

CMZ5334B THRU CMZ5388B

**SURFACE MOUNT SILICON
HIGH POWER ZENER DIODES
5.0 WATT, 3.6 THRU 200 VOLT
±5% TOLERANCE**



SMC CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMZ5334B series silicon Zener diodes are voltage regulators, manufactured in an epoxy molded surface mount package, and designed for use in industrial, commercial, entertainment and computer applications.

MARKING: SEE MARKING CODE ON ELECTRICAL CHARACTERISTICS TABLE

MAXIMUM RATINGS:

Power Dissipation ($T_L=50^\circ\text{C}$)
Power Dissipation ($T_L=100^\circ\text{C}$)
Power Dissipation ($T_A=25^\circ\text{C}$) (Note 1)
Operating Junction Temperature
Storage Temperature
Thermal Resistance
Thermal Resistance (Note 1)

SYMBOL

| SYMBOL | UNITS |
|---------------|--------------------|
| P_D | W |
| P_D | W |
| P_D | W |
| T_J | $^\circ\text{C}$ |
| T_{stg} | $^\circ\text{C}$ |
| θ_{JL} | $^\circ\text{C/W}$ |
| θ_{JA} | $^\circ\text{C/W}$ |

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$) $V_F=1.2\text{V MAX @ } I_F=1.0\text{A}$ (for all types)

| TYPE | ZENER VOLTAGE $V_Z @ I_{ZT}$ | | | TEST CURRENT I_{ZT} | MAXIMUM ZENER IMPEDANCE | | | MAXIMUM REVERSE CURRENT | | MAXIMUM SURGE CURRENT (Note 2) i_r | MAXIMUM REGULATOR CURRENT ($T_L=75^\circ\text{C}$) I_{ZM} | MARKING CODE |
|----------|---------------------------------|-----|-------|--------------------------|-------------------------|-------------------|---------------|-------------------------|------|--|---|--------------|
| | MIN | NOM | MAX | | $Z_{ZT} @ I_{ZT}$ | $Z_{ZK} @ I_{ZK}$ | $I_R @ V_R$ | | | | | |
| | V | V | V | | | | μA | V | | | | |
| CMZ5334B | 3.420 | 3.6 | 3.780 | 350 | 3.0 | 500 | 1.0 | 150 | 1.0 | 18.7 | 1320 | C5334B |
| CMZ5335B | 3.705 | 3.9 | 4.095 | 320 | 2.0 | 500 | 1.0 | 50 | 1.0 | 17.6 | 1220 | C5335B |
| CMZ5336B | 4.085 | 4.3 | 4.515 | 290 | 2.0 | 500 | 1.0 | 10 | 1.0 | 16.4 | 1100 | C5336B |
| CMZ5337B | 4.465 | 4.7 | 4.935 | 264 | 2.0 | 450 | 1.0 | 10 | 1.0 | 15.3 | 1010 | C5337B |
| CMZ5338B | 4.845 | 5.1 | 5.355 | 240 | 2.0 | 400 | 1.0 | 10 | 1.0 | 14.4 | 930 | C5338B |
| CMZ5339B | 5.320 | 5.6 | 5.880 | 220 | 1.0 | 400 | 1.0 | 10 | 2.0 | 13.4 | 865 | C5339B |
| CMZ5340B | 5.700 | 6.0 | 6.300 | 200 | 1.0 | 300 | 1.0 | 10 | 3.0 | 12.7 | 790 | C5340B |
| CMZ5342B | 6.460 | 6.8 | 7.140 | 175 | 1.0 | 200 | 1.0 | 100 | 5.2 | 11.5 | 700 | C5342B |
| CMZ5343B | 7.125 | 7.5 | 7.875 | 175 | 1.5 | 200 | 1.0 | 100 | 5.7 | 10.7 | 630 | C5343B |
| CMZ5344B | 7.790 | 8.2 | 8.610 | 150 | 1.5 | 200 | 1.0 | 100 | 6.2 | 10.0 | 580 | C5344B |
| CMZ5345B | 8.265 | 8.7 | 9.135 | 150 | 2.0 | 200 | 1.0 | 100 | 6.6 | 7.5 | 545 | C5345B |
| CMZ5346B | 8.645 | 9.1 | 9.555 | 150 | 2.0 | 150 | 1.0 | 7.5 | 6.9 | 9.2 | 520 | C5346B |
| CMZ5347B | 9.500 | 10 | 10.50 | 125 | 2.0 | 125 | 1.0 | 5.0 | 7.6 | 8.6 | 475 | C5347B |
| CMZ5348B | 10.45 | 11 | 11.55 | 125 | 2.5 | 125 | 1.0 | 5.0 | 8.4 | 8.0 | 430 | C5348B |
| CMZ5349B | 11.40 | 12 | 12.60 | 100 | 2.5 | 125 | 1.0 | 2.0 | 9.1 | 7.5 | 395 | C5349B |
| CMZ5350B | 12.35 | 13 | 13.65 | 100 | 2.5 | 100 | 1.0 | 1.0 | 9.9 | 7.0 | 365 | C5350B |
| CMZ5351B | 13.30 | 14 | 14.70 | 100 | 2.5 | 75 | 1.0 | 1.0 | 10.6 | 6.7 | 340 | C5351B |
| CMZ5352B | 14.25 | 15 | 15.75 | 75 | 2.5 | 75 | 1.0 | 1.0 | 11.5 | 6.3 | 315 | C5352B |
| CMZ5353B | 15.20 | 16 | 16.80 | 75 | 2.5 | 75 | 1.0 | 1.0 | 12.2 | 6.0 | 295 | C5353B |
| CMZ5354B | 16.15 | 17 | 17.85 | 70 | 2.5 | 75 | 1.0 | 0.5 | 12.9 | 5.8 | 280 | C5354B |
| CMZ5355B | 17.10 | 18 | 18.90 | 65 | 2.5 | 75 | 1.0 | 0.5 | 13.7 | 5.5 | 264 | C5355B |
| CMZ5356B | 18.05 | 19 | 19.95 | 65 | 3.0 | 75 | 1.0 | 0.5 | 14.4 | 5.3 | 250 | C5356B |
| CMZ5357B | 19.00 | 20 | 21.00 | 65 | 3.0 | 75 | 1.0 | 0.5 | 15.2 | 5.1 | 237 | C5357B |
| CMZ5358B | 20.90 | 22 | 23.10 | 50 | 3.5 | 75 | 1.0 | 0.5 | 16.7 | 4.7 | 216 | C5358B |

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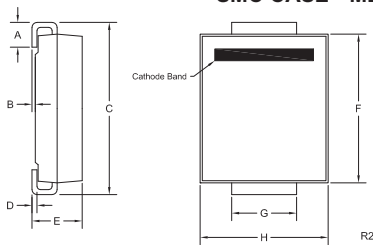
ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^{\circ}C$) $V_F=1.2V$ MAX @ $I_F=1.0A$ (for all types)

| TYPE | ZENER VOLTAGE $V_Z @ I_{ZT}$ | | | TEST CURRENT I_{ZT} | MAXIMUM ZENER IMPEDANCE | | | MAXIMUM REVERSE CURRENT | | MAXIMUM SURGE CURRENT (Note 2) I_T | MAXIMUM REGULATOR CURRENT ($T_L=75^{\circ}C$) I_{ZM} | MARKING CODE |
|----------|---------------------------------|-----|-------|--------------------------|-------------------------|-------------------|-----|-------------------------|------|--|--|--------------|
| | MIN | NOM | MAX | | $Z_{ZT} @ I_{ZT}$ | $Z_{ZK} @ I_{ZK}$ | | $I_R @ V_R$ | | | | |
| | V | V | V | | Ω | Ω | mA | μA | V | | | |
| CMZ5359B | 22.80 | 24 | 25.20 | 50 | 3.5 | 100 | 1.0 | 0.5 | 18.2 | 4.4 | 198 | C5359B |
| CMZ5360B | 23.75 | 25 | 26.25 | 50 | 4.0 | 110 | 1.0 | 0.5 | 19.0 | 4.3 | 190 | C5360B |
| CMZ5361B | 25.65 | 27 | 28.35 | 50 | 5.0 | 120 | 1.0 | 0.5 | 20.6 | 4.1 | 176 | C5361B |
| CMZ5362B | 26.60 | 28 | 29.40 | 50 | 6.0 | 130 | 1.0 | 0.5 | 21.2 | 3.9 | 170 | C5362B |
| CMZ5363B | 28.50 | 30 | 31.50 | 40 | 8.0 | 140 | 1.0 | 0.5 | 22.8 | 3.7 | 158 | C5363B |
| CMZ5364B | 31.35 | 33 | 34.65 | 40 | 10 | 150 | 1.0 | 0.5 | 25.1 | 3.5 | 144 | C5364B |
| CMZ5365B | 34.20 | 36 | 37.80 | 30 | 11 | 160 | 1.0 | 0.5 | 27.4 | 3.3 | 132 | C5365B |
| CMZ5366B | 37.05 | 39 | 40.95 | 30 | 14 | 170 | 1.0 | 0.5 | 29.7 | 3.1 | 122 | C5366B |
| CMZ5367B | 40.85 | 43 | 45.15 | 30 | 20 | 190 | 1.0 | 0.5 | 32.7 | 2.8 | 110 | C5367B |
| CMZ5368B | 44.65 | 47 | 49.35 | 25 | 25 | 210 | 1.0 | 0.5 | 35.8 | 2.7 | 100 | C5368B |
| CMZ5369B | 48.45 | 51 | 53.55 | 25 | 27 | 230 | 1.0 | 0.5 | 38.8 | 2.5 | 93.0 | C5369B |
| CMZ5370B | 53.20 | 56 | 58.80 | 20 | 35 | 280 | 1.0 | 0.5 | 42.6 | 2.3 | 86.0 | C5370B |
| CMZ5371B | 57.00 | 60 | 63.00 | 20 | 40 | 350 | 1.0 | 0.5 | 45.5 | 2.2 | 79.0 | C5371B |
| CMZ5372B | 58.90 | 62 | 65.10 | 20 | 42 | 400 | 1.0 | 0.5 | 47.1 | 2.1 | 76.0 | C5372B |
| CMZ5373B | 64.60 | 68 | 71.40 | 20 | 44 | 500 | 1.0 | 0.5 | 51.7 | 2.0 | 70.0 | C5373B |
| CMZ5374B | 71.25 | 75 | 78.75 | 20 | 45 | 620 | 1.0 | 0.5 | 56.0 | 1.9 | 63.0 | C5374B |
| CMZ5375B | 77.90 | 82 | 86.10 | 15 | 65 | 720 | 1.0 | 0.5 | 62.2 | 1.8 | 58.0 | C5375B |
| CMZ5376B | 82.65 | 87 | 91.35 | 15 | 75 | 760 | 1.0 | 0.5 | 66.0 | 1.7 | 54.5 | C5376B |
| CMZ5377B | 86.45 | 91 | 95.55 | 15 | 75 | 760 | 1.0 | 0.5 | 69.2 | 1.6 | 52.5 | C5377B |
| CMZ5378B | 95.00 | 100 | 105.0 | 12 | 90 | 800 | 1.0 | 0.5 | 76.0 | 1.5 | 47.5 | C5378B |
| CMZ5379B | 104.5 | 110 | 115.5 | 12 | 125 | 1000 | 1.0 | 0.5 | 83.6 | 1.4 | 43.0 | C5379B |
| CMZ5380B | 114.0 | 120 | 126.0 | 10 | 170 | 1150 | 1.0 | 0.5 | 91.2 | 1.3 | 39.5 | C5380B |
| CMZ5381B | 123.5 | 130 | 136.5 | 10 | 190 | 1250 | 1.0 | 0.5 | 98.8 | 1.2 | 36.6 | C5381B |
| CMZ5382B | 133.0 | 140 | 147.0 | 8.0 | 230 | 1500 | 1.0 | 0.5 | 106 | 1.2 | 34.0 | C5382B |
| CMZ5383B | 142.5 | 150 | 157.5 | 8.0 | 330 | 1500 | 1.0 | 0.5 | 114 | 1.1 | 31.6 | C5383B |
| CMZ5384B | 152.0 | 160 | 168.0 | 8.0 | 350 | 1650 | 1.0 | 0.5 | 122 | 1.1 | 29.4 | C5384B |
| CMZ5385B | 161.5 | 170 | 178.5 | 8.0 | 380 | 1750 | 1.0 | 0.5 | 129 | 1.0 | 28.0 | C5385B |
| CMZ5386B | 171.0 | 180 | 189.0 | 5.0 | 430 | 1750 | 1.0 | 0.5 | 137 | 1.0 | 26.4 | C5386B |
| CMZ5387B | 180.5 | 190 | 199.5 | 5.0 | 450 | 1850 | 1.0 | 0.5 | 144 | 0.9 | 25.0 | C5387B |
| CMZ5388B | 190.0 | 200 | 210.0 | 5.0 | 480 | 1850 | 1.0 | 0.5 | 152 | 0.9 | 23.6 | C5388B |

Notes: (1) Mounted on 2 inch square FR-4 PCB with minimum recommended SMC copper pad area.

(2) Surge Current (i_T) - Maximum allowable peak, non-recurrent square wave current ($t_p=8.3ms$).

SMC CASE - MECHANICAL OUTLINE



| SYMBOL | DIMENSIONS | | | |
|--------|------------|-------|-------------|------|
| | INCHES | | MILLIMETERS | |
| A | 0.030 | 0.060 | 0.76 | 1.52 |
| B | 0.002 | 0.008 | 0.05 | 0.20 |
| C | 0.305 | 0.320 | 7.75 | 8.13 |
| D | 0.006 | 0.012 | 0.15 | 0.31 |
| E | 0.079 | 0.103 | 2.00 | 2.62 |
| F | 0.260 | 0.280 | 6.60 | 7.11 |
| G | 0.108 | 0.128 | 2.75 | 3.25 |
| H | 0.220 | 0.245 | 5.59 | 6.22 |

SMC (REV: R2)

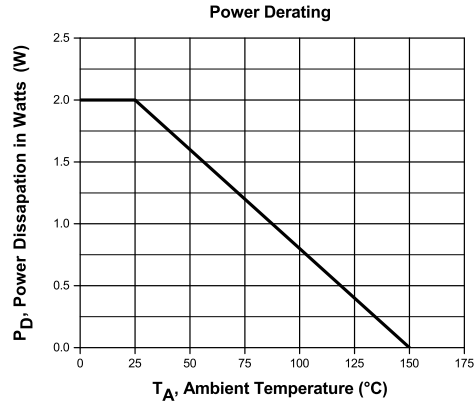
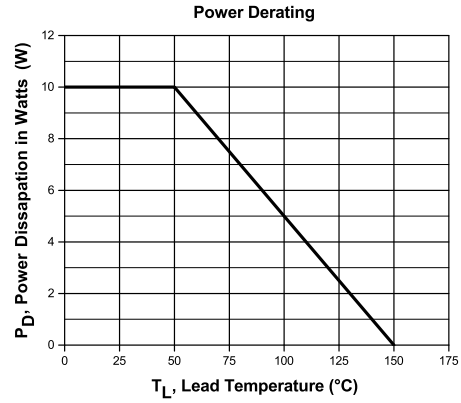
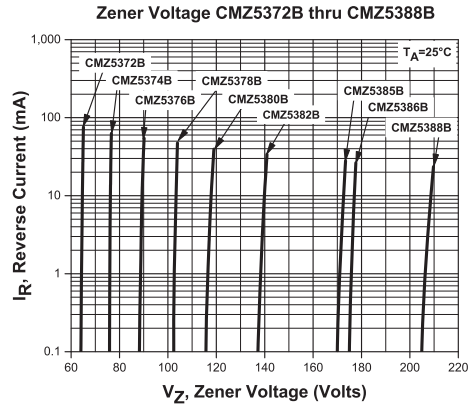
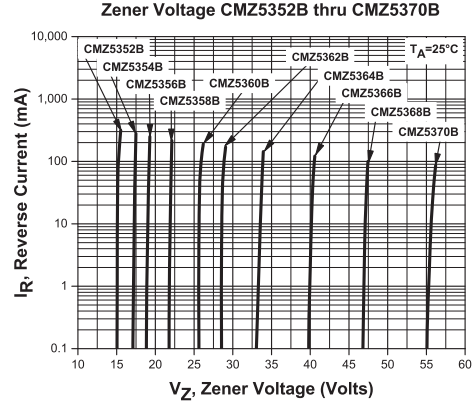
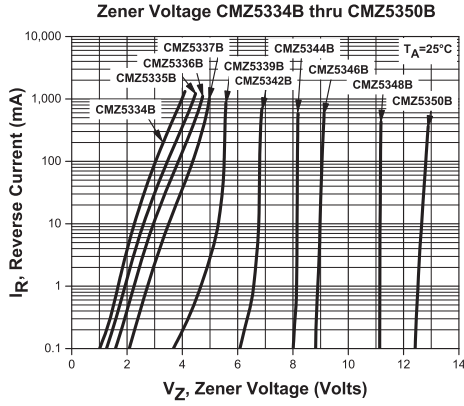
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TYPICAL ELECTRICAL CHARACTERISTICS



Note: Mounted on 2 inch square FR-4 PCB with minimum recommended SMC copper pad area.

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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

CONTACT US

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