                  | 8PCT          |

R0 (6-October 2004)

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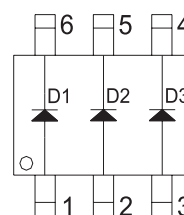
| TYPE      | ZENER VOLTAGE                    |              |              | TEST<br>CURRENT | MAXIMUM<br>ZENER IMPEDANCE        |                                        |                                        | MAXIMUM<br>REVERSE<br>CURRENT   |     | MAX.<br>TEMP.<br>COEFF. | MARK.<br>CODE |
|-----------|----------------------------------|--------------|--------------|-----------------|-----------------------------------|----------------------------------------|----------------------------------------|---------------------------------|-----|-------------------------|---------------|
|           | V <sub>Z</sub> @ I <sub>ZT</sub> |              |              |                 | Z <sub>ZT</sub> @ I <sub>ZT</sub> |                                        |                                        | I <sub>R</sub> @ V <sub>R</sub> |     |                         |               |
|           | MIN<br>VOLTS                     | NOM<br>VOLTS | MAX<br>VOLTS |                 | I <sub>ZT</sub><br>mA             | Z <sub>ZT</sub> @ I <sub>ZT</sub><br>Ω | Z <sub>ZT</sub> @ I <sub>ZK</sub><br>Ω | mA                              | μA  | VOLTS                   |               |
| CMKZ5240B | 9.500                            | 10           | 10.50        | 20              | 17                                | 600                                    | 0.25                                   | 3.0                             | 8.0 | +0.075                  | 8QCT          |
| CMKZ5241B | 10.45                            | 11           | 11.55        | 20              | 22                                | 600                                    | 0.25                                   | 2.0                             | 8.4 | +0.076                  | 8RCT          |
| CMKZ5242B | 11.40                            | 12           | 12.60        | 20              | 30                                | 600                                    | 0.25                                   | 1.0                             | 9.1 | +0.077                  | 8SCT          |
| CMKZ5243B | 12.35                            | 13           | 13.65        | 9.5             | 13                                | 600                                    | 0.25                                   | 0.5                             | 9.9 | +0.079                  | 8TCT          |
| CMKZ5244B | 13.30                            | 14           | 14.70        | 9.0             | 15                                | 600                                    | 0.25                                   | 0.1                             | 10  | +0.082                  | 8UCT          |
| CMKZ5245B | 14.25                            | 15           | 15.75        | 8.5             | 16                                | 600                                    | 0.25                                   | 0.1                             | 11  | +0.082                  | 8VCT          |
| CMKZ5246B | 15.20                            | 16           | 16.80        | 7.8             | 17                                | 600                                    | 0.25                                   | 0.1                             | 12  | +0.083                  | 8WCT          |
| CMKZ5247B | 16.15                            | 17           | 17.85        | 7.4             | 19                                | 600                                    | 0.25                                   | 0.1                             | 13  | +0.084                  | 8XCT          |
| CMKZ5248B | 17.10                            | 18           | 18.90        | 7.0             | 21                                | 600                                    | 0.25                                   | 0.1                             | 14  | +0.085                  | 8YCT          |
| CMKZ5249B | 18.05                            | 19           | 19.95        | 6.6             | 23                                | 600                                    | 0.25                                   | 0.1                             | 14  | +0.086                  | 8ZCT          |
| CMKZ5250B | 19.00                            | 20           | 21.00        | 6.2             | 25                                | 600                                    | 0.25                                   | 0.1                             | 15  | +0.086                  | 1A8T          |
| CMKZ5251B | 20.90                            | 22           | 23.10        | 5.6             | 29                                | 600                                    | 0.25                                   | 0.1                             | 17  | +0.087                  | 1B8T          |
| CMkZ5252B | 22.80                            | 24           | 25.20        | 5.2             | 33                                | 600                                    | 0.25                                   | 0.1                             | 18  | +0.088                  | 1C8T          |
| CMKZ5253B | 23.75                            | 25           | 26.25        | 5.0             | 35                                | 600                                    | 0.25                                   | 0.1                             | 19  | +0.089                  | 1D8T          |
| CMKZ5254B | 25.65                            | 27           | 28.35        | 4.6             | 41                                | 600                                    | 0.25                                   | 0.1                             | 21  | +0.090                  | 1E8T          |
| CMKZ5255B | 26.60                            | 28           | 29.40        | 4.5             | 44                                | 600                                    | 0.25                                   | 0.1                             | 21  | +0.091                  | 1F8T          |
| CMKZ5256B | 28.50                            | 30           | 31.60        | 4.2             | 49                                | 600                                    | 0.25                                   | 0.1                             | 23  | +0.091                  | 1G8T          |
| CMKZ5257B | 31.35                            | 33           | 34.65        | 3.8             | 58                                | 700                                    | 0.25                                   | 0.1                             | 25  | +0.092                  | 1H8T          |
| CMKZ5258B | 34.20                            | 36           | 37.80        | 3.4             | 70                                | 700                                    | 0.25                                   | 0.1                             | 27  | +0.093                  | 1J8T          |
| CMKZ5259B | 37.05                            | 39           | 40.95        | 3.2             | 80                                | 800                                    | 0.25                                   | 0.1                             | 30  | +0.094                  | 1K8T          |
| CMKZ5260B | 40.85                            | 43           | 45.15        | 3.0             | 93                                | 900                                    | 0.25                                   | 0.1                             | 33  | +0.095                  | 1L8T          |
| CMKZ5261B | 44.65                            | 47           | 49.35        | 2.7             | 105                               | 1000                                   | 0.25                                   | 0.1                             | 36  | +0.095                  | 1M8T          |

## SOT-363 CASE - MECHANICAL OUTLINE



| SYMBOL | INCHES |       | MILLIMETERS |      |
|--------|--------|-------|-------------|------|
|        | MIN    | MAX   | MIN         | MAX  |
| A      | 0.073  | 0.085 | 1.85        | 2.15 |
| B      | 0.051  |       | 1.30        |      |
| C      | 0.026  |       | 0.65        |      |
| D      | 0.075  | 0.091 | 1.90        | 2.30 |
| E      | 0.043  | 0.055 | 1.10        | 1.40 |
| F      | 0.006  | 0.012 | 0.15        | 0.30 |
| G      | 0.000  | 0.004 | 0.00        | 0.10 |
| H      | 0.010  | -     | 0.25        | -    |
| I      | 0.004  | 0.010 | 0.10        | 0.25 |
| J      | 0.031  | 0.039 | 0.80        | 1.00 |

SOT-363 (REV: R1)



### Lead Code

- 1) Anode D1
- 2) Anode D2
- 3) Anode D3
- 4) Cathode D3
- 5) Cathode D2
- 6) Cathode D1

R0 (6-October 2004)