

**CMZ5913B THRU CMZ5956B  
SURFACE MOUNT SILICON  
ZENER DIODES  
1.5 WATT, 3.3 THRU 200 VOLT  
± 5% TOLERANCE**



www.centrasemi.com



**SMA CASE**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMZ5913B series 1.5 Watt surface mount silicon Zener diodes are highly reliable components designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications where small size is required. The SMA case occupies 30% less board space than the SMB case.

**MARKING: SEE MARKING CODE ON ELECTRICAL CHARACTERISTIC TABLE**

**FEATURES:**

- Super miniature case
- 200 Watts of TVS power
- ± 5% Tolerance
- High reliability
- "C" bend construction provides strain relief when mounted on pc board

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

|  | SYMBOL         | UNITS                        |
|--|----------------|------------------------------|
| Peak Forward Surge Current, $t_p=8.3\text{ms}$                                       | $I_{FSM}$      | 20 A                         |
| Power Dissipation ( $T_L=75^\circ\text{C}$ )   | $P_D$          | 1.5 W                        |
| Power Dissipation (Note 1)   | $P_D$          | 0.5 W                        |
| Peak Power Dissipation, $t_p=10 \times 1000\mu\text{s}$ ( $T_L < 25^\circ\text{C}$ ) | $P_{PK}$       | 200 W                        |
| Peak Power Dissipation, $t_p=8 \times 20\mu\text{s}$ ( $T_L < 25^\circ\text{C}$ )    | $P_{PK}$       | 1000 W                       |
| Operating and Storage Junction Temperature   | $T_J, T_{stg}$ | -65 to +150 $^\circ\text{C}$ |
| Thermal Resistance   | $\Theta_{JL}$  | 50 $^\circ\text{C/W}$        |
| Thermal Resistance (Note 1)  | $\Theta_{JA}$  | 250 $^\circ\text{C/W}$       |

Note 1: Mounted on 2 inch square FR-4 PCB with minimum recommended SMA copper pad area.

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$ )  $V_F=1.5\text{V MAX @ } I_F=200\text{mA}$  (for all types)

| TYPE      | ZENER VOLTAGE<br>$V_Z @ I_{ZT}$ |     |       | TEST CURRENT<br>$I_{ZT}$ | MAXIMUM ZENER IMPEDANCE |                   |             | MAXIMUM REVERSE CURRENT |               | MAXIMUM ZENER CURRENT<br>( $T_L=75^\circ\text{C}$ )<br>$I_{ZM}$ | MARKING CODE |
|-----------|---------------------------------|-----|-------|--------------------------|-------------------------|-------------------|-------------|-------------------------|---------------|---|--------------|
|           | MIN                             | NOM | MAX   |                          | $Z_{ZT} @ I_{ZT}$       | $Z_{ZK} @ I_{ZK}$ | $I_R @ V_R$ |                         |               |   |              |
|           | V                               | V   | V     |                          | mA                      | $\Omega$          | $\Omega$    | mA                      | $\mu\text{A}$ |   |              |
| CMZ5913B* | 3.135                           | 3.3 | 3.465 | 113.6                    | 10                      | 500               | 1.0         | 100                     | 1.0           | 454   | C5913B       |
| CMZ5914B* | 3.420                           | 3.6 | 3.780 | 104.2                    | 9.0                     | 500               | 1.0         | 75                      | 1.0           | 416   | C5914B       |
| CMZ5915B* | 3.705                           | 3.9 | 4.095 | 96.1                     | 7.5                     | 500               | 1.0         | 25                      | 1.0           | 384   | C5915B       |
| CMZ5916B* | 4.085                           | 4.3 | 4.515 | 87.2                     | 6.0                     | 500               | 1.0         | 5.0                     | 1.0           | 348   | C5916B       |
| CMZ5917B* | 4.465                           | 4.7 | 4.935 | 79.8                     | 5.0                     | 500               | 1.0         | 5.0                     | 1.5           | 319   | C5917B       |
| CMZ5918B* | 4.845                           | 5.1 | 5.355 | 73.5                     | 4.0                     | 350               | 1.0         | 5.0                     | 2.0           | 294   | C5918B       |
| CMZ5919B  | 5.320                           | 5.6 | 5.880 | 66.9                     | 2.0                     | 250               | 1.0         | 5.0                     | 3.0           | 267   | C5919B       |
| CMZ5920B  | 5.890                           | 6.2 | 6.510 | 60.5                     | 2.0                     | 200               | 1.0         | 5.0                     | 4.0           | 241   | C5920B       |
| CMZ5921B  | 6.460                           | 6.8 | 7.140 | 55.1                     | 2.5                     | 200               | 1.0         | 5.0                     | 5.2           | 221   | C5921B       |
| CMZ5922B  | 7.125                           | 7.5 | 7.875 | 50.0                     | 3.0                     | 400               | 0.5         | 5.0                     | 6.0           | 200   | C5922B       |
| CMZ5923B  | 7.790                           | 8.2 | 8.610 | 45.7                     | 3.5                     | 400               | 0.5         | 5.0                     | 6.5           | 183   | C5923B       |
| CMZ5924B  | 8.645                           | 9.1 | 9.555 | 41.2                     | 4.0                     | 500               | 0.5         | 5.0                     | 7.0           | 165   | C5924B       |
| CMZ5925B  | 9.500                           | 10  | 10.50 | 37.5                     | 4.5                     | 500               | 0.25        | 5.0                     | 8.0           | 150   | C5925B       |
| CMZ5926B  | 10.45                           | 11  | 11.55 | 34.1                     | 5.5                     | 550               | 0.25        | 1.0                     | 8.4           | 136   | C5926B       |

\*Available on special order; minimum quantity may apply; consult factory.

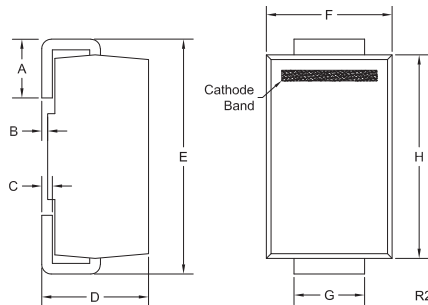
**CMZ5913B THRU CMZ5956B**  
**SURFACE MOUNT SILICON**  
**ZENER DIODES**  
**1.5 WATT, 3.3 THRU 200 VOLT**  
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**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_A=25^\circ\text{C}$ )  $V_F=1.5\text{V MAX @ } I_F=200\text{mA}$  (for all types)

| TYPE     | ZENER VOLTAGE<br>$V_Z @ I_{ZT}$ |     |       | TEST CURRENT<br>$I_{ZT}$ | MAXIMUM ZENER IMPEDANCE |                   |      | MAXIMUM REVERSE CURRENT |       | MAXIMUM ZENER CURRENT<br>( $T_L=75^\circ\text{C}$ )<br>$I_{ZM}$ | 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     |   |              |
| CMZ5927B | 11.40                           | 12  | 12.60 | 31.2                     | 6.5                     | 550               | 0.25 | 1.0                     | 9.1   | 125   | C5927B       |
| CMZ5928B | 12.35                           | 13  | 13.65 | 28.8                     | 7.0                     | 550               | 0.25 | 1.0                     | 9.9   | 115   | C5928B       |
| CMZ5929B | 14.25                           | 15  | 15.75 | 25.0                     | 9.0                     | 600               | 0.25 | 1.0                     | 11.4  | 100   | C5929B       |
| CMZ5930B | 15.20                           | 16  | 16.80 | 23.4                     | 10                      | 600               | 0.25 | 1.0                     | 12.2  | 94  | C5930B       |
| CMZ5931B | 17.10                           | 18  | 18.90 | 20.8                     | 12                      | 650               | 0.25 | 1.0                     | 13.7  | 83  | C5931B       |
| CMZ5932B | 19.00                           | 20  | 21.00 | 18.7                     | 14                      | 650               | 0.25 | 1.0                     | 15.2  | 75  | C5932B       |
| CMZ5933B | 20.90                           | 22  | 23.10 | 17.0                     | 17.5                    | 650               | 0.25 | 1.0                     | 16.7  | 68  | C5933B       |
| CMZ5934B | 22.80                           | 24  | 25.20 | 15.6                     | 19                      | 700               | 0.25 | 1.0                     | 18.2  | 63  | C5934B       |
| CMZ5935B | 25.65                           | 27  | 28.35 | 13.9                     | 23                      | 700               | 0.25 | 1.0                     | 20.6  | 56  | C5935B       |
| CMZ5936B | 28.50                           | 30  | 31.50 | 12.5                     | 26                      | 750               | 0.25 | 1.0                     | 22.8  | 50  | C5936B       |
| CMZ5937B | 31.35                           | 33  | 34.65 | 11.4                     | 33                      | 800               | 0.25 | 1.0                     | 25.1  | 45  | C5937B       |
| CMZ5938B | 34.20                           | 36  | 37.80 | 10.4                     | 38                      | 850               | 0.25 | 1.0                     | 27.4  | 42  | C5938B       |
| CMZ5939B | 37.05                           | 39  | 40.95 | 9.6                      | 45                      | 900               | 0.25 | 1.0                     | 29.7  | 38  | C5939B       |
| CMZ5940B | 40.85                           | 43  | 45.15 | 8.7                      | 53                      | 950               | 0.25 | 1.0                     | 32.7  | 35  | C5940B       |
| CMZ5941B | 44.65                           | 47  | 49.35 | 8.0                      | 67                      | 1000              | 0.25 | 1.0                     | 35.8  | 32  | C5941B       |
| CMZ5942B | 48.45                           | 51  | 53.55 | 7.3                      | 70                      | 1100              | 0.25 | 1.0                     | 38.8  | 29  | C5942B       |
| CMZ5943B | 53.20                           | 56  | 58.80 | 6.7                      | 86                      | 1300              | 0.25 | 1.0                     | 42.6  | 27  | C5943B       |
| CMZ5944B | 58.90                           | 62  | 65.10 | 6.0                      | 100                     | 1500              | 0.25 | 1.0                     | 47.1  | 24  | C5944B       |
| CMZ5945B | 64.60                           | 68  | 71.40 | 5.5                      | 120                     | 1700              | 0.25 | 1.0                     | 51.7  | 22  | C5945B       |
| CMZ5946B | 71.25                           | 75  | 78.75 | 5.0                      | 140                     | 2000              | 0.25 | 1.0                     | 56.0  | 20  | C5946B       |
| CMZ5947B | 77.90                           | 82  | 86.10 | 4.6                      | 160                     | 2500              | 0.25 | 1.0                     | 62.2  | 18  | C5947B       |
| CMZ5948B | 86.45                           | 91  | 95.55 | 4.1                      | 200                     | 3000              | 0.25 | 1.0                     | 69.2  | 16  | C5948B       |
| CMZ5949B | 95.00                           | 100 | 105.0 | 3.7                      | 250                     | 3100              | 0.25 | 1.0                     | 76.0  | 15  | C5949B       |
| CMZ5950B | 104.5                           | 110 | 115.5 | 3.4                      | 300                     | 4000              | 0.25 | 1.0                     | 83.6  | 13  | C5950B       |
| CMZ5951B | 114.0                           | 120 | 126.0 | 3.1                      | 360                     | 4500              | 0.25 | 1.0                     | 91.2  | 12  | C5951B       |
| CMZ5952B | 123.5                           | 130 | 136.5 | 2.9                      | 450                     | 5000              | 0.25 | 1.0                     | 98.8  | 11  | C5952B       |
| CMZ5953B | 142.5                           | 150 | 157.5 | 2.5                      | 600                     | 6000              | 0.25 | 1.0                     | 114.0 | 10  | C5953B       |
| CMZ5954B | 152.0                           | 160 | 168.0 | 2.3                      | 700                     | 6500              | 0.25 | 1.0                     | 121.6 | 9.0   | C5954B       |
| CMZ5955B | 171.0                           | 180 | 189.0 | 2.1                      | 900                     | 7000              | 0.25 | 1.0                     | 136.8 | 8.0   | C5955B       |
| CMZ5956B | 190.0                           | 200 | 210.0 | 1.9                      | 1200                    | 8000              | 0.25 | 1.0                     | 152.0 | 7.0   | C5956B       |

**SMA CASE - MECHANICAL OUTLINE**



| SYMBOL | DIMENSIONS |       | DIMENSIONS  |      |
|--------|------------|-------|-------------|------|
|        | INCHES     |       | MILLIMETERS |      |
|        | MIN        | MAX   | MIN         | MAX  |
| A      | 0.030      | 0.060 | 0.76        | 1.52 |
| B      | 0.004      | 0.008 | 0.10        | 0.20 |
| C      | 0.006      | 0.012 | 0.15        | 0.30 |
| D      | 0.078      | 0.103 | 1.98        | 2.62 |
| E      | 0.188      | 0.220 | 4.78        | 5.59 |
| F      | 0.090      | 0.115 | 2.29        | 2.92 |
| G      | 0.050      | 0.070 | 1.27        | 1.78 |
| H      | 0.157      | 0.181 | 3.99        | 4.60 |

SMA (REV: R2)

R10 (11-June 2018)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2<sup>nd</sup> 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

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### 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).

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### CONTACT US

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[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

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# Product End of Life Notification

|                           |          |
|---------------------------|----------|
| <b>PDN ID:</b>            | PDN01081 |
| <b>Notification Date:</b> | 4/30/18  |
| <b>Last Buy Date:</b>     | 10/30/18 |
| <b>Last Shipment Date</b> | 4/30/19  |

Summary: All low voltage Zener diodes, less than 5.6V, in the SMA, SMB and SMC case types 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> |
|----------------------------|--------------------|
| CMZ5334B BK                | N/A                |
| CMZ5334B TR13              | N/A                |
| CMZ5335B BK                | N/A                |
| CMZ5335B TR13              | N/A                |
| CMZ5336B BK                | N/A                |
| CMZ5336B TR13              | N/A                |
| CMZ5337B BK                | N/A                |
| CMZ5337B TR13              | N/A                |
| CMZ5338B BK                | N/A                |
| CMZ5338B TR13              | N/A                |
| CMZ5913B BK                | N/A                |
| CMZ5913B TR13              | N/A                |
| CMZ5914B BK                | N/A                |
| CMZ5914B TR13              | N/A                |
| CMZ5914BP BK               | N/A                |
| CMZ5914BP TR13             | N/A                |
| CMZ5915B BK                | N/A                |
| CMZ5915B TR13              | N/A                |
| CMZ5915BP TR13             | N/A                |
| CMZ5916B BK                | N/A                |
| CMZ5916B TR13              | N/A                |
| CMZ5916BP TR13             | N/A                |
| CMZ5917B BK                | N/A                |
| CMZ5917B TR13              | N/A                |
| CMZ5917BP BK               | N/A                |
| CMZ5917BP TR13             | N/A                |
| CMZ5918B BK                | N/A                |
| CMZ5918B TR13              | N/A                |
| CMZ5918BP BK               | N/A                |
| CMZ5918BP TR13             | 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](mailto:engineering@centrasemi.com).

**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.