

CZ5334B THRU CZ5388B

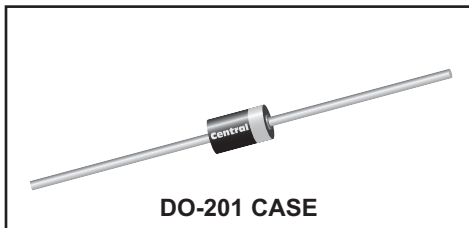
SILICON ZENER DIODES
3.3 THRU 200 VOLT
5W, 5% TOLERANCE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZ5334B series silicon Zener diodes are high quality voltage regulators designed for use in industrial, commercial, entertainment, and computer applications.



DO-201 CASE

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: ($T_L=75^\circ\text{C}$)

Power Dissipation (Note 1)

Operating and Storage Junction Temperature

V_Z Tolerance: Part number with "B" suffix

V_Z Tolerance: Part number with "C" suffix

V_Z Tolerance: Part number with "D" suffix

SYMBOL

| | |
|----------------|-------------|
| P_D | 5.0 |
| T_J, T_{stg} | -65 to +200 |
| | ± 5 |
| | ± 2 |
| | ± 1 |

UNITS

| |
|------------------|
| W |
| $^\circ\text{C}$ |
| % |
| % |
| % |

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} mA | Maximum Zener Impedance | | | Maximum Reverse Current | | Maximum Surge Current (Note 2) i_r A | Maximum Voltage Regulation (Note 3) ΔV_Z V | Maximum Regulator Current I_{ZM} mA |
|---------|---------------------------------|-----|-------|--------------------------------|-------------------------|-------------------|-------------|-------------------------|------|---|---|---|
| | MIN | NOM | MAX | | $Z_{ZT} @ I_{ZT}$ | $Z_{ZK} @ I_{ZK}$ | $I_R @ V_R$ | | | | | |
| | V | V | V | | Ω | Ω mA | | | | | | |
| CZ5334B | 3.420 | 3.6 | 3.780 | 350 | 2.5 | 500 | 1.0 | 150 | 1.0 | 18.7 | 0.80 | 1320 |
| CZ5335B | 3.705 | 3.9 | 4.095 | 320 | 2.0 | 500 | 1.0 | 50 | 1.0 | 17.6 | 0.54 | 1220 |
| CZ5336B | 4.085 | 4.3 | 4.515 | 290 | 2.0 | 500 | 1.0 | 10 | 1.0 | 16.4 | 0.49 | 1100 |
| CZ5337B | 4.465 | 4.7 | 4.935 | 260 | 2.0 | 450 | 1.0 | 10 | 1.0 | 15.3 | 0.44 | 1010 |
| CZ5338B | 4.845 | 5.1 | 5.355 | 240 | 1.5 | 400 | 1.0 | 10 | 1.0 | 14.4 | 0.39 | 930 |
| CZ5339B | 5.320 | 5.6 | 5.880 | 220 | 1.0 | 400 | 1.0 | 10 | 2.0 | 13.4 | 0.25 | 865 |
| CZ5340B | 5.700 | 6.0 | 6.300 | 200 | 1.0 | 300 | 1.0 | 10 | 3.0 | 12.7 | 0.25 | 790 |
| CZ5341B | 5.890 | 6.2 | 6.510 | 200 | 1.0 | 200 | 1.0 | 10 | 3.0 | 12.4 | 0.25 | 765 |
| CZ5342B | 6.460 | 6.8 | 7.140 | 175 | 1.0 | 200 | 1.0 | 100 | 5.2 | 11.5 | 0.25 | 700 |
| CZ5343B | 7.125 | 7.5 | 7.875 | 175 | 1.5 | 200 | 1.0 | 100 | 5.7 | 10.7 | 0.25 | 630 |
| CZ5344B | 7.790 | 8.2 | 8.610 | 150 | 1.5 | 200 | 1.0 | 100 | 6.2 | 10.0 | 0.20 | 580 |
| CZ5345B | 8.265 | 8.7 | 9.135 | 150 | 2.0 | 200 | 1.0 | 100 | 6.6 | 7.5 | 0.20 | 545 |
| CZ5346B | 8.645 | 9.1 | 9.555 | 150 | 2.0 | 150 | 1.0 | 7.5 | 6.9 | 9.2 | 0.22 | 520 |
| CZ5347B | 9.500 | 10 | 10.50 | 125 | 2.0 | 125 | 1.0 | 5.0 | 7.6 | 8.6 | 0.22 | 475 |
| CZ5348B | 10.45 | 11 | 11.55 | 125 | 2.5 | 125 | 1.0 | 5.0 | 8.4 | 8.0 | 0.25 | 430 |
| CZ5349B | 11.40 | 12 | 12.60 | 100 | 2.5 | 125 | 1.0 | 2.0 | 9.1 | 7.5 | 0.25 | 395 |
| CZ5350B | 12.35 | 13 | 13.65 | 100 | 2.5 | 100 | 1.0 | 1.0 | 9.9 | 7.0 | 0.25 | 365 |
| CZ5351B | 13.30 | 14 | 14.70 | 100 | 2.5 | 75 | 1.0 | 1.0 | 10.6 | 6.7 | 0.25 | 340 |
| CZ5352B | 14.25 | 15 | 15.75 | 75 | 2.5 | 75 | 1.0 | 1.0 | 11.5 | 6.3 | 0.25 | 315 |
| CZ5353B | 15.20 | 16 | 16.80 | 75 | 2.5 | 75 | 1.0 | 1.0 | 12.2 | 6.0 | 0.30 | 295 |
| CZ5354B | 16.15 | 17 | 17.85 | 70 | 2.5 | 75 | 1.0 | 0.5 | 12.9 | 5.8 | 0.35 | 280 |
| CZ5355B | 17.10 | 18 | 18.90 | 65 | 2.5 | 75 | 1.0 | 0.5 | 13.7 | 5.5 | 0.40 | 264 |
| CZ5356B | 18.05 | 19 | 19.95 | 65 | 3.0 | 75 | 1.0 | 0.5 | 14.4 | 5.3 | 0.40 | 250 |
| CZ5357B | 19.00 | 20 | 21.00 | 65 | 3.0 | 75 | 1.0 | 0.5 | 15.2 | 5.1 | 0.40 | 237 |
| CZ5358B | 20.90 | 22 | 23.10 | 50 | 3.5 | 75 | 1.0 | 0.5 | 16.7 | 4.7 | 0.45 | 216 |
| CZ5359B | 22.80 | 24 | 25.20 | 50 | 3.5 | 100 | 1.0 | 0.5 | 18.2 | 4.4 | 0.55 | 198 |

CZ5334B THRU CZ5388B

SILICON ZENER DIODES
3.3 THRU 200 VOLT
5W, 5% TOLERANCE



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

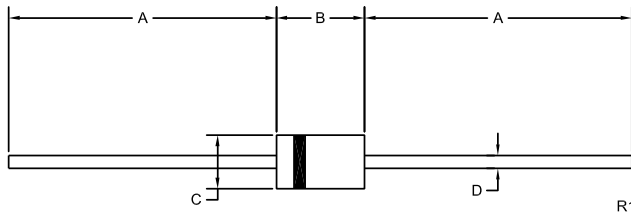
| Type | Zener Voltage V_Z @ I_{ZT} | | | Test Current | Maximum Zener Impedance | | | Maximum Reverse Current | | Maximum Surge Current (Note 2) | Maximum Voltage Regulation (Note 3) | Maximum Regulator Current |
|---------|--------------------------------|-----|-------|--------------|-------------------------|---------------------|---------------------|-------------------------|---------------|--------------------------------|-------------------------------------|---------------------------|
| | MIN | NOM | MAX | | I_{ZT} | Z_{ZT} @ I_{ZT} | Z_{ZK} @ I_{ZK} | | I_R @ V_R | | | |
| | V | V | V | mA | Ω | Ω | mA | μA | V | A | V | mA |
| CZ5360B | 23.75 | 25 | 26.25 | 50 | 4.0 | 110 | 1.0 | 0.5 | 19.0 | 4.3 | 0.55 | 190 |
| CZ5361B | 25.65 | 27 | 28.35 | 50 | 5.0 | 120 | 1.0 | 0.5 | 20.6 | 4.1 | 0.60 | 176 |
| CZ5362B | 26.60 | 28 | 29.40 | 50 | 6.0 | 130 | 1.0 | 0.5 | 21.2 | 3.9 | 0.60 | 170 |
| CZ5363B | 28.50 | 30 | 31.50 | 40 | 8.0 | 140 | 1.0 | 0.5 | 22.8 | 3.7 | 0.60 | 158 |
| CZ5364B | 31.35 | 33 | 34.65 | 40 | 10 | 150 | 1.0 | 0.5 | 25.1 | 3.5 | 0.65 | 144 |
| CZ5365B | 34.20 | 36 | 37.80 | 30 | 11 | 160 | 1.0 | 0.5 | 27.4 | 3.3 | 0.65 | 132 |
| CZ5366B | 37.05 | 39 | 40.95 | 30 | 14 | 170 | 1.0 | 0.5 | 29.7 | 3.1 | 0.65 | 122 |
| CZ5367B | 40.85 | 43 | 45.15 | 30 | 20 | 190 | 1.0 | 0.5 | 32.7 | 2.8 | 0.70 | 110 |
| CZ5368B | 44.65 | 47 | 49.35 | 25 | 25 | 210 | 1.0 | 0.5 | 35.8 | 2.7 | 0.80 | 100 |
| CZ5369B | 48.45 | 51 | 53.55 | 25 | 27 | 230 | 1.0 | 0.5 | 38.8 | 2.5 | 0.90 | 93.0 |
| CZ5370B | 53.20 | 56 | 58.80 | 20 | 35 | 280 | 1.0 | 0.5 | 42.6 | 2.3 | 1.00 | 86.0 |
| CZ5371B | 57.00 | 60 | 63.00 | 20 | 40 | 350 | 1.0 | 0.5 | 45.5 | 2.2 | 1.20 | 79.0 |
| CZ5372B | 58.90 | 62 | 65.10 | 20 | 42 | 400 | 1.0 | 0.5 | 47.1 | 2.1 | 1.35 | 76.0 |
| CZ5373B | 64.60 | 68 | 71.40 | 20 | 44 | 500 | 1.0 | 0.5 | 51.7 | 2.0 | 1.50 | 70.0 |
| CZ5374B | 71.25 | 75 | 78.75 | 20 | 45 | 620 | 1.0 | 0.5 | 56.0 | 1.9 | 1.60 | 63.0 |
| CZ5375B | 77.90 | 82 | 86.10 | 15 | 65 | 720 | 1.0 | 0.5 | 62.2 | 1.8 | 1.80 | 58.0 |
| CZ5376B | 82.65 | 87 | 91.35 | 15 | 75 | 760 | 1.0 | 0.5 | 66.0 | 1.7 | 2.00 | 54.5 |
| CZ5377B | 86.45 | 91 | 95.55 | 15 | 75 | 760 | 1.0 | 0.5 | 69.2 | 1.6 | 2.20 | 52.5 |
| CZ5378B | 95.00 | 100 | 105.0 | 12 | 90 | 800 | 1.0 | 0.5 | 76.0 | 1.5 | 2.50 | 47.5 |
| CZ5379B | 104.5 | 110 | 115.5 | 12 | 125 | 1000 | 1.0 | 0.5 | 83.6 | 1.4 | 2.50 | 43.0 |
| CZ5380B | 114.0 | 120 | 126.0 | 10 | 170 | 1150 | 1.0 | 0.5 | 91.2 | 1.3 | 2.50 | 39.5 |
| CZ5381B | 123.5 | 130 | 136.5 | 10 | 190 | 1250 | 1.0 | 0.5 | 98.8 | 1.2 | 2.50 | 36.6 |
| CZ5382B | 133.0 | 140 | 147.0 | 8.0 | 230 | 1500 | 1.0 | 0.5 | 106 | 1.2 | 2.50 | 34.0 |
| CZ5383B | 142.5 | 150 | 157.5 | 8.0 | 330 | 1500 | 1.0 | 0.5 | 114 | 1.1 | 3.00 | 31.6 |
| CZ5384B | 152.0 | 160 | 168.0 | 8.0 | 350 | 1650 | 1.0 | 0.5 | 122 | 1.1 | 3.00 | 29.4 |
| CZ5385B | 161.5 | 170 | 178.5 | 8.0 | 380 | 1750 | 1.0 | 0.5 | 129 | 1.0 | 3.00 | 28.0 |
| CZ5386B | 171.0 | 180 | 189.0 | 5.0 | 430 | 1750 | 1.0 | 0.5 | 137 | 1.0 | 4.00 | 26.4 |
| CZ5387B | 180.5 | 190 | 199.5 | 5.0 | 450 | 1850 | 1.0 | 0.5 | 144 | 0.9 | 5.00 | 25.0 |
| CZ5388B | 190.0 | 200 | 210.0 | 5.0 | 480 | 1850 | 1.0 | 0.5 | 152 | 0.9 | 5.00 | 23.6 |

Notes: (1) Mounted on 8.0mm² copper pads to each terminal. Measure at zero lead length. Derate above 75°C.

(2) Surge current (i_r) - Maximum allowable peak, non-recurrent square wave current (PW=8.3ms).

(3) Voltage regulation (ΔV_Z) - V_Z measurements are made at 10% and then at 50% of the I_Z MAX value listed in the electrical characteristics table. The test current time duration for each V_Z measurement is 380 μs ($T_A=25^\circ\text{C}$).

DO-201 CASE - MECHANICAL OUTLINE



| SYMBOL | DIMENSIONS | | | |
|--------|------------|-------|-------------|------|
| | INCHES | | MILLIMETERS | |
| A | 1.000 | - | 25.40 | - |
| B | 0.285 | 0.375 | 7.24 | 9.53 |
| C | 0.188 | 0.210 | 4.78 | 5.33 |
| D | 0.037 | 0.042 | 0.94 | 1.07 |

DO-201(REV: R1)

MARKING: FULL PART NUMBER

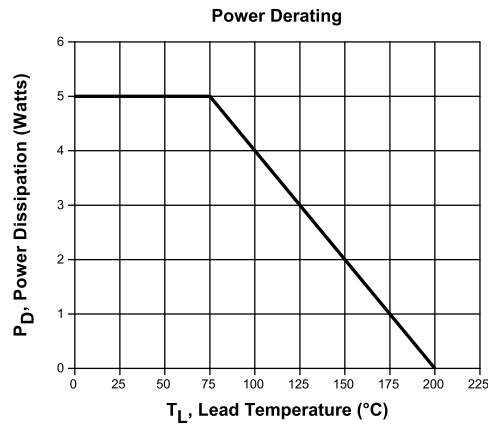
R9 (15-December 2016)

CZ5334B THRU CZ5388B

SILICON ZENER DIODES
3.3 THRU 200 VOLT
5W, 5% TOLERANCE



TYPICAL ELECTRICAL CHARACTERISTICS



R9 (15-December 2016)

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

Corporate Headquarters & Customer Support Team

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Hauppauge, NY 11788 USA
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Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centalsemi.com

Worldwide Field Representatives:
www.centalsemi.com/wwreps

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For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: www.centalsemi.com/terms

Product End of Life Notification

| | |
|---------------------------|----------|
| PDN ID: | PDN01100 |
| Notification Date: | 7/20/18 |
| Last Buy Date: | 1/20/19 |
| Last Shipment Date | 7/20/19 |

Summary: All extreme low and high voltage Zener diodes in the DO-201 package are discontinued and now classified as End of Life (EOL).

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by other manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's ongoing Product Management Process. Any replacement products are noted below. The effective date for placing last purchase orders will be six (6) months from the date of this notice and twelve (12) months from the notice date for final shipments, and minimum order quantities may apply. The last purchase and shipment dates may be extended if inventory is available.

| <u>Central Part Number</u> | <u>Replacement</u> |
|----------------------------|--------------------|
| CZ5334B BK | N/A |
| CZ5334B TR | N/A |
| CZ5335B BK | N/A |
| CZ5335B TR | N/A |
| CZ5336B BK | N/A |
| CZ5336B TR | N/A |
| CZ5337B BK | N/A |
| CZ5337B TR | N/A |
| CZ5337C TR | N/A |
| CZ5337D TR | N/A |
| CZ5374B BK | N/A |
| CZ5374B TR | N/A |
| CZ5375B BK | N/A |
| CZ5375B TR | N/A |
| CZ5376B BK | N/A |
| CZ5376B TR | N/A |
| CZ5377B BK | N/A |
| CZ5377B TR | N/A |
| CZ5378B BK | N/A |
| CZ5378B TR | N/A |
| CZ5379B BK | N/A |
| CZ5379B TR | N/A |
| CZ5380B BK | N/A |
| CZ5380B TR | N/A |
| CZ5381B BK | N/A |
| CZ5381B TR | N/A |
| CZ5382B BK | N/A |
| CZ5382B TR | N/A |
| CZ5383B BK | N/A |
| CZ5383B TR | N/A |
| CZ5384B BK | N/A |
| CZ5384B TR | N/A |
| CZ5384C BK | N/A |
| CZ5385B BK | N/A |
| CZ5385B TR | N/A |
| CZ5386B BK | N/A |
| CZ5386B TR | N/A |

*** CONTINUED ***

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.



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Product End of Life Notification

| | |
|---------------------------|----------|
| PDN ID: | PDN01100 |
| Notification Date: | 7/20/18 |
| Last Buy Date: | 1/20/19 |
| Last Shipment Date | 7/20/19 |

*** CONTINUED FROM PRIOR PAGE ***

| <u>Central Part Number</u> | <u>Replacement</u> |
|----------------------------|--------------------|
| CZ5386C BK | N/A |
| CZ5387B BK | N/A |
| CZ5387B TR | N/A |
| CZ5388B BK | N/A |
| CZ5388B TR | N/A |
| CZ5388D BK | N/A |

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. Please email your requests to engineering@centrasemi.com.

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