

CMSH1-40HE CMSH1-100HE  
CMSH1-60HE CMSH1-150HE  
CMSH1-80HE CMSH1-200HE

**SURFACE MOUNT SILICON  
SCHOTTKY RECTIFIERS  
1.0 AMP, 40 THRU 200 VOLT**



**SMA CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMSH1-40HE series 1.0 Amp surface mount silicon Schottky rectifier is a highly efficient component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications.

**MARKING CODE: SEE MARKING CODE TABLE ON FOLLOWING PAGE**

**FEATURES:**

- High reliability
- High efficiency Schottky rectifier
- 40V to 200V range
- Low leakage current
- Low  $V_F$

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

|                                                |                | <b>CMSH1</b> |              |              |               |               |               |                    |
|------------------------------------------------|----------------|--------------|--------------|--------------|---------------|---------------|---------------|--------------------|
|                                                | <b>SYMBOL</b>  | <b>-40HE</b> | <b>-60HE</b> | <b>-80HE</b> | <b>-100HE</b> | <b>-150HE</b> | <b>-200HE</b> | <b>UNITS</b>       |
| Peak Repetitive Reverse Voltage                | $V_{RRM}$      | 40           | 60           | 80           | 100           | 150           | 200           | V                  |
| DC Blocking Voltage                            | $V_R$          | 40           | 60           | 80           | 100           | 150           | 200           | V                  |
| RMS Reverse Voltage                            | $V_{R(RMS)}$   | 28           | 42           | 56           | 70            | 105           | 140           | V                  |
| Average Forward Current                        | $I_O$          |              |              |              | 1.0           |               |               | A                  |
| Peak Forward Surge Current, $t_p=8.3\text{ms}$ | $I_{FSM}$      |              |              |              | 30            |               |               | A                  |
| Power Dissipation                              | $P_D$          |              |              |              | 1.4           |               |               | W                  |
| Operating and Storage Junction Temperature     | $T_J, T_{stg}$ |              |              |              | -65 to +150   |               |               | $^\circ\text{C}$   |
| Thermal Resistance                             | $\theta_{JA}$  |              |              |              | 89            |               |               | $^\circ\text{C/W}$ |
| Thermal Resistance                             | $\theta_{JL}$  |              |              |              | 30            |               |               | $^\circ\text{C/W}$ |

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

| <b>SYMBOL</b> | <b>TEST CONDITIONS</b>                             | <b>TYP</b> | <b>MAX</b> | <b>UNITS</b>  |
|---------------|----------------------------------------------------|------------|------------|---------------|
| $I_R$         | $V_R=\text{Rated } V_{RRM}$                        |            | 50         | $\mu\text{A}$ |
| $I_R$         | $V_R=\text{Rated } V_{RRM}, T_A=100^\circ\text{C}$ |            | 20         | mA            |
| $V_F$         | $I_F=1.0\text{A (CMSH1-40HE)}$                     | 0.69       | 0.70       | V             |
| $V_F$         | $I_F=1.0\text{A (CMSH1-60HE)}$                     | 0.69       | 0.74       | V             |
| $V_F$         | $I_F=1.0\text{A (CMSH1-80HE, -100HE)}$             | 0.77       | 0.80       | V             |
| $V_F$         | $I_F=1.0\text{A (CMSH1-150HE)}$                    | 0.80       | 0.90       | V             |
| $V_F$         | $I_F=1.0\text{A (CMSH1-200HE)}$                    | 0.81       | 0.90       | V             |
| $C_J$         | $V_R=0, f=1.0\text{MHz (CMSH1-40HE, 60HE)}$        | 116        |            | pF            |
| $C_J$         | $V_R=0, f=1.0\text{MHz (CMSH1-80HE, 100HE)}$       | 104        |            | pF            |
| $C_J$         | $V_R=0, f=1.0\text{MHz (CMSH1-150HE)}$             | 86         |            | pF            |
| $C_J$         | $V_R=0, f=1.0\text{MHz (CMSH1-200HE)}$             | 62.5       |            | pF            |

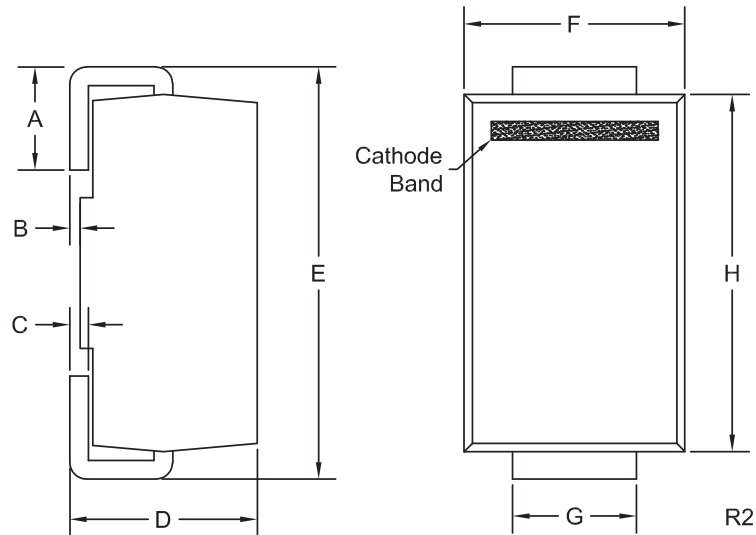
R3 (24-November 2015)

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# **SMA CASE - MECHANICAL OUTLINE**



| DEVICE      | MARKING CODE |
|-------------|--------------|
| CMSH1-40HE  | CS40HE       |
| CMSH1-60HE  | CS60HE       |
| CMSH1-80HE  | CS80HE       |
| CMSH1-100HE | CS100HE      |
| CMSH1-150HE | CS150HE      |
| CMSH1-200HE | CS200HE      |

| SYMBOL | 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)

R3 (24-November 2015)

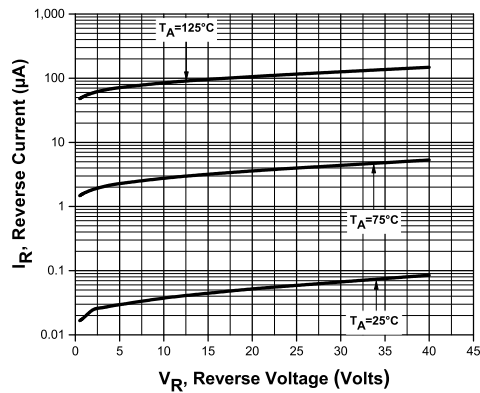
|            |             |
|------------|-------------|
| CMSH1-40HE | CMSH1-100HE |
| CMSH1-60HE | CMSH1-150HE |
| CMSH1-80HE | CMSH1-200HE |



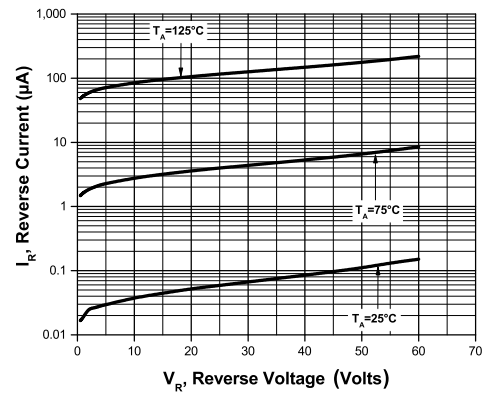
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## TYPICAL ELECTRICAL CHARACTERISTICS

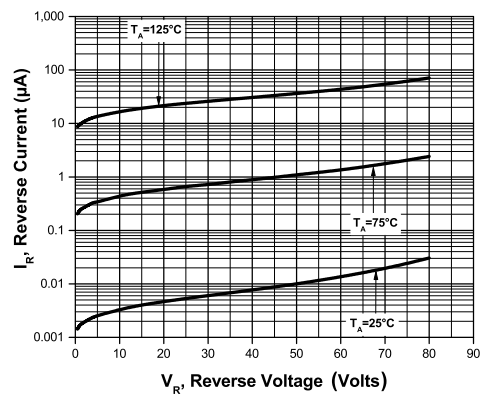
Leakage Current for CMSH1-40HE



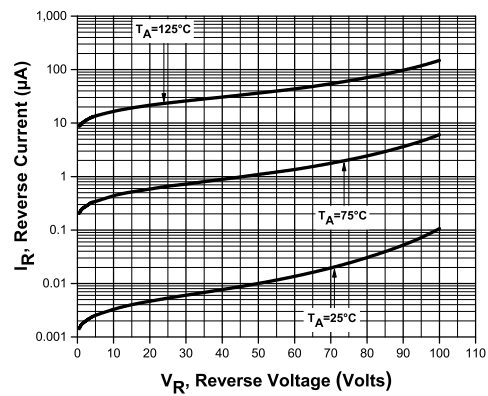
Leakage Current for CMSH1-60HE



Leakage Current for CMSH1-80HE



Leakage Current for CMSH1-100HE



R3 (24-November 2015)

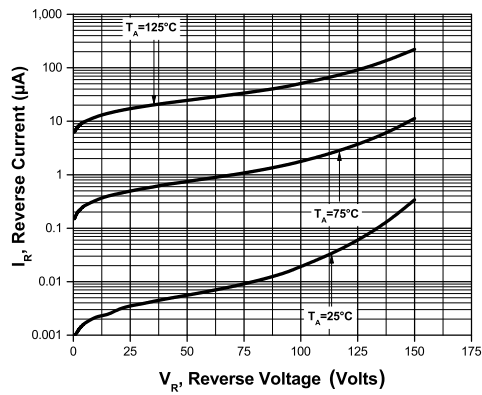
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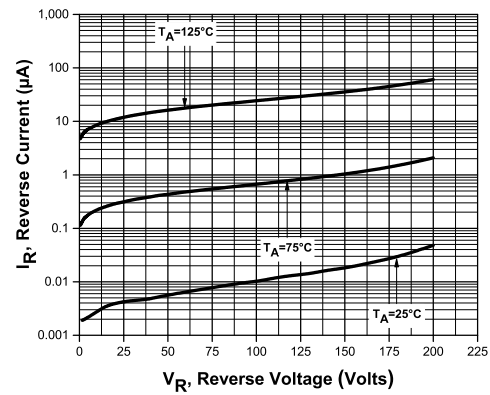


## TYPICAL ELECTRICAL CHARACTERISTICS

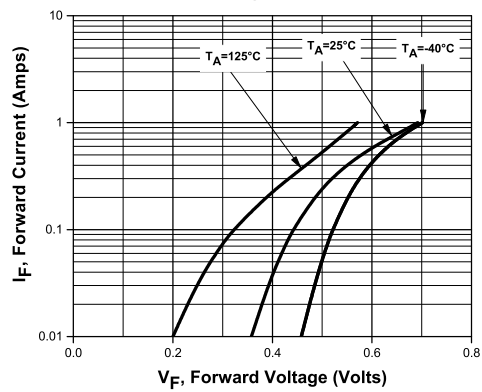
Leakage Current for CMSH1-150HE



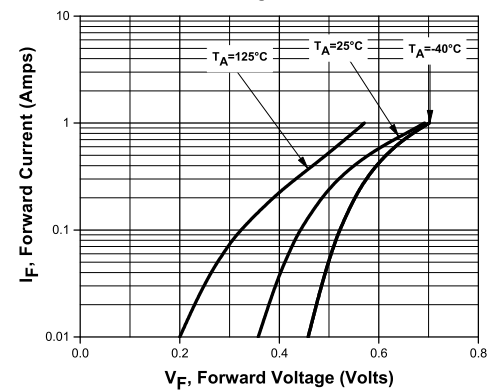
Leakage Current for CMSH1-200HE



Forward Voltage for CMSH1-40HE



Forward Voltage for CMSH1-60HE



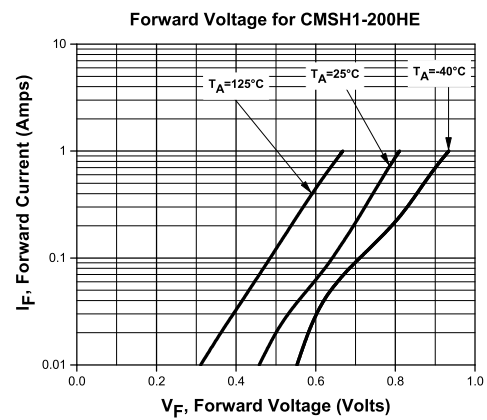
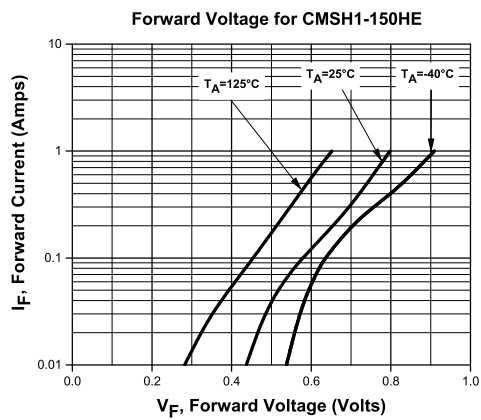
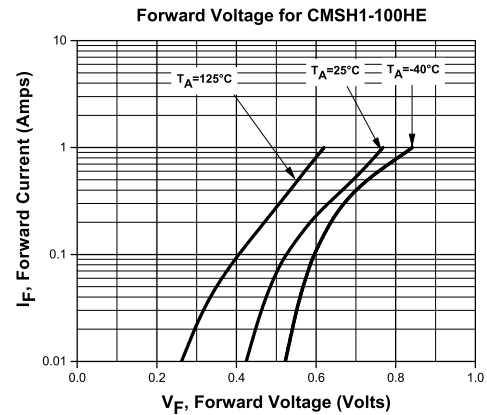
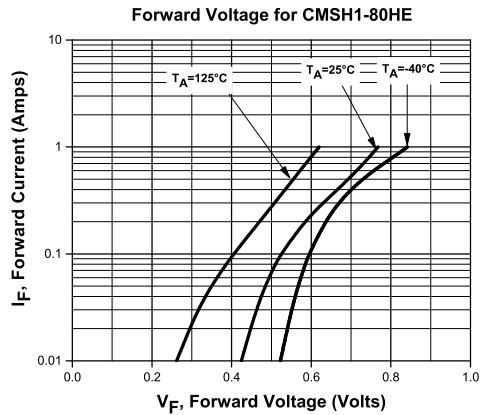
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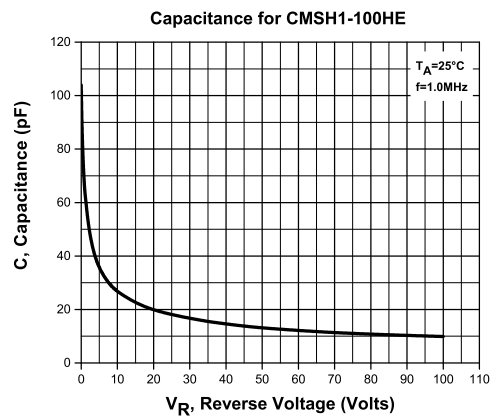
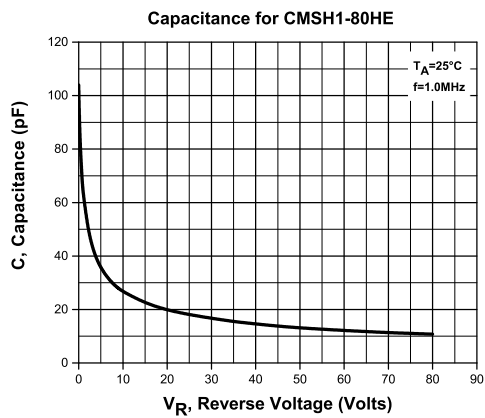
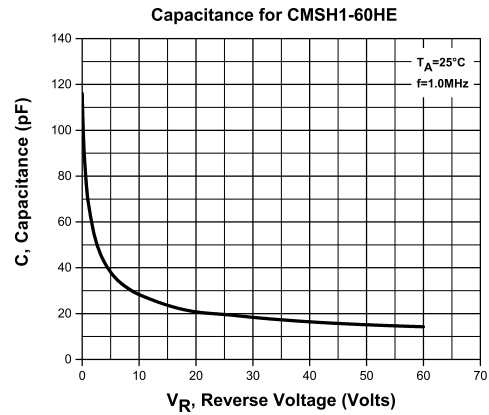
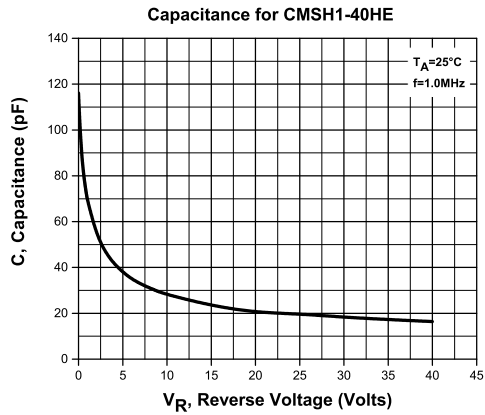
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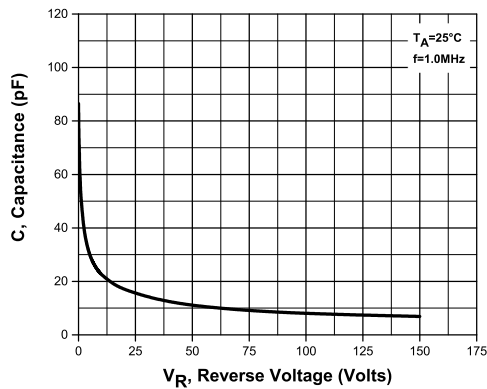
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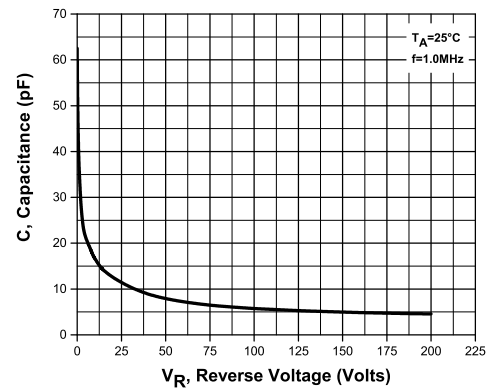
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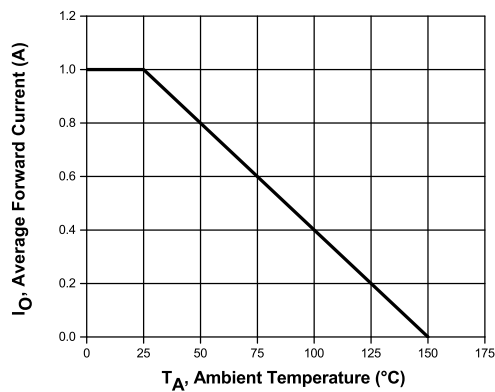
Capacitance for CMSH1-150HE



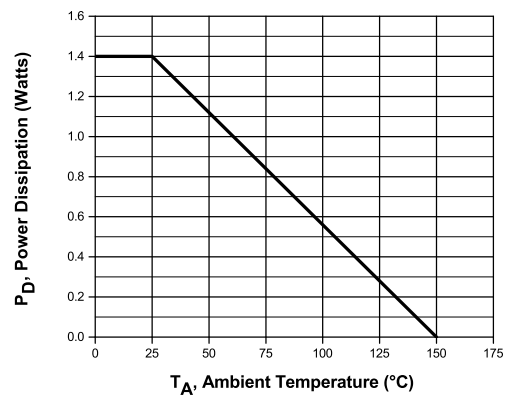
Capacitance for CMSH1-200HE



Current Derating



Power Derating



R3 (24-November 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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145 Adams Avenue  
Hauppauge, NY 11788 USA  
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Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centrasemi.com](http://www.centrasemi.com)

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