

CMHZ4678 THRU CMHZ4717

**SURFACE MOUNT SILICON  
LOW LEVEL ZENER DIODES  
500mW, 1.8 THRU 43 VOLT  
5% TOLERANCE**



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMHZ4678 series low level silicon Zener diode is a highly reliable voltage regulator designed for applications requiring an extremely low operating current and low leakage.

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



**SOD-123 CASE**

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

Power Dissipation  
Operating and Storage Junction Temperature

**SYMBOL**

$P_D$   
 $T_J, T_{stg}$

500  
-65 to +150

**UNIT**

mW  
 $^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$ ),  $V_F=1.5\text{V MAX @ } I_F=100\text{mA}$  (for all types)

| TYPE     | ZENER VOLTAGE  |       |       | TEST CURRENT<br>$I_{ZT}$ | MAXIMUM REVERSE CURRENT<br>$I_R @ V_R$ |               | MAXIMUM ZENER CURRENT<br>$I_{ZM}$ | MAXIMUM NOISE DENSITY<br>$N_D @ I_{ZT}$ | MARKING CODE |
|----------|----------------|-------|-------|--------------------------|--|---------------|-----------------------------------|---|--------------|
|          | $V_Z @ I_{ZT}$ |       |       |                          | $\mu\text{A}$                          | $\mu\text{A}$ |                                   |   |              |
|          | MIN V          | NOM V | MAX V | mA                       |  |               | $\mu\text{V}/\sqrt{\text{Hz}}$    |   |              |
| CMHZ4678 | 1.710          | 1.8   | 1.890 | 50                       | 7.5                                    | 1.0           | 120.0                             | 1.0                                     | CCC          |
| CMHZ4679 | 1.900          | 2.0   | 2.100 | 50                       | 5.0                                    | 1.0           | 110.0                             | 1.0                                     | CCD          |
| CMHZ4680 | 2.090          | 2.2   | 2.310 | 50                       | 4.0                                    | 1.0           | 100.0                             | 1.0                                     | CCE          |
| CMHZ4681 | 2.280          | 2.4   | 2.520 | 50                       | 2.0                                    | 1.0           | 95.0                              | 1.0                                     | CCF          |
| CMHZ4682 | 2.565          | 2.7   | 2.835 | 50                       | 1.0                                    | 1.0           | 90.0                              | 1.0                                     | CCH          |
| CMHZ4683 | 2.850          | 3.0   | 3.150 | 50                       | 0.8                                    | 1.0           | 85.0                              | 1.0                                     | CCJ          |
| CMHZ4684 | 3.135          | 3.3   | 3.465 | 50                       | 7.5                                    | 1.5           | 80.0                              | 1.0                                     | CCK          |
| CMHZ4685 | 3.420          | 3.6   | 3.780 | 50                       | 7.5                                    | 2.0           | 75.0                              | 1.0                                     | CCM          |
| CMHZ4686 | 3.705          | 3.9   | 4.095 | 50                       | 5.0                                    | 2.0           | 70.0                              | 1.0                                     | CCN          |
| CMHZ4687 | 4.085          | 4.3   | 4.515 | 50                       | 4.0                                    | 2.0           | 65.0                              | 1.0                                     | CCP          |
| CMHZ4688 | 4.465          | 4.7   | 4.935 | 50                       | 10                                     | 3.0           | 60.0                              | 1.0                                     | CCT          |
| CMHZ4689 | 4.845          | 5.1   | 5.355 | 50                       | 10                                     | 3.0           | 55.0                              | 2.0                                     | CCU          |
| CMHZ4690 | 5.320          | 5.6   | 5.880 | 50                       | 10                                     | 4.0           | 50.0                              | 4.0                                     | CCV          |
| CMHZ4691 | 5.890          | 6.2   | 6.510 | 50                       | 10                                     | 5.0           | 45.0                              | 5.0                                     | CCA          |
| CMHZ4692 | 6.460          | 6.8   | 7.140 | 50                       | 10                                     | 5.1           | 35.0                              | 40                                      | CCX          |
| CMHZ4693 | 7.125          | 7.5   | 7.875 | 50                       | 10                                     | 5.7           | 31.8                              | 40                                      | CCY          |
| CMHZ4694 | 7.790          | 8.2   | 8.610 | 50                       | 1.0                                    | 6.2           | 29.0                              | 40                                      | CCZ          |
| CMHZ4695 | 8.265          | 8.7   | 9.135 | 50                       | 1.0                                    | 6.6           | 27.4                              | 40                                      | CDC          |
| CMHZ4696 | 8.645          | 9.1   | 9.555 | 50                       | 1.0                                    | 6.9           | 26.2                              | 40                                      | CDD          |

CMHZ4678 THRU CMHZ4717

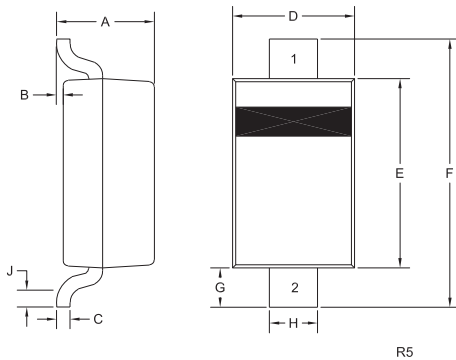
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ELECTRICAL CHARACTERISTICS - Continued: ( $T_A=25^\circ\text{C}$ ),  $V_F=1.5\text{V MAX @ } I_F=100\text{mA}$  (for all types)

| TYPE     | ZENER VOLTAGE  |       |       | TEST CURRENT<br>$I_{ZT}$ | MAXIMUM REVERSE CURRENT<br>$I_R @ V_R$ |               | MAXIMUM ZENER CURRENT<br>$I_{ZM}$ | MAXIMUM NOISE DENSITY<br>$N_D @ I_{ZT}$ | MARKING CODE |
|----------|----------------|-------|-------|--------------------------|--|---------------|-----------------------------------|---|--------------|
|          | $V_Z @ I_{ZT}$ |       |       |                          | $\mu\text{A}$                          | $\mu\text{A}$ |                                   |   |              |
|          | MIN V          | NOM V | MAX V | mA                       |  |               | $\mu\text{V}/\sqrt{\text{Hz}}$    |   |              |
| CMHZ4697 | 9.500          | 10    | 10.50 | 50                       | 1.0                                    | 7.6           | 24.8                              | 40                                      | CDE          |
| CMHZ4698 | 10.45          | 11    | 11.55 | 50                       | 0.05                                   | 8.4           | 21.6                              | 40                                      | CDF          |
| CMHZ4699 | 11.40          | 12    | 12.60 | 50                       | 0.05                                   | 9.1           | 20.4                              | 40                                      | CDH          |
| CMHZ4700 | 12.35          | 13    | 13.65 | 50                       | 0.05                                   | 9.8           | 19.0                              | 40                                      | CDJ          |
| CMHZ4701 | 13.30          | 14    | 14.70 | 50                       | 0.05                                   | 10.6          | 17.5                              | 40                                      | CDK          |
| CMHZ4702 | 14.25          | 15    | 15.75 | 50                       | 0.05                                   | 11.4          | 16.3                              | 40                                      | CDM          |
| CMHZ4703 | 15.20          | 16    | 16.80 | 50                       | 0.05                                   | 12.1          | 15.4                              | 40                                      | CDN          |
| CMHZ4704 | 16.15          | 17    | 17.85 | 50                       | 0.05                                   | 12.9          | 14.5                              | 40                                      | CDP          |
| CMHZ4705 | 17.10          | 18    | 18.90 | 50                       | 0.05                                   | 13.6          | 13.2                              | 40                                      | CDT          |
| CMHZ4706 | 18.05          | 19    | 19.95 | 50                       | 0.05                                   | 14.4          | 12.5                              | 40                                      | CDU          |
| CMHZ4707 | 19.00          | 20    | 21.00 | 50                       | 0.01                                   | 15.2          | 11.9                              | 40                                      | CDV          |
| CMHZ4708 | 20.90          | 22    | 23.10 | 50                       | 0.01                                   | 16.7          | 10.8                              | 40                                      | CDA          |
| CMHZ4709 | 22.80          | 24    | 25.20 | 50                       | 0.01                                   | 18.2          | 9.9                               | 40                                      | CDZ          |
| CMHZ4710 | 23.75          | 25    | 26.25 | 50                       | 0.01                                   | 19.0          | 9.5                               | 40                                      | CDY          |
| CMHZ4711 | 25.65          | 27    | 28.35 | 50                       | 0.01                                   | 20.4          | 8.8                               | 40                                      | CEA          |
| CMHZ4712 | 26.60          | 28    | 29.40 | 50                       | 0.01                                   | 21.2          | 8.5                               | 40                                      | CEC          |
| CMHZ4713 | 28.50          | 30    | 31.50 | 50                       | 0.01                                   | 22.8          | 7.9                               | 40                                      | CED          |
| CMHZ4714 | 31.35          | 33    | 34.65 | 50                       | 0.01                                   | 25.0          | 7.2                               | 40                                      | CEE          |
| CMHZ4715 | 34.20          | 36    | 37.80 | 50                       | 0.01                                   | 27.3          | 6.6                               | 40                                      | CEF          |
| CMHZ4716 | 37.05          | 39    | 40.95 | 50                       | 0.01                                   | 29.6          | 6.1                               | 40                                      | CEH          |
| CMHZ4717 | 40.85          | 43    | 45.15 | 50                       | 0.01                                   | 32.6          | 5.5                               | 40                                      | CEJ          |

SOD-123 CASE - MECHANICAL OUTLINE



| SYMBOL | DIMENSIONS |       |             |      |
|--------|------------|-------|-------------|------|
|        | INCHES     |       | MILLIMETERS |      |
|        | MIN        | MAX   | MIN         | MAX  |
| A      | 0.037      | 0.053 | 0.95        | 1.35 |
| B      | 0.000      | 0.005 | 0.00        | 0.12 |
| C      | -          | 0.008 | -           | 0.20 |
| D      | 0.055      | 0.071 | 1.40        | 1.80 |
| E      | 0.098      | 0.110 | 2.50        | 2.80 |
| F      | 0.142      | 0.154 | 3.60        | 3.90 |
| G      | 0.016      | -     | 0.40        | -    |
| H      | 0.020      | 0.028 | 0.50        | 0.70 |
| J      | 0.010      | -     | 0.25        | -    |

SOD-123 (REV:R5)

Lead Code:  
1) Cathode  
2) Anode

R7 (23-September 2015)

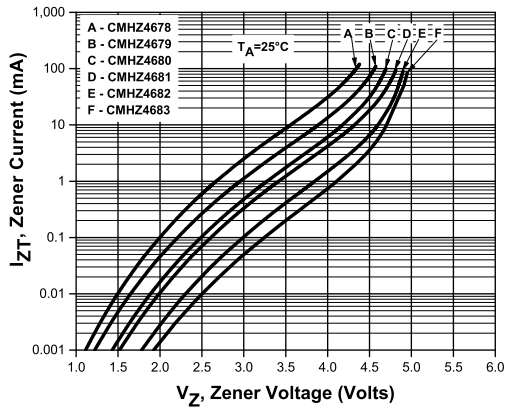
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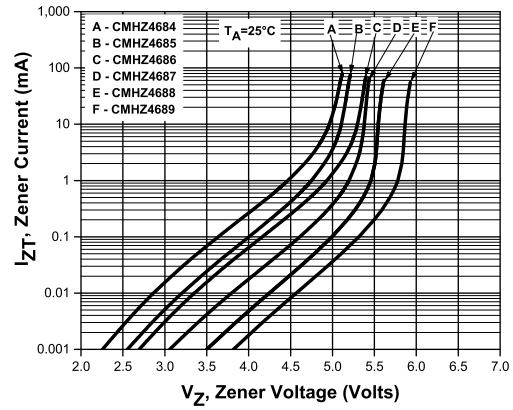


TYPICAL ELECTRICAL CHARACTERISTICS

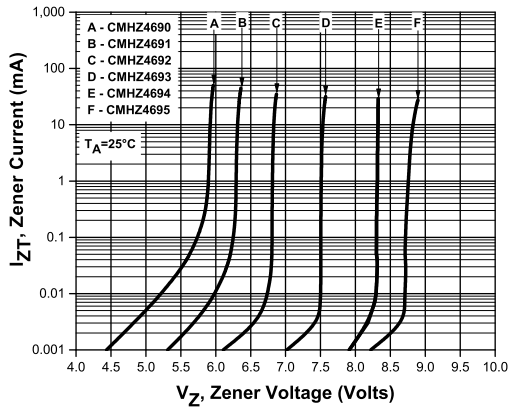
Zener Voltage, CMHZ4678-CMHZ4683



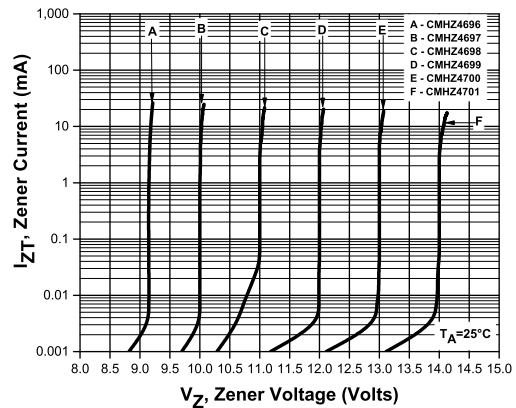
Zener Voltage, CMHZ4684-CMHZ4689



Zener Voltage, CMHZ4690-CMHZ4695



Zener Voltage, CMHZ4696-CMHZ4701



R7 (23-September 2015)

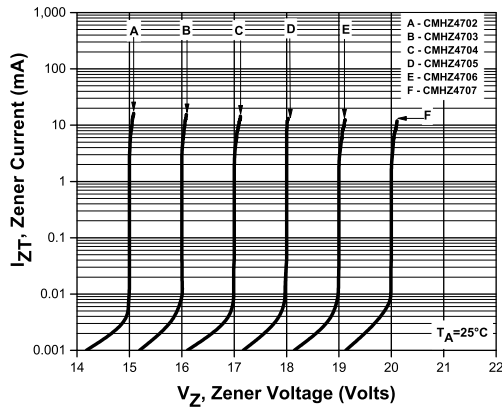
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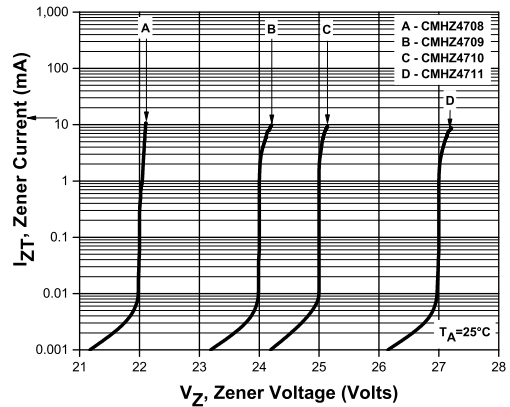


### TYPICAL ELECTRICAL CHARACTERISTICS

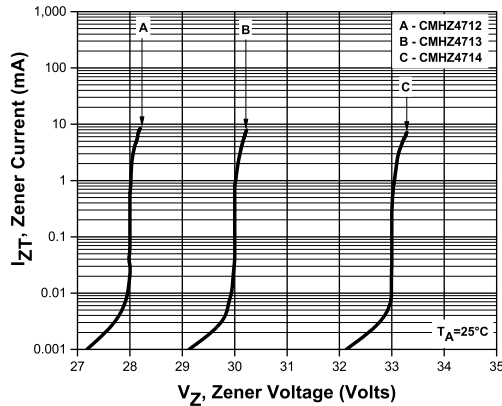
Zener Voltage, CMHZ4702-CMHZ4707



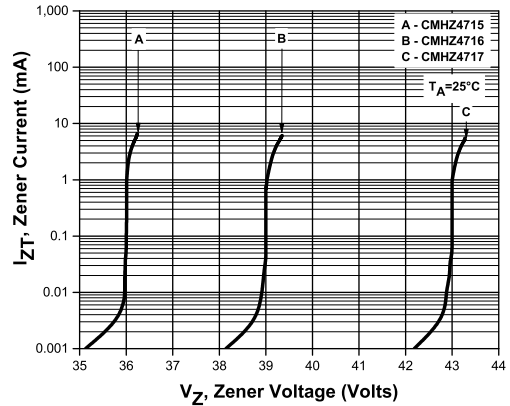
Zener Voltage, CMHZ4708-CMHZ4711



Zener Voltage, CMHZ4712-CMHZ4714



Zener Voltage, CMHZ4715-CMHZ4717



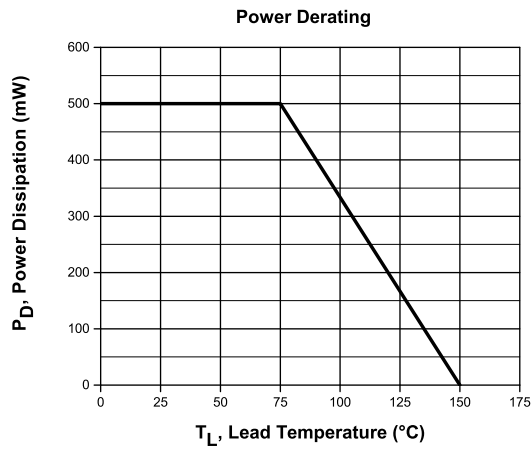
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### TYPICAL ELECTRICAL CHARACTERISTICS



R7 (23-September 2015)

## 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

#### Corporate Headquarters & Customer Support Team

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Hauppauge, NY 11788 USA  
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Main Fax: (631) 435-1824  
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