



**THE DATASHEET OF  
CMSH1-100 TR13 PBFREE**



CMSH1-20 CMSH1-60  
 CMSH1-40 CMSH1-100

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



**SMB CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMSH1-20 series 1.0 Amp surface mount silicon rectifier is a high quality, 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 reliability
- Special selections available

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

|  | SYMBOL         | CMSH1<br>-20 | CMSH1<br>-40 | CMSH1<br>-60 | CMSH1<br>-100 | UNITS              |
|--|----------------|--------------|--------------|--------------|---------------|--------------------|
| Peak Repetitive Reverse Voltage                    | $V_{RRM}$      | 20           | 40           | 60           | 100           | V                  |
| DC Blocking Voltage                                | $V_R$          | 20           | 40           | 60           | 100           | V                  |
| RMS Reverse Voltage                                | $V_{R(RMS)}$   | 14           | 28           | 42           | 70            | V                  |
| Average Forward Current ( $T_A=75^\circ\text{C}$ ) | $I_O$          |              |              | 1.0          |               | A                  |
| Peak Forward Surge Current, $t_p=8.3\text{ms}$     | $I_{FSM}$      |              |              | 30           |               | A                  |
| Operating and Storage Junction Temperature         | $T_J, T_{stg}$ |              |              | -65 to +150  |               | $^\circ\text{C}$   |
| Thermal Resistance                                 | $\theta_{JL}$  |              |              | 20           |               | $^\circ\text{C/W}$ |

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

| SYMBOL | TEST CONDITIONS                                    | TYP  | MAX  | UNITS |
|--------|--|------|------|-------|
| $I_R$  | $V_R=\text{Rated } V_{RRM}$                        |      | 0.50 | mA    |
| $I_R$  | $V_R=\text{Rated } V_{RRM}, T_A=125^\circ\text{C}$ |      | 20   | mA    |
| $V_F$  | $I_F=1.0\text{A (CMSH1-20)}$                       | 0.46 | 0.55 | V     |
| $V_F$  | $I_F=1.0\text{A (CMSH1-40)}$                       | 0.48 | 0.55 | V     |
| $V_F$  | $I_F=1.0\text{A (CMSH1-60)}$                       | 0.48 | 0.70 | V     |
| $V_F$  | $I_F=1.0\text{A (CMSH1-100)}$                      | 0.75 | 0.85 | V     |
| $C_J$  | $V_R=4.0\text{V}, f=1.0\text{MHz, (CMSH1-20)}$     | 68   |      | pF    |
| $C_J$  | $V_R=4.0\text{V}, f=1.0\text{MHz, (CMSH1-40)}$     | 56   |      | pF    |
| $C_J$  | $V_R=4.0\text{V}, f=1.0\text{MHz, (CMSH1-60)}$     | 42   |      | pF    |
| $C_J$  | $V_R=4.0\text{V}, f=1.0\text{MHz, (CMSH1-100)}$    | 45   |      | pF    |

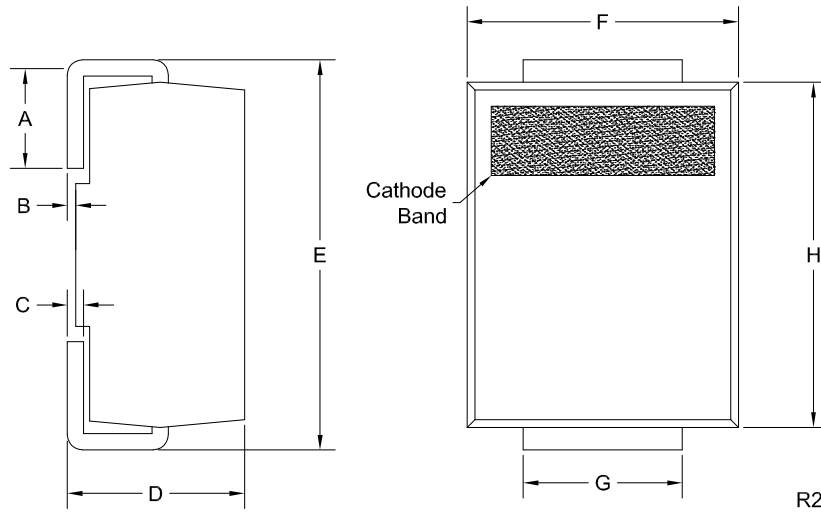
R5 (6-September 2018)

CMSH1-20 CMSH1-60  
 CMSH1-40 CMSH1-100

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



**SMB CASE - MECHANICAL OUTLINE**



| DEVICE    | MARKING CODE |
|-----------|--------------|
| CMSH1-20  | CS20         |
| CMSH1-40  | CS40         |
| CMSH1-60  | CS60         |
| CMSH1-100 | CS100        |

| SYMBOL | INCHES |       | MILLIMETERS |      |
|--------|--------|-------|-------------|------|
|        | MIN    | MAX   | MIN         | MAX  |
| A      | 0.030  | 0.060 | 0.76        | 1.52 |
| B      | 0.000  | 0.008 | 0.00        | 0.20 |
| C      | 0.006  | 0.012 | 0.15        | 0.30 |
| D      | 0.086  | 0.096 | 2.18        | 2.44 |
| E      | 0.200  | 0.220 | 5.08        | 5.59 |
| F      | 0.130  | 0.150 | 3.30        | 3.81 |
| G      | 0.077  | 0.083 | 1.96        | 2.11 |
| H      | 0.160  | 0.191 | 4.06        | 4.85 |

SMB (REV: R2)

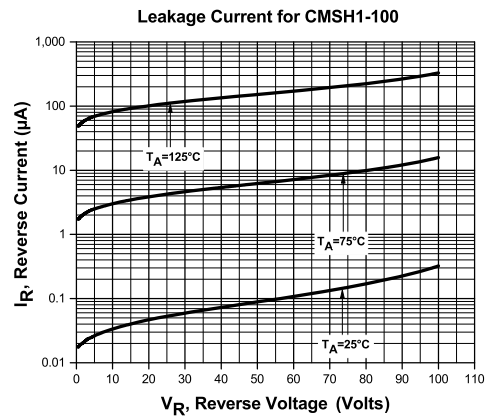
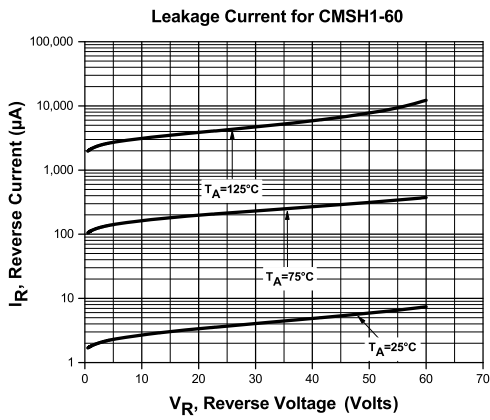
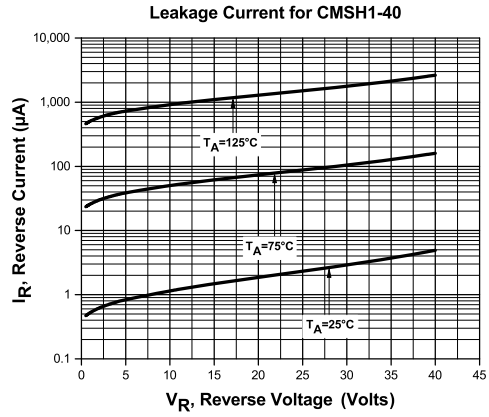
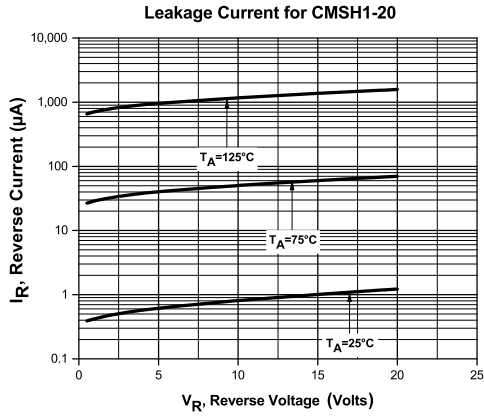
R5 (6-September 2018)

CMSH1-20    CMSH1-60  
 CMSH1-40    CMSH1-100

SURFACE MOUNT SILICON  
 SCHOTTKY RECTIFIERS  
 1.0 AMP, 20 THRU 100 VOLT



TYPICAL ELECTRICAL CHARACTERISTICS



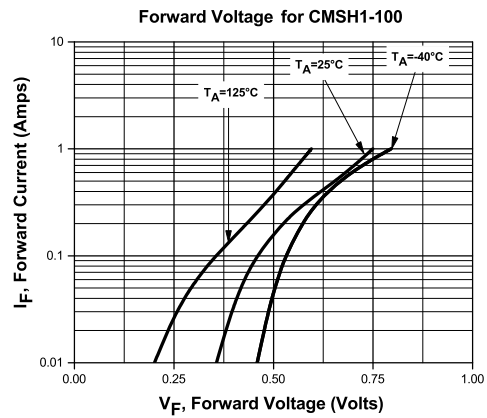
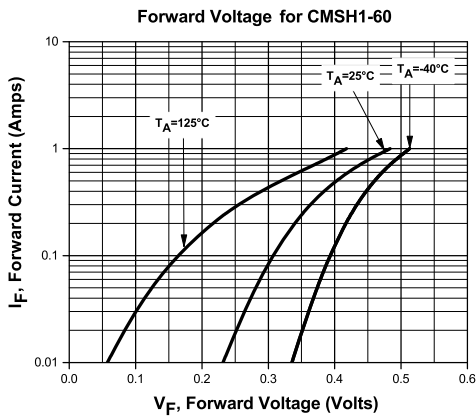
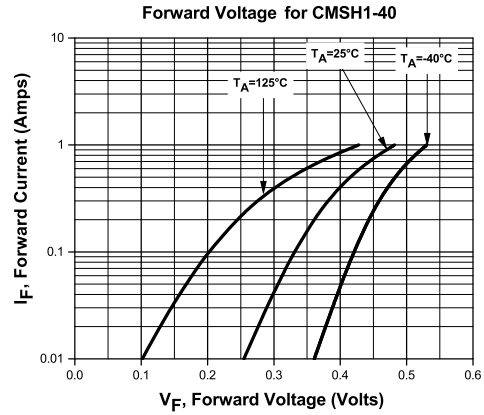
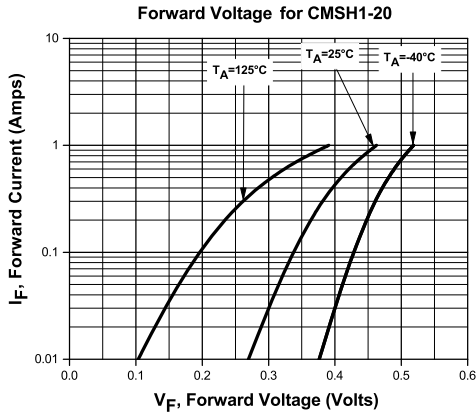
R5 (6-September 2018)

CMSH1-20    CMSH1-60  
 CMSH1-40    CMSH1-100

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



**TYPICAL ELECTRICAL CHARACTERISTICS**



R5 (6-September 2018)

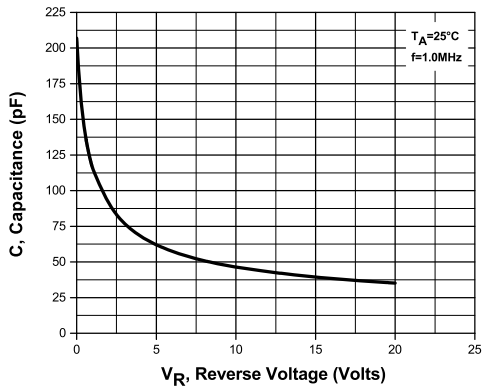
CMSH1-20    CMSH1-60  
 CMSH1-40    CMSH1-100

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

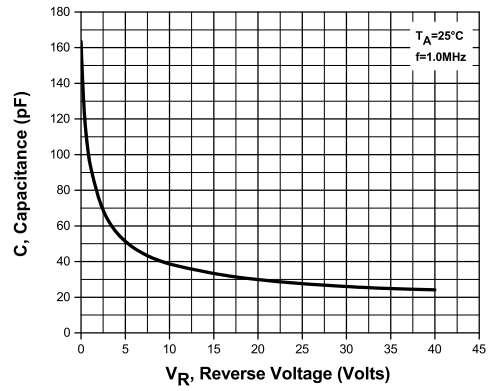


**TYPICAL ELECTRICAL CHARACTERISTICS**

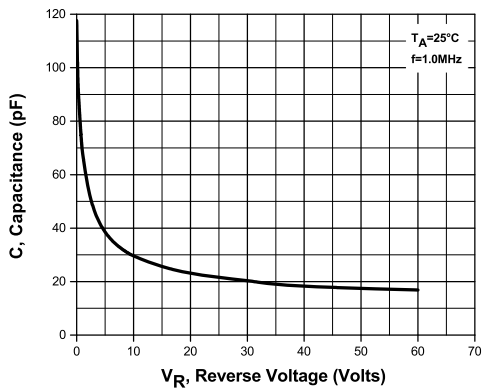
Capacitance for CMSH1-20



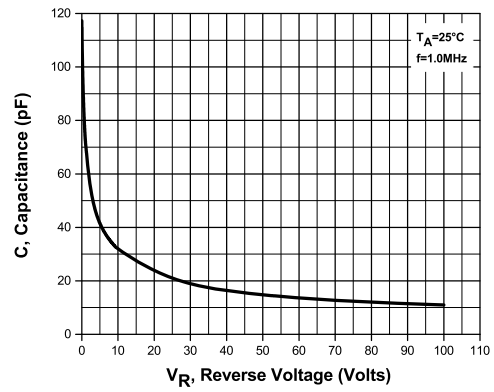
Capacitance for CMSH1-40



Capacitance for CMSH1-60



Capacitance for CMSH1-100



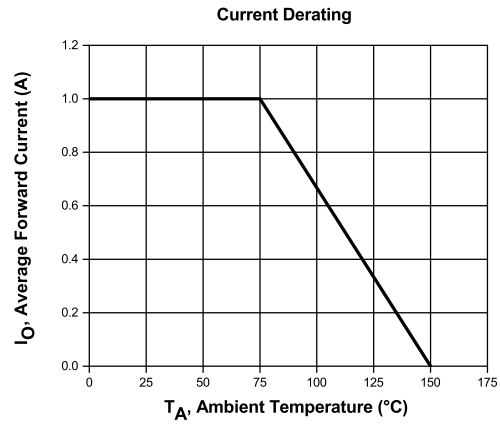
R5 (6-September 2018)

CMSH1-20 CMSH1-60  
CMSH1-40 CMSH1-100

SURFACE MOUNT SILICON  
SCHOTTKY RECTIFIERS  
1.0 AMP, 20 THRU 100 VOLT



## TYPICAL ELECTRICAL CHARACTERISTICS



R5 (6-September 2018)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



---

### 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

---

### 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

---

### 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).

---

### CONTACT US

#### Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centrasemi.com](http://www.centrasemi.com)

**Worldwide Field Representatives:**  
[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

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

---

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: [www.centrasemi.com/terms](http://www.centrasemi.com/terms)

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- [View CMSH1-100 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