



**THE DATASHEET OF  
CM SH2-40M TR13 PBFREE**



CMSH2-20M CMSH2-60M  
CMSH2-40M CMSH2-100M

**SURFACE MOUNT SILICON  
SCHOTTKY RECTIFIERS  
2.0 AMP, 20 THRU 100 VOLT**



**SMA CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMSH2-20M series 2.0 Amp surface mount silicon Schottky rectifier is a well constructed, highly reliable 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 current capability
- Flammability classification UL94V-0
- High reliability

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

|  | <b>SYMBOL</b>     | <b>CMSH2<br/>-20M</b> | <b>CMSH2<br/>-40M</b> | <b>CMSH2<br/>-60M</b> | <b>CMSH2<br/>-100M</b> | <b>UNITS</b>         |
|--|-------------------|-----------------------|-----------------------|-----------------------|------------------------|----------------------|
| Peak Repetitive Reverse Voltage                      | $V_{RRM}$         | 20                    | 40                    | 60                    | 100                    | V                    |
| DC Blocking Voltage                                  | $V_R$             | 20                    | 40                    | 60                    | 100                    | V                    |
| RMS Reverse Voltage                                  | $V_R(\text{RMS})$ | 14                    | 28                    | 42                    | 71                     | V                    |
| Average Forward Current ( $T_L=75^{\circ}\text{C}$ ) | $I_O$             |                       |                       | 2.0                   |                        | A                    |
| Peak Forward Surge Current, $t_p=8.3\text{ms}$       | $I_{FSM}$         |                       |                       | 50                    |                        | 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)

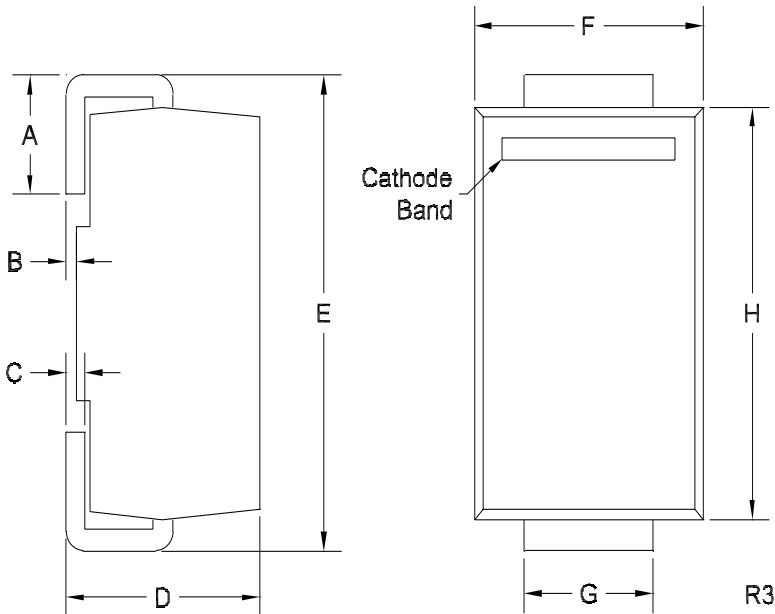
| <b>SYMBOL</b> | <b>TEST CONDITIONS</b>                               | <b>TYP</b> | <b>MAX</b> | <b>UNITS</b> |
|---------------|--|------------|------------|--------------|
| $I_R$         | $V_R=\text{Rated } V_{RRM}$                          |            | 0.50       | mA           |
| $I_R$         | $V_R=\text{Rated } V_{RRM}, T_A=100^{\circ}\text{C}$ |            | 20         | mA           |
| $V_F$         | $I_F=2.0\text{A}$ (CMSH2-20M)                        | 0.44       | 0.55       | V            |
| $V_F$         | $I_F=2.0\text{A}$ (CMSH2-40M)                        | 0.47       | 0.55       | V            |
| $V_F$         | $I_F=2.0\text{A}$ (CMSH2-60M)                        | 0.53       | 0.70       | V            |
| $V_F$         | $I_F=2.0\text{A}$ (CMSH2-100M)                       | 0.76       | 0.85       | V            |
| $C_J$         | $V_R=4.0\text{V}, f=1.0\text{MHz}$ (CMSH2-20M)       | 139        |            | pF           |
| $C_J$         | $V_R=4.0\text{V}, f=1.0\text{MHz}$ (CMSH2-40M)       | 101        |            | pF           |
| $C_J$         | $V_R=4.0\text{V}, f=1.0\text{MHz}$ (CMSH2-60M)       | 94         |            | pF           |
| $C_J$         | $V_R=4.0\text{V}, f=1.0\text{MHz}$ (CMSH2-100M)      | 74         |            | pF           |

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SMA CASE - MECHANICAL OUTLINE



| DEVICE     | MARKING CODE |
|------------|--------------|
| CMSH2-20M  | CS220M       |
| CMSH2-40M  | CS240M       |
| CMSH2-60M  | CS260M       |
| CMSH2-100M | CS2100M      |

| SYMBOL | INCHES |       | MILLIMETERS |      |
|--------|--------|-------|-------------|------|
|        | MIN    | MAX   | MIN         | MAX  |
| A      | 0.030  | 0.060 | 0.76        | 1.52 |
| B      | 0.002  | 0.008 | 0.05        | 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:R3)

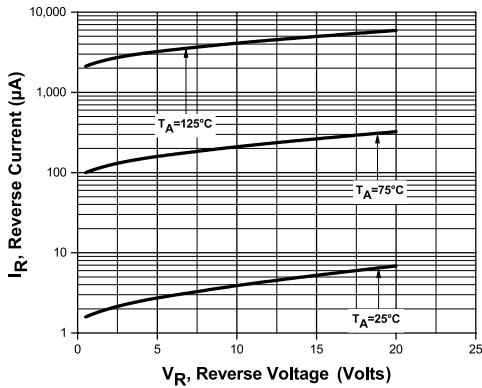
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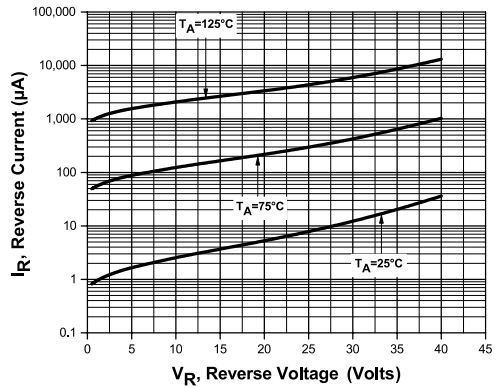


TYPICAL ELECTRICAL CHARACTERISTICS

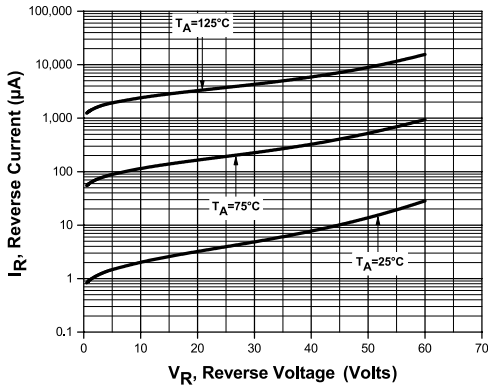
Leakage Current for CMSH2-20M



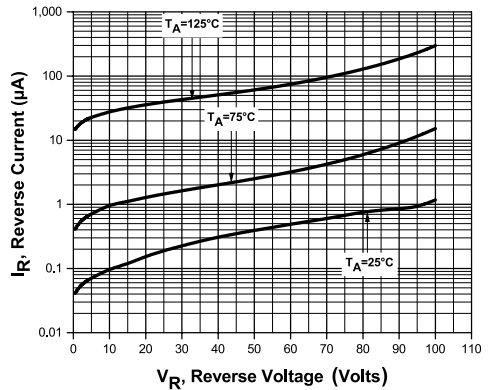
Leakage Current for CMSH2-40M



Leakage Current for CMSH2-60M



Leakage Current for CMSH2-100M



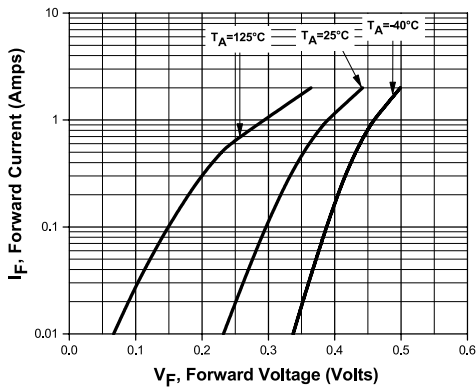
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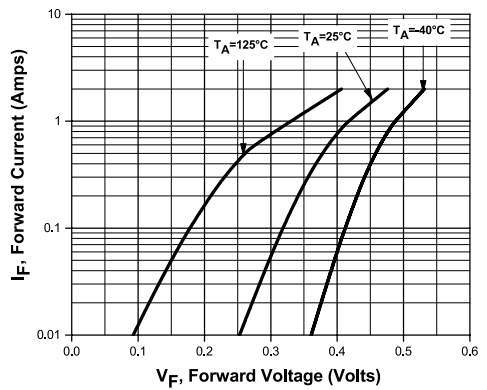


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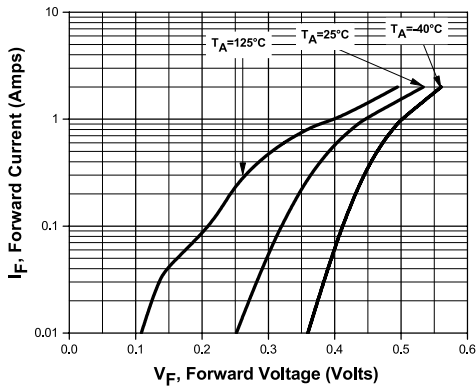
Forward Voltage for CMSH2-20M



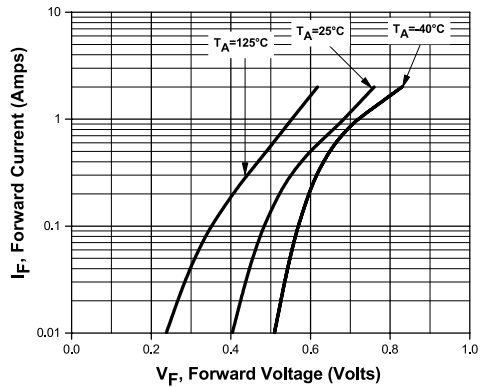
Forward Voltage for CMSH2-40M



Forward Voltage for CMSH2-60M



Forward Voltage for CMSH2-100M

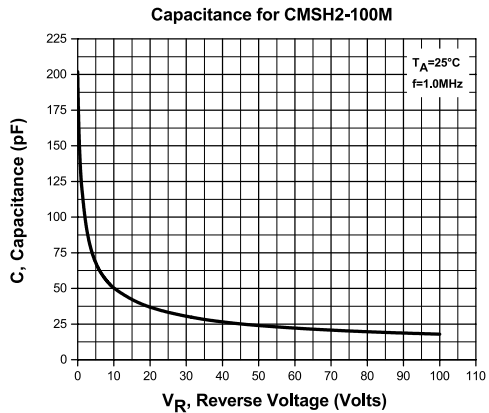
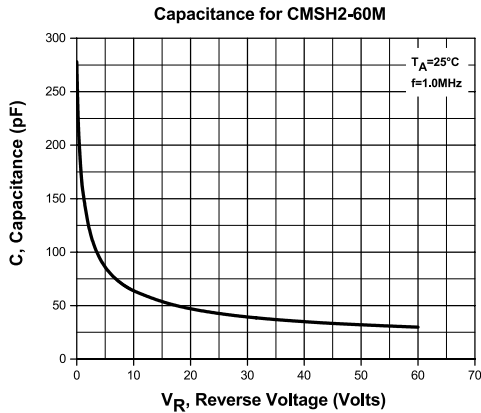
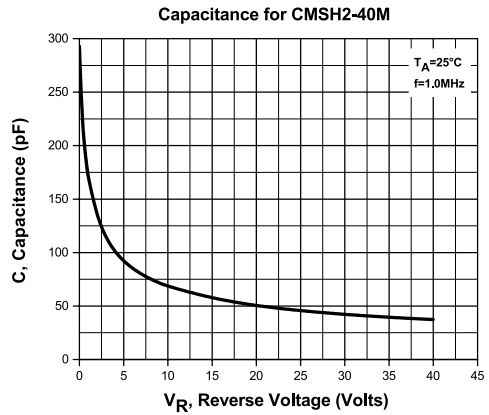
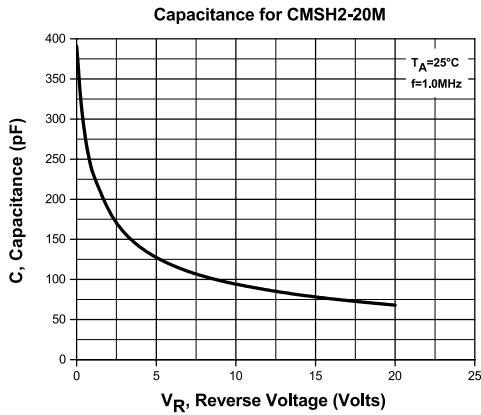


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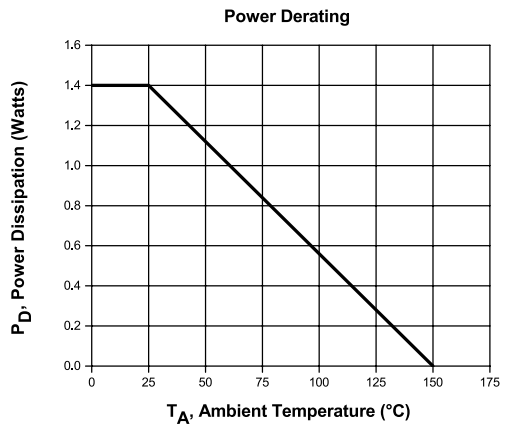
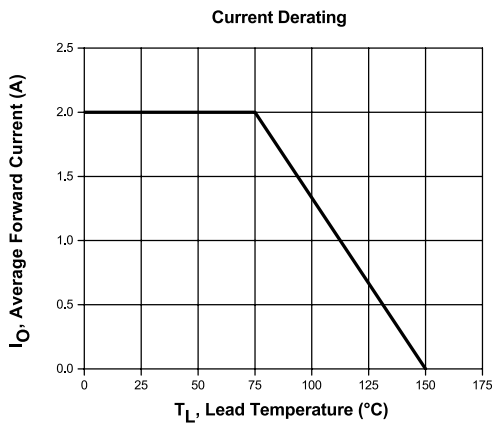


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### TYPICAL ELECTRICAL CHARACTERISTICS



## 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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Main Fax: (631) 435-1824  
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[www.centrasemi.com](http://www.centrasemi.com)

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**Worldwide Distributors:**  
[www.centrasemi.com/wwdistributors](http://www.centrasemi.com/wwdistributors)

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- ⊖ [View CMSH2-40M TR13 PBFREE on WIN SOURCE](#)
- ⊖ [Central Semiconductor Corp Information](#)

## Optimize Your Supply Chain with WIN SOURCE Solutions

- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management