



**THE DATASHEET OF  
CM SH1-100M TR13 PBFREE**



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

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



**SMA CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMSH1-20M series 1.0 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 reliability
- Special selections available

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

	<b>SYMBOL</b>	<b>CMSH1 -20M</b>	<b>CMSH1 -40M</b>	<b>CMSH1 -60M</b>	<b>CMSH1 -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	$V_{R(RMS)}$	14	28	42	70	V
Average Forward Current ( $T_L=75^{\circ}\text{C}$ )	$I_O$	1.0	1.0			A
Average Forward Current ( $T_L=100^{\circ}\text{C}$ )	$I_O$			1.0	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)

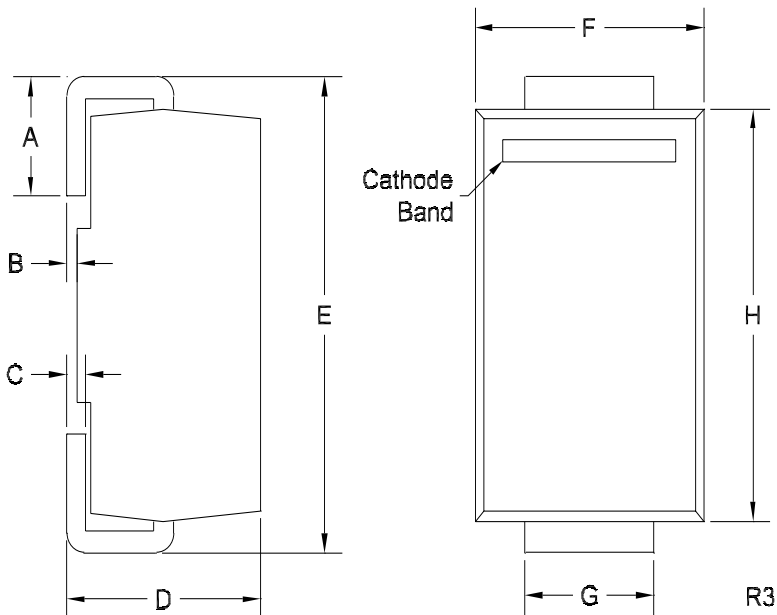
<b>SYMBOL</b>	<b>TEST CONDITIONS</b>	<b>TYP</b>	<b>MAX</b>	<b>UNITS</b>
$I_R$	$V_R$ =Rated $V_{RRM}$		0.50	mA
$I_R$	$V_R$ =Rated $V_{RRM}$ , $T_A=100^{\circ}\text{C}$		10	mA
$V_F$	$I_F=1.0\text{A}$ (CMSH1-20M)	0.47	0.50	V
$V_F$	$I_F=1.0\text{A}$ (CMSH1-40M)	0.48	0.50	V
$V_F$	$I_F=1.0\text{A}$ (CMSH1-60M)	0.60	0.70	V
$V_F$	$I_F=1.0\text{A}$ (CMSH1-100M)	0.76	0.85	V
$C_J$	$V_R=4.0\text{V}$ , $f=1.0\text{MHz}$ (CMSH1-20M)	42		pF
$C_J$	$V_R=4.0\text{V}$ , $f=1.0\text{MHz}$ (CMSH1-40M)	55		pF
$C_J$	$V_R=4.0\text{V}$ , $f=1.0\text{MHz}$ (CMSH1-60M)	43		pF
$C_J$	$V_R=4.0\text{V}$ , $f=1.0\text{MHz}$ (CMSH1-100M)	29		pF

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

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SMA CASE - MECHANICAL OUTLINE



DEVICE	MARKING CODE
CMSH1-20M	CS20M
CMSH1-40M	CS40M
CMSH1-60M	CS60M
CMSH1-100M	CS100M

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)

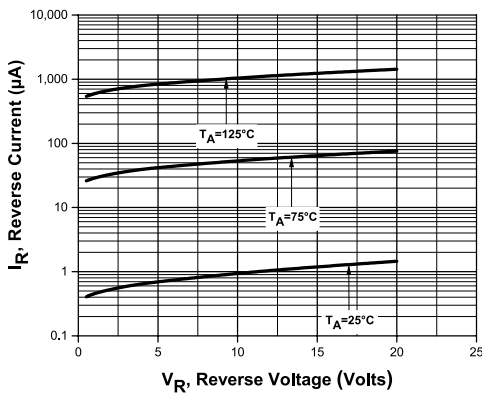
CM SH1-20M C M SH1-60M  
 C M SH1-40M C M SH1-100M

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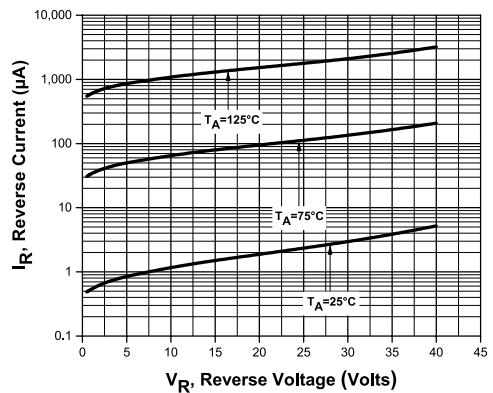


TYPICAL ELECTRICAL CHARACTERISTICS

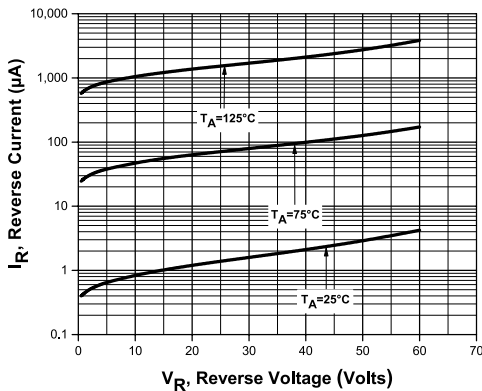
Leakage Current for C M SH1-20M



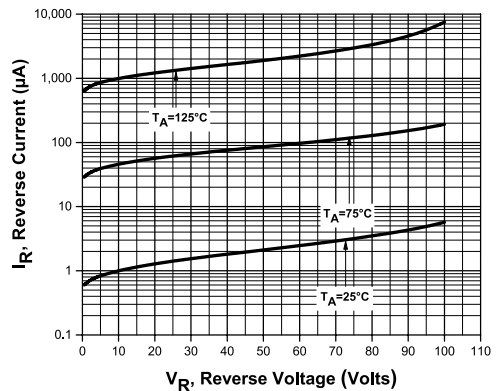
Leakage Current for C M SH1-40M



Leakage Current for C M SH1-60M



Leakage Current for C M SH1-100M



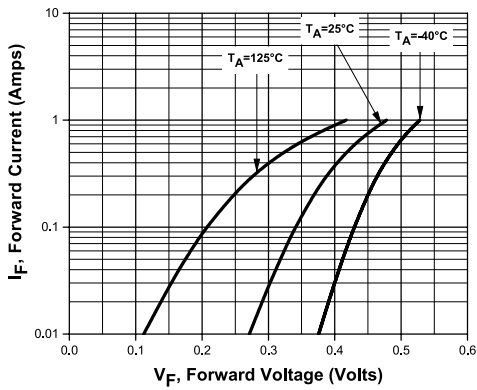
CMSH1-20M CMSH1-60M  
 CMSH1-40M CMSH1-100M

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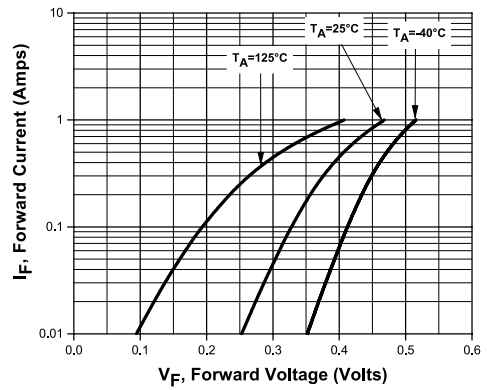


TYPICAL ELECTRICAL CHARACTERISTICS

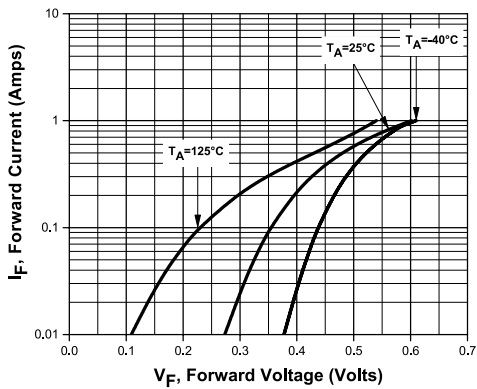
Forward Voltage for CMSH1-20M



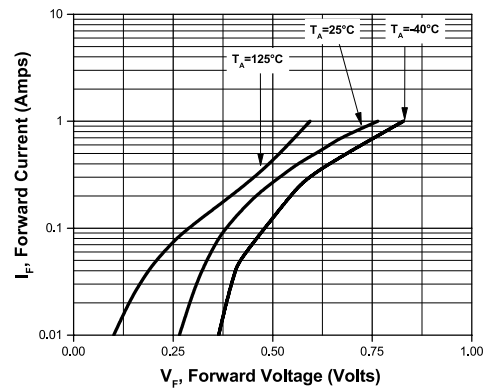
Forward Voltage for CMSH1-40M



Forward Voltage for CMSH1-60M



Forward Voltage for CMSH1-100M



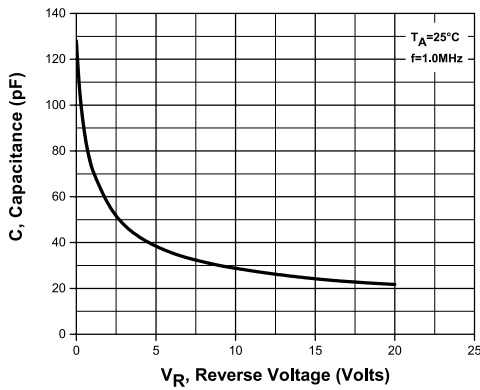
CMSH1-20M CMSH1-60M  
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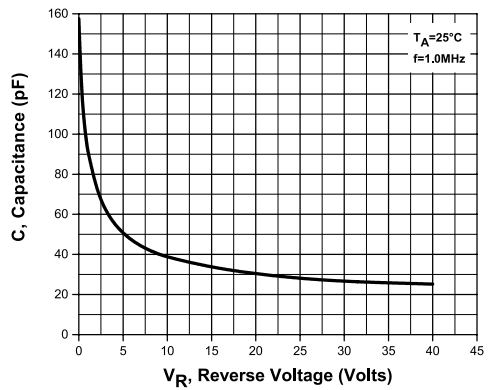


TYPICAL ELECTRICAL CHARACTERISTICS

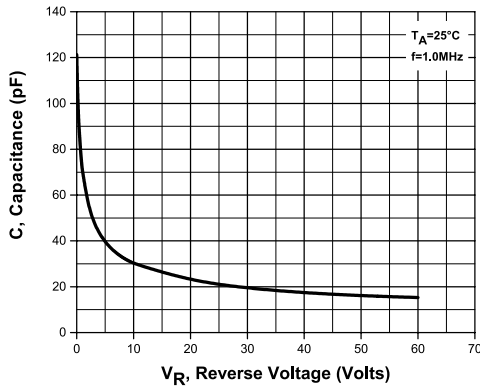
Capacitance for CMSH1-20M



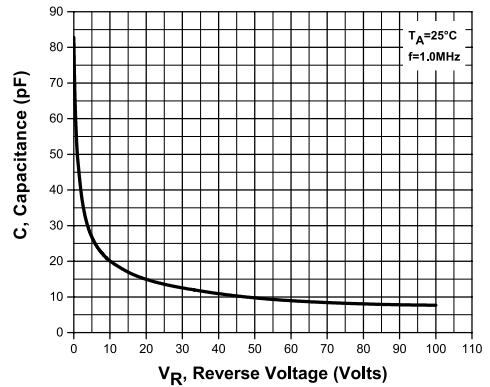
Capacitance for CMSH1-40M



Capacitance for CMSH1-60M



Capacitance for CMSH1-100M



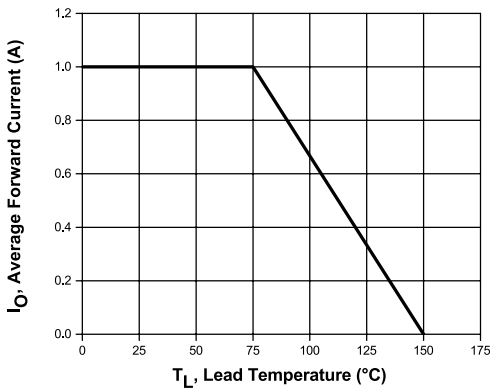
CMSH1-20M CMSH1-60M  
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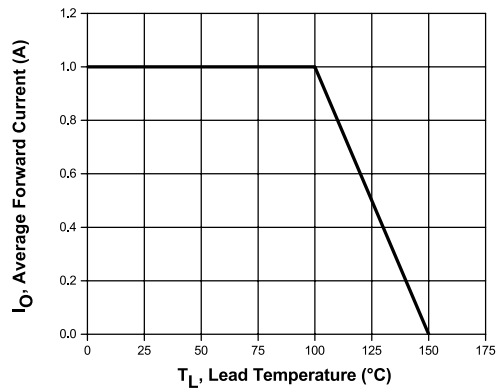


### TYPICAL ELECTRICAL CHARACTERISTICS

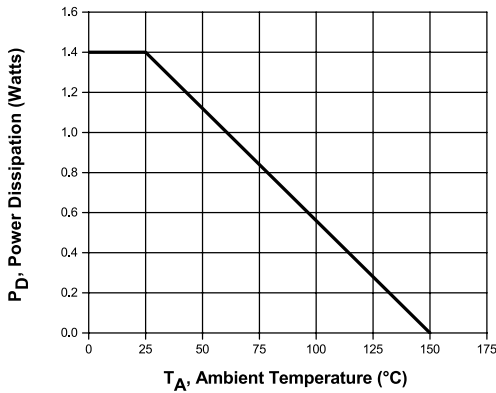
Current Derating for CMSH1-20M & CMSH1-40M



Current Derating for CMSH1-60M & CMSH1-100M



Power Derating



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

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-  [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