

CMR1H-04MFL

SURFACE MOUNT SILICON  
HYPERFAST  
RECOVERY RECTIFIER  
1.0 AMP, 400 VOLT

**HYPER  
FAST**



SMAFL CASE



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMR1H-04MFL is a 1.0 Amp, HyperFast recovery rectifier constructed with a glass passivated die and packaged in the low profile and thermally efficient SMAFL case. The device is ideal for applications requiring extremely fast recovery times, low switching losses and high voltage capability. The SMAFL fits on existing industry standard SMA mounting pad layouts.

**MARKING CODE: CSF04M**

**APPLICATIONS:**

- Flyback diode
- Freewheeling diode
- DC-DC output rectification
- Voltage clamping

**FEATURES:**

- HyperFast recovery time (20ns TYP)
- Low switching losses
- Thermally efficient package
- Fits on standard SMA pad layouts

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

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	$V_{RRM}$	400	V
DC Blocking Voltage	$V_R$	400	V
RMS Reverse Voltage	$V_{R(RMS)}$	280	V
Average Forward Current ( $T_L=120^{\circ}\text{C}$ )	$I_O$	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	$\theta_{JL}$	30	$^{\circ}\text{C/W}$

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

SYMBOL	TEST CONDITIONS	TYP	MAX	UNITS
$I_R$	$V_R=400\text{V}$	0.03	1.0	$\mu\text{A}$
$I_R$	$V_R=400\text{V}, T_A=100^{\circ}\text{C}$		150	$\mu\text{A}$
$V_F$	$I_F=1.0\text{A}$	1.1	1.25	V
$C_J$	$V_R=4.0\text{V}, f=1.0\text{MHz}$	13		pF
$t_{rr}$	$I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$	20	25	ns

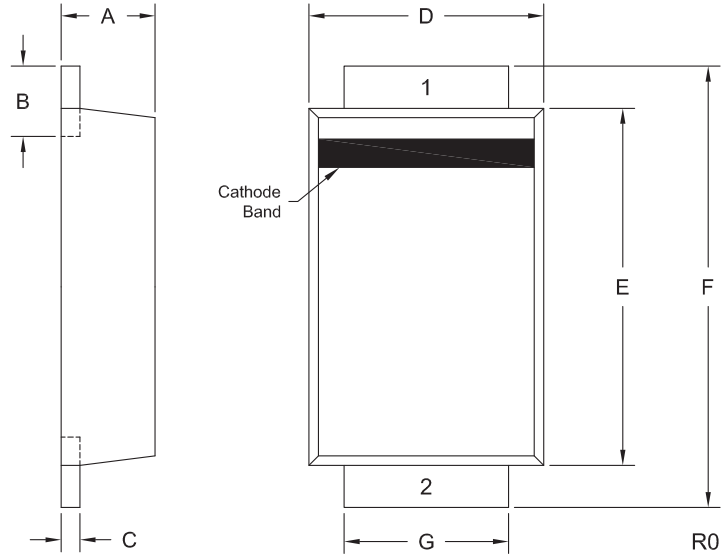
R1 (19-August 2013)

CMR1H-04MFL

SURFACE MOUNT SILICON  
HYPERFAST  
RECOVERY RECTIFIER  
1.0 AMP, 400 VOLT



SMAFL CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Cathode
- 2) Anode

MARKING CODE: CSF04M

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.035	0.044	0.90	1.10
B	0.021	0.038	0.55	0.95
C	0.006	0.010	0.15	0.25
D	0.094	0.103	2.40	2.60
E	0.145	0.154	3.70	3.90
F	0.177	0.193	4.50	4.90
G	0.065	0.073	1.65	1.85

SMAFL (REV: R0)

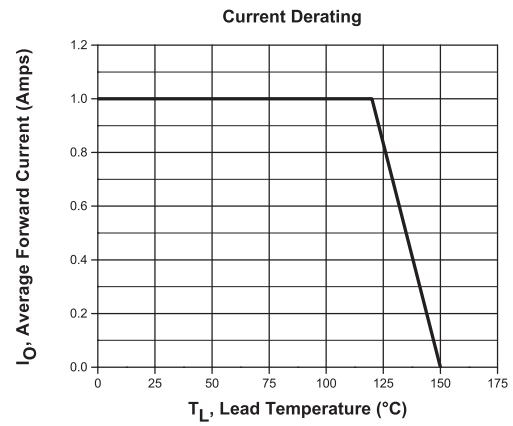
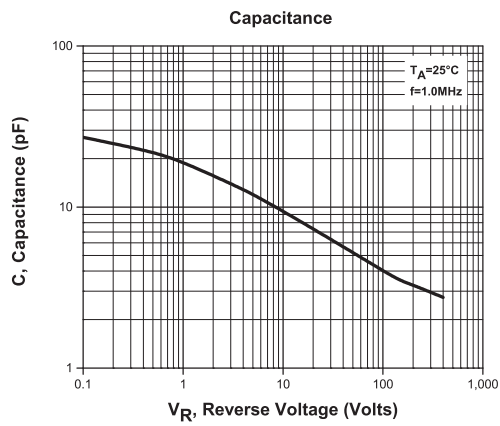
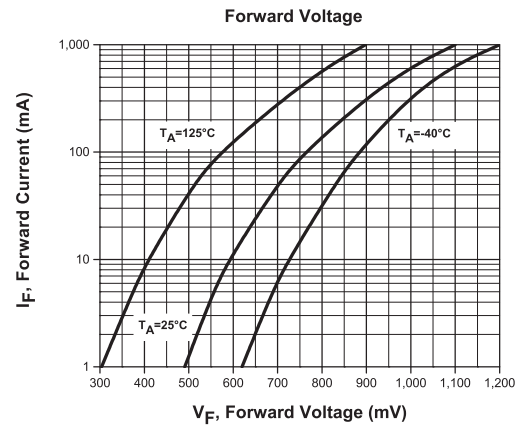
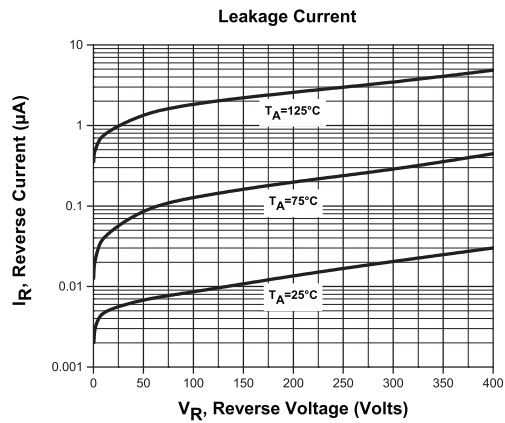
R1 (19-August 2013)

CMR1H-04MFL

SURFACE MOUNT SILICON  
HYPERFAST  
RECOVERY RECTIFIER  
1.0 AMP, 400 VOLT



### TYPICAL ELECTRICAL CHARACTERISTICS



R1 (19-August 2013)

---

## **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

---

## **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)