



**THE DATASHEET OF  
CMMSH1-40G TR PBFREE**



CMMSH1-20 CMMSH1-20G\*  
 CMMSH1-40 CMMSH1-40G\*  
 CMMSH1-60 CMMSH1-60G\*  
 CMMSH1-100 CMMSH1-100G\*

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



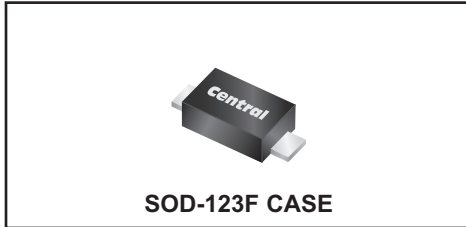
www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMMSH1 Series are high current Schottky rectifiers in the SOD-123F surface mount package. These devices are suitable for design applications such as AC/DC, DC/DC converters, and reverse battery protection circuits in a variety of portable and battery powered products.

**MARKING CODES:**

DEVICE	CODE	Halogen Free Devices: DEVICE	CODE
CMMSH1-20	CS20F	CMMSH1-20G	CS20G
CMMSH1-40	CS40F	CMMSH1-40G	CS40G
CMMSH1-60	CS60F	CMMSH1-60G	CS60G
CMMSH1-100	CS100F	CMMSH1-100G	CS100G



\* Device is *Halogen Free* by design

**FEATURES:**

- Small size (58% smaller than the SMA package)
- 67% lower profile than SMA
- Greatly improved power dissipation per board area as compared to the SMA
- High Current, Low Forward Voltage
- Thermally efficient Flat Lead package design

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

	SYMBOL	CMMSH1				UNITS
		-20 -20G	-40 -40G	-60 -60G	-100 -100G	
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 ( $T_L=75^\circ\text{C}$ )	$I_O$			1.0		A
Peak Forward Surge Current (8.3ms)	$I_{FSM}$			30		A
Power Dissipation (Note 1)	$P_D$			1.14		W
Operating Junction Temperature	$T_J$		-65 to +125			$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-65 to +150			$^\circ\text{C}$
Thermal Resistance	$\theta_{JA}$		88			$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_R$	$V_R$ =Rated $V_{RRM}$			0.50	mA
$I_R$	$V_R$ =Rated $V_{RRM}$ , $T_A=100^\circ\text{C}$			10	mA
$V_F$	$I_F=1.0\text{A}$ (CMMSH1-20, -20G)		0.42	0.45	V
$V_F$	$I_F=1.0\text{A}$ (CMMSH1-40, -40G)		0.47	0.55	V
$V_F$	$I_F=1.0\text{A}$ (CMMSH1-60, -60G)		0.54	0.70	V
$V_F$	$I_F=1.0\text{A}$ (CMMSH1-100, -100G)		0.61	0.85	V

Note 1: FR-4 Epoxy PC Board with Copper Mounting Pad Area of 2.9mm<sup>2</sup>

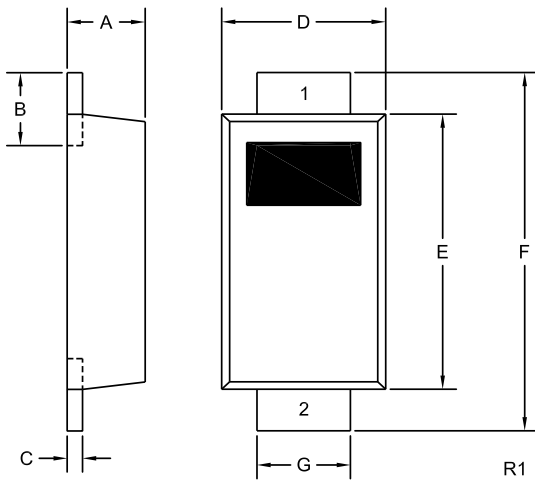
**CMMSH1-20 CMMSH1-20G\***  
**CMMSH1-40 CMMSH1-40G\***  
**CMMSH1-60 CMMSH1-60G\***  
**CMMSH1-100 CMMSH1-100G\***  
**SURFACE MOUNT SILICON**  
**SCHOTTKY RECTIFIERS**  
**1.0 AMP, 20 THRU 100 VOLT**



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

SYMBOL	TEST CONDITIONS	TYP	UNITS
$C_J$	$V_R=4.0\text{V}$ , $f=1.0\text{MHz}$ (CMMSH1-20, -20G)	60	pF
$C_J$	$V_R=4.0\text{V}$ , $f=1.0\text{MHz}$ (CMMSH1-40, -40G)	60	pF
$C_J$	$V_R=4.0\text{V}$ , $f=1.0\text{MHz}$ (CMMSH1-60, -60G)	50	pF
$C_J$	$V_R=4.0\text{V}$ , $f=1.0\text{MHz}$ (CMMSH1-100, -100G)	40	pF

**SOD-123F CASE - MECHANICAL OUTLINE**



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.035	0.043	0.88	1.08
B	0.020	0.031	0.50	0.80
C	0.004	0.008	0.10	0.20
D	0.065	0.077	1.65	1.95
E	0.104	0.116	2.65	2.95
F	0.140	0.156	3.55	3.95
G	0.030	0.041	0.75	1.05

SOD-123F (REV:R1)

**LEAD CODE:**

- 1) Cathode
- 2) Anode

**MARKING CODES:**

DEVICE	CODE
CMMSH1-20	CS20F
CMMSH1-40	CS40F
CMMSH1-60	CS60F
CMMSH1-100	CS100F
CMMSH1-20G*	CS20G
CMMSH1-40G*	CS40G
CMMSH1-60G*	CS60G
CMMSH1-100G*	CS100G

\* Device is *Halogen Free* by design

R6 (23-November 2015)

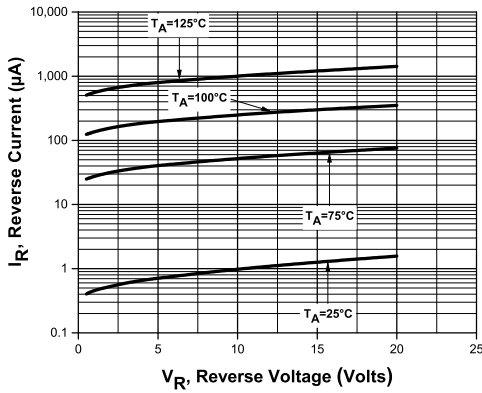
**CMMSH1-20 CMMSH1-20G\***  
**CMMSH1-40 CMMSH1-40G\***  
**CMMSH1-60 CMMSH1-60G\***  
**CMMSH1-100 CMMSH1-100G\***

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

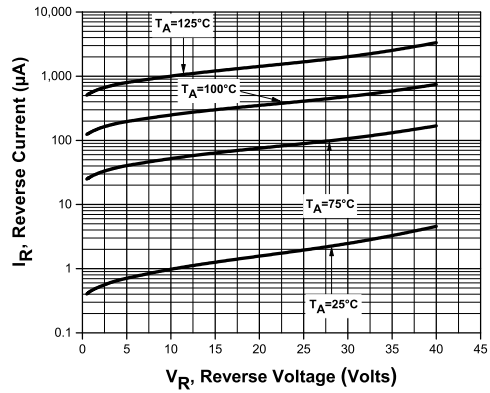


**TYPICAL ELECTRICAL CHARACTERISTICS**

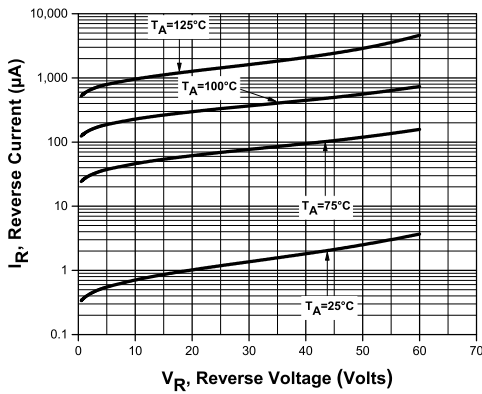
**Leakage Current for CMMSH1-20**



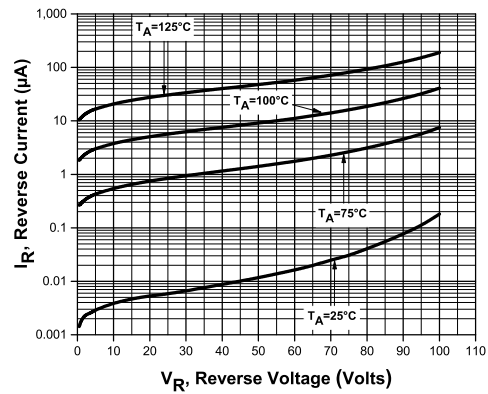
**Leakage Current for CMMSH1-40**



**Leakage Current for CMMSH1-60**



**Leakage Current for CMMSH1-100**



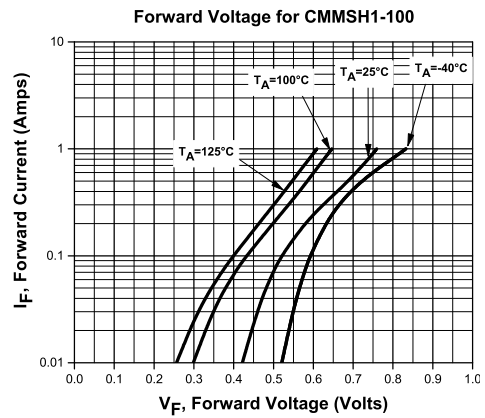
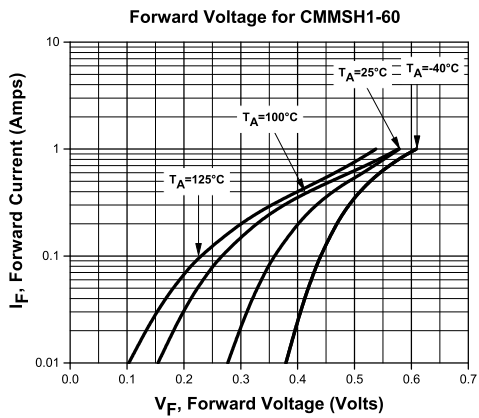
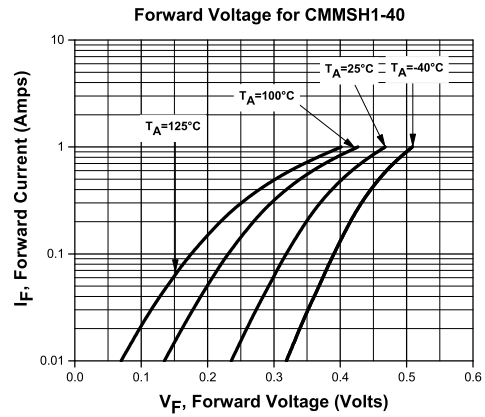
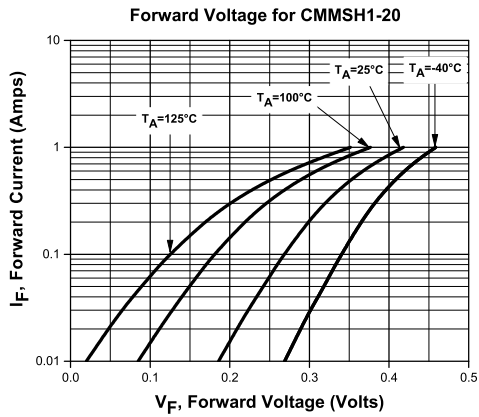
R6 (23-November 2015)

**CMMSH1-20 CMMSH1-20G\***  
**CMMSH1-40 CMMSH1-40G\***  
**CMMSH1-60 CMMSH1-60G\***  
**CMMSH1-100 CMMSH1-100G\***

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



**TYPICAL ELECTRICAL CHARACTERISTICS**



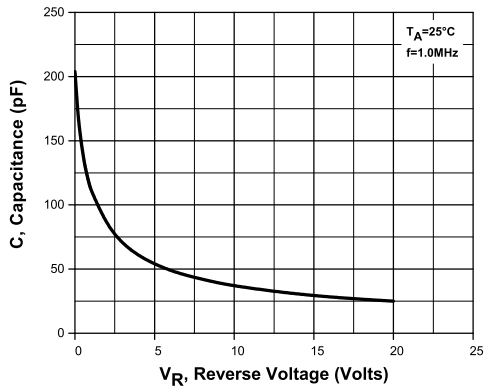
**CMMSH1-20 CMMSH1-20G\***  
**CMMSH1-40 CMMSH1-40G\***  
**CMMSH1-60 CMMSH1-60G\***  
**CMMSH1-100 CMMSH1-100G\***

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

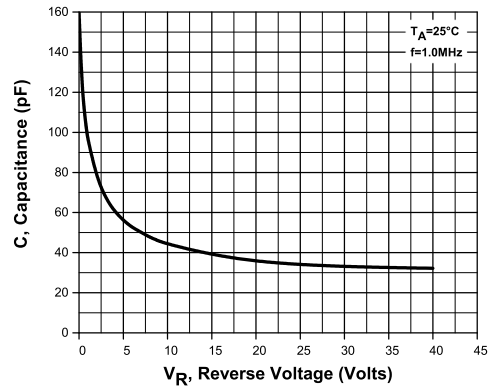


**TYPICAL ELECTRICAL CHARACTERISTICS**

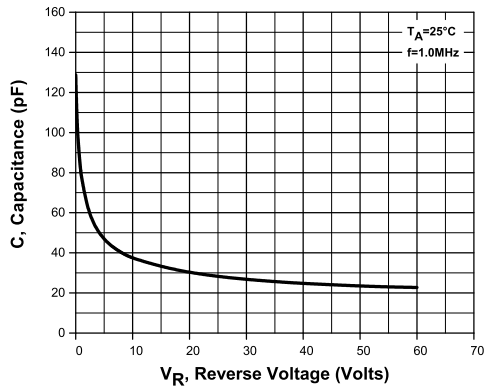
**Capacitance for CMMSH1-20**



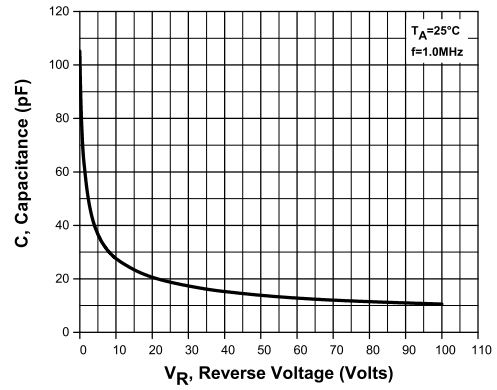
**Capacitance for CMMSH1-40**



**Capacitance for CMMSH1-60**



**Capacitance for CMMSH1-100**



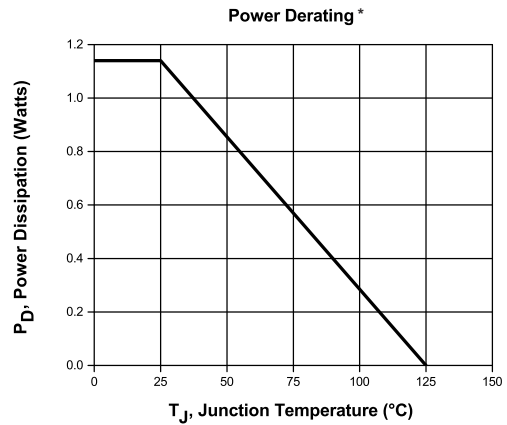
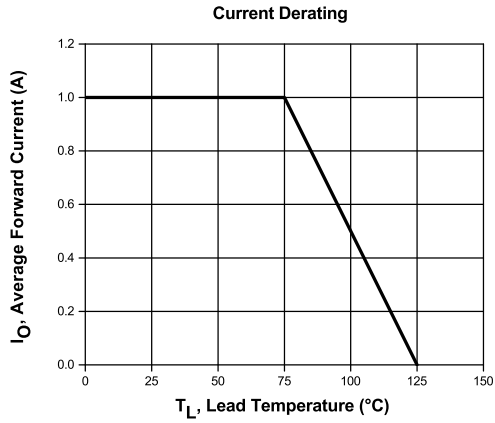
R6 (23-November 2015)

**CMMSH1-20 CMMSH1-20G\***  
**CMMSH1-40 CMMSH1-40G\***  
**CMMSH1-60 CMMSH1-60G\***  
**CMMSH1-100 CMMSH1-100G\***

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



**TYPICAL ELECTRICAL CHARACTERISTICS**



\*FR-4 Epoxy PC Board with Copper Mounting Pad Area of 2.9mm<sup>2</sup>

R6 (23-November 2015)

## 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 \*\*CMMSH1-40G TR 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