

CMR1U-01M CMR1U-06M  
 CMR1U-02M CMR1U-10M  
 CMR1U-04M

**SURFACE MOUNT SILICON  
 ULTRA FAST RECOVERY RECTIFIERS  
 1.0 AMP, 100 THRU 1000 VOLT**



**SMA CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMR1U-01M series 1.0 Amp surface mount Ultra Fast Recovery silicon rectifier is a highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications where small size is required. The SMA case occupies 30% less board space than the SMB case.

**MARKING CODE: SEE MARKING CODE TABLE ON FOLLOWING PAGE**

**FEATURES:**

- High reliability
- Glass passivated chip
- Special selections available

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

|  | SYMBOL         | CMR1U<br>-01M | CMR1U<br>-02M | CMR1U<br>-04M | CMR1U<br>-06M | CMR1U<br>-10M | UNITS                       |
|--|----------------|---------------|---------------|---------------|---------------|---------------|-----------------------------|
| Peak Repetitive Reverse Voltage                      | $V_{RRM}$      | 100           | 200           | 400           | 600           | 1000          | V                           |
| DC Blocking Voltage                                  | $V_R$          | 100           | 200           | 400           | 600           | 1000          | V                           |
| RMS Reverse Voltage                                  | $V_{R(RMS)}$   | 70            | 140           | 280           | 420           | 700           | 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 +175   |               |               | $^{\circ}\text{C}$          |
| Thermal Resistance                                   | $\theta_{JL}$  |               |               | 30            |               |               | $^{\circ}\text{C}/\text{W}$ |

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

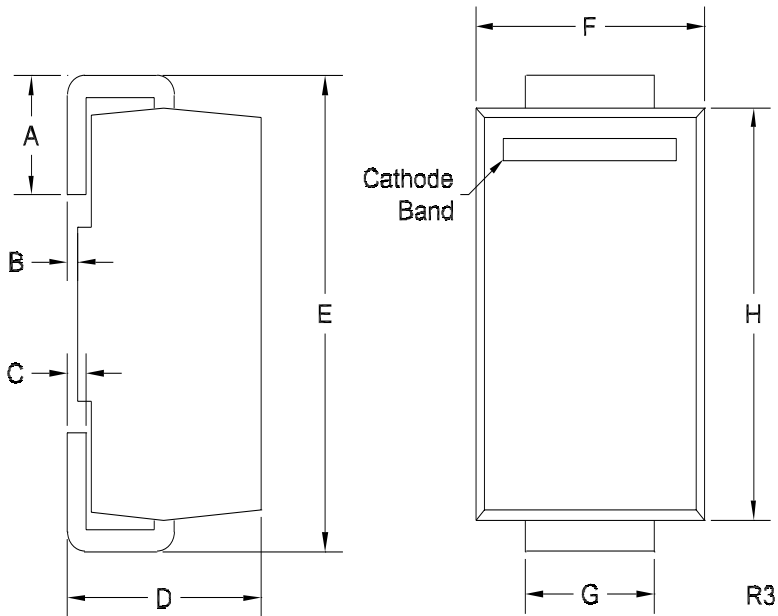
| SYMBOL   | TEST CONDITIONS   | TYP | MAX  | UNITS         |
|----------|---|-----|------|---------------|
| $I_R$    | $V_R=\text{Rated } V_{RRM}$   |     | 5.0  | $\mu\text{A}$ |
| $V_F$    | $I_F=1.0\text{A}$ , (CMR1U-01M, -02M)   |     | 1.00 | V             |
| $V_F$    | $I_F=1.0\text{A}$ , (CMR1U-04M)   |     | 1.25 | V             |
| $V_F$    | $I_F=1.0\text{A}$ , (CMR1U-06M)   |     | 1.40 | V             |
| $V_F$    | $I_F=1.0\text{A}$ , (CMR1U-10M)   |     | 1.70 | V             |
| $t_{rr}$ | $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{rr}=0.25\text{A}$ (CMR1U-01M, -02M) |     | 35   | ns            |
| $t_{rr}$ | $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{rr}=0.25\text{A}$ (CMR1U-04M)       |     | 50   | ns            |
| $t_{rr}$ | $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{rr}=0.25\text{A}$ (CMR1U-06M)       |     | 75   | ns            |
| $t_{rr}$ | $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{rr}=0.25\text{A}$ (CMR1U-10M)       |     | 100  | ns            |
| $t_{fr}$ | $I_F=1.0\text{A}$ , $V_{fr}=2.0\text{V}$  | 175 | 250  | ns            |

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**SMA CASE - MECHANICAL OUTLINE**



| DEVICE    | MARKING CODE |
|-----------|--------------|
| CMR1U-01M | CU01M        |
| CMR1U-02M | CU02M        |
| CMR1U-04M | CU04M        |
| CMR1U-06M | CU06M        |
| CMR1U-10M | CU10M        |

| DIMENSIONS |        |       |             |      |
|------------|--------|-------|-------------|------|
| 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)

R7 (02-June 2023)

## 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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