

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<sub>A</sub>=25°C unless otherwise noted)

	SYMBOL	CMMSH1				UNITS
		-20 -20G	-40 -40G	-60 -60G	-100 -100G	
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	20	40	60	100	V
DC Blocking Voltage	V <sub>R</sub>	20	40	60	100	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	14	28	42	70	V
Average Forward Current (T <sub>L</sub> =75°C)	I <sub>O</sub>			1.0		A
Peak Forward Surge Current (8.3ms)	I <sub>FSM</sub>			30		A
Power Dissipation (Note 1)	P <sub>D</sub>			1.14		W
Operating Junction Temperature	T <sub>J</sub>		-65 to +125			°C
Storage Temperature	T <sub>stg</sub>		-65 to +150			°C
Thermal Resistance	θ <sub>JA</sub>			88		°C/W

**ELECTRICAL CHARACTERISTICS:** (T<sub>A</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I <sub>R</sub>	V <sub>R</sub> =Rated V <sub>RRM</sub>			0.50	mA
I <sub>R</sub>	V <sub>R</sub> =Rated V <sub>RRM</sub> , T <sub>A</sub> =100°C			10	mA
V <sub>F</sub>	I <sub>F</sub> =1.0A (CMMSH1-20, -20G)		0.42	0.45	V
V <sub>F</sub>	I <sub>F</sub> =1.0A (CMMSH1-40, -40G)		0.47	0.55	V
V <sub>F</sub>	I <sub>F</sub> =1.0A (CMMSH1-60, -60G)		0.54	0.70	V
V <sub>F</sub>	I <sub>F</sub> =1.0A (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>

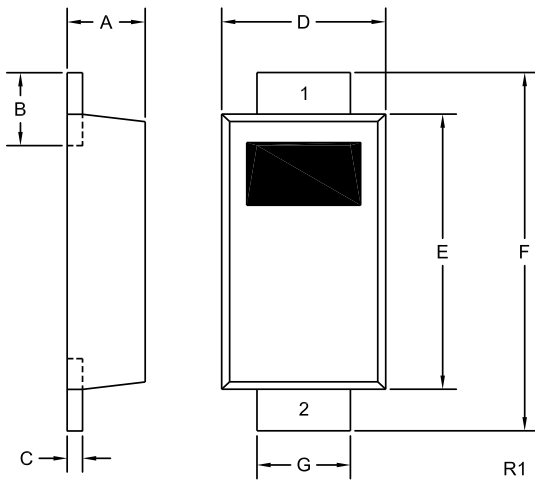
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**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

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

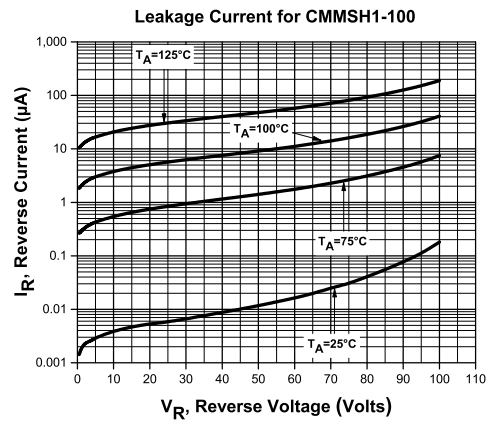
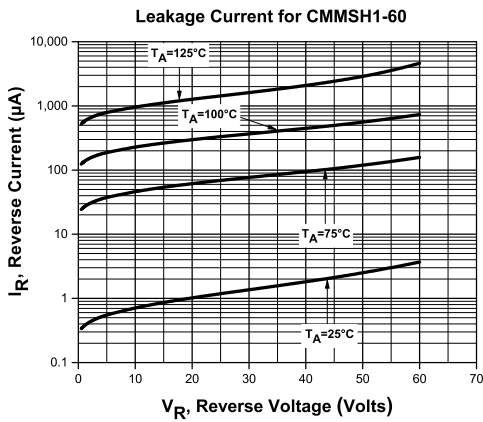
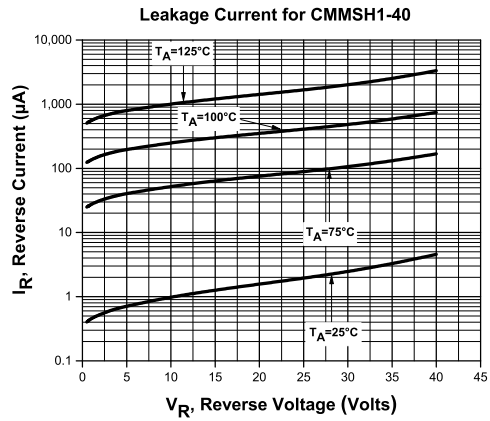
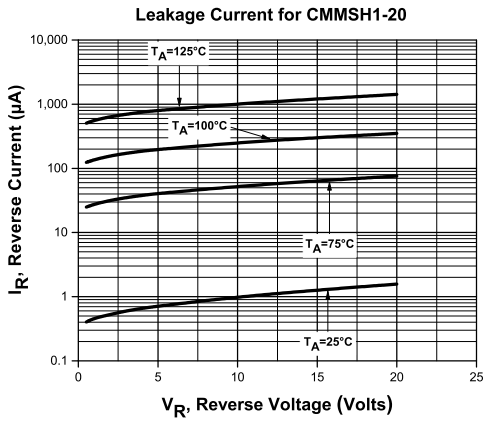
R6 (23-November 2015)

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TYPICAL ELECTRICAL CHARACTERISTICS



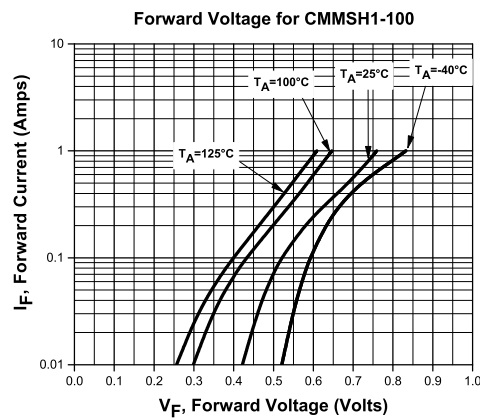
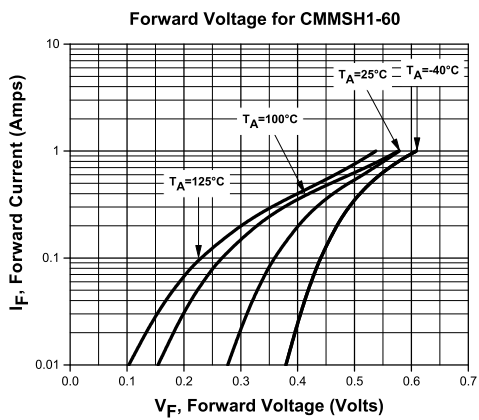
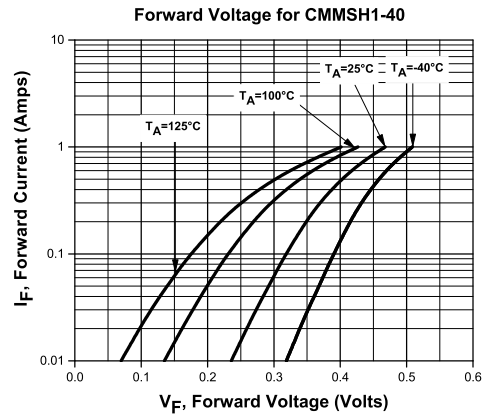
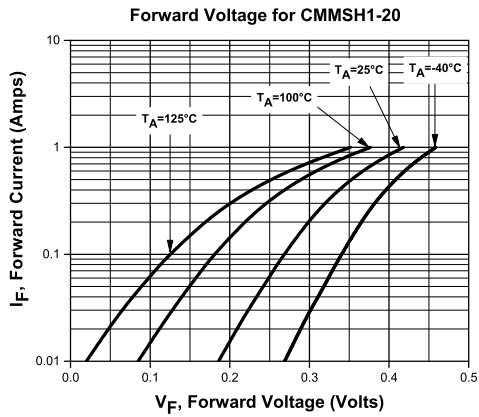
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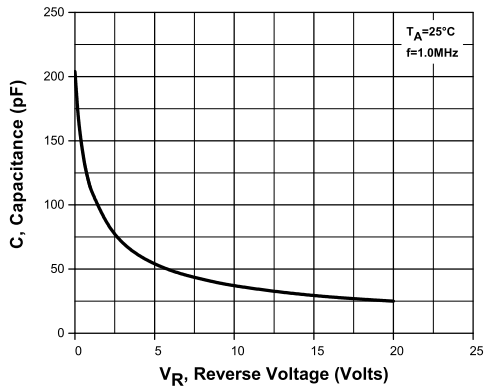
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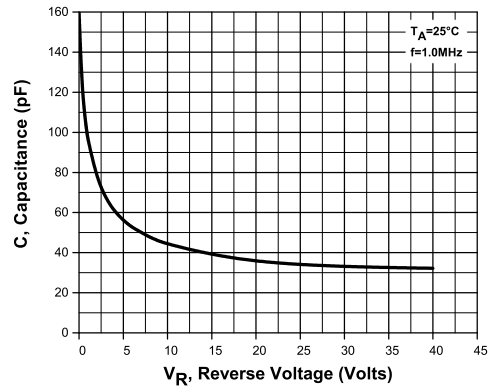


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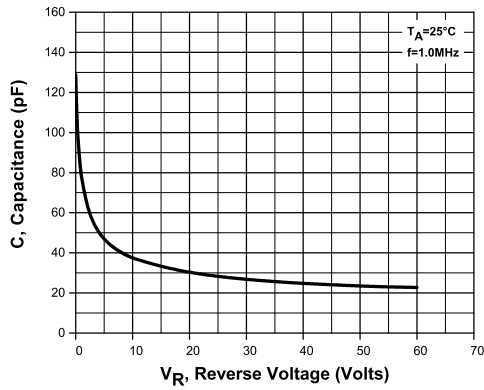
**Capacitance for CMMSH1-20**



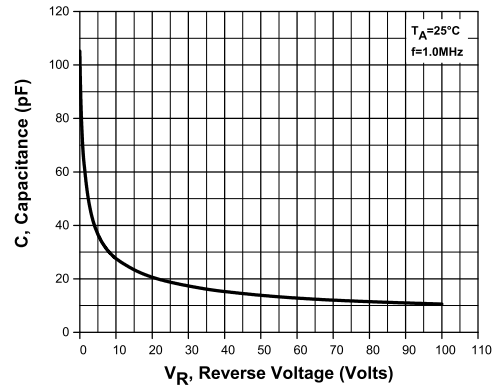
**Capacitance for CMMSH1-40**



**Capacitance for CMMSH1-60**



**Capacitance for CMMSH1-100**



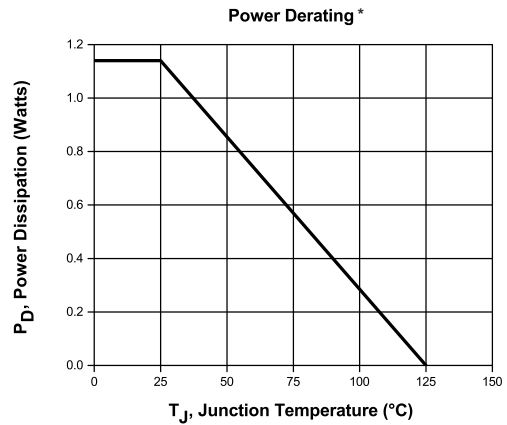
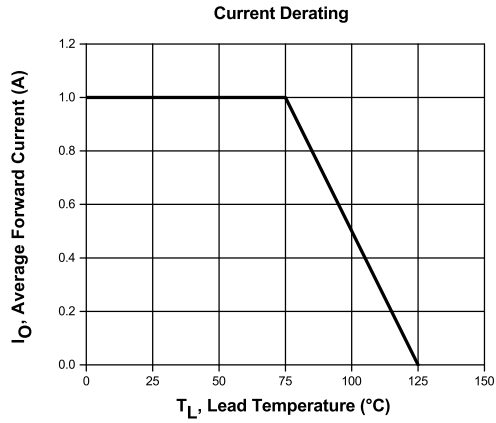
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**TYPICAL ELECTRICAL CHARACTERISTICS**



\*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



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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

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