

**CMZ5913B THRU CMZ5956B**

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

**SMA CASE**[www.centrasemi.com](http://www.centrasemi.com)**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. To order devices on 12mm Tape and Reel (5000/13" Reel), add TR13 suffix to part number.

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

**FEATURES:**

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

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)Peak Forward Surge Current,  $t_p=8.3\text{ms}$ Power Dissipation ( $T_L=75^\circ\text{C}$ )

Power Dissipation (Note 1)

Peak Power Dissipation,  $t_p=10\times 1000\mu\text{s}$  ( $T_L<25^\circ\text{C}$ )Peak Power Dissipation,  $t_p=8\times 20\mu\text{s}$  ( $T_L<25^\circ\text{C}$ )

Operating and Storage Junction Temperature

Thermal Resistance

Thermal Resistance (Note 1)

**SYMBOL** $I_{FSM}$ 

20

**UNITS**

A

 $P_D$ 

1.5

W

 $P_D$ 

0.5

W

 $P_{PK}$ 

200

W

 $P_{PK}$ 

1000

W

 $T_J, T_{stg}$ 

-65 to +150

 $^\circ\text{C}$  $\theta_{JL}$ 

50

 $^\circ\text{C/W}$  $\theta_{JA}$ 

250

 $^\circ\text{C/W}$ **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     |                          | $\Omega$                | $\Omega$          | $\mu\text{A}$ | V                       | $\mu\text{A}$ | mA                                                              |              |
| 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       |

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

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CMZ5913B THRU CMZ5956B

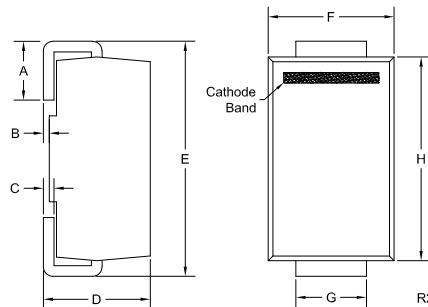
**SURFACE MOUNT SILICON  
ZENER DIODES  
1.5 WATT, 3.3 THRU 200 VOLT  
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**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_A=25^{\circ}\text{C}$ )  $V_F=1.5\text{V MAX @ } I_F=200\text{mA}$  (for all types)

| TYPE     | ZENER VOLTAGE<br>V <sub>Z</sub> @ I <sub>ZT</sub> |     |       | TEST CURRENT    | MAXIMUM ZENER IMPEDANCE           |                                   |                                 | MAXIMUM REVERSE CURRENT |       | MAXIMUM ZENER CURRENT<br>(T <sub>L</sub> =75°C) | MARKING CODE |
|----------|---------------------------------------------------|-----|-------|-----------------|-----------------------------------|-----------------------------------|---------------------------------|-------------------------|-------|-------------------------------------------------|--------------|
|          | MIN                                               | NOM | MAX   | I <sub>ZT</sub> | Z <sub>ZT</sub> @ I <sub>ZT</sub> | Z <sub>ZK</sub> @ I <sub>ZK</sub> | I <sub>R</sub> @ V <sub>R</sub> | I <sub>ZM</sub>         |       |                                                 |              |
|          | V                                                 | V   | V     | mA              | Ω                                 | Ω                                 | μA                              | V                       | mA    |                                                 |              |
| 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 |       |             |      |
|--------|------------|-------|-------------|------|
|        | 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)

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#### **SERVICES**

- Bonded Inventory
- Custom Electrical Screening
- Custom Electrical Characteristic Curves
- SPICE Models
- Custom Packaging
- Package Base Options
- Custom Device Development/ Multi Discrete Modules (MDM™)
- Bare Die Available for Hybrid Applications

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In no event shall Central's aggregate liability from any warranty, indemnity, or other obligation arising out of or in connection with a purchase order or contract, or any use of any Central product provided hereunder, exceed the total amount paid to Central for the specific products sold under a purchase order or contract with respect to which losses or damages are claimed. The existence of more than one (1) claim against the specific products sold to Buyer under a purchase order or contract shall not enlarge or extend this limit.

Buyer understands and agrees that the foregoing liability limitations are essential elements of a purchase order or contract and that in the absence of such limitations, the material and economic terms of the purchase order or contract would be substantially different.

R9 (24-April 2015)



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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