

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-01M | CMR1U-02M | CMR1U-04M   | CMR1U-06M | CMR1U-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          |           |           | $^{\circ}\text{C/W}$ |

**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            |

R6 (1-May 2015)

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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        |

| SYMBOL | DIMENSIONS |       |             |      |
|--------|------------|-------|-------------|------|
|        | INCHES     |       | MILLIMETERS |      |
|        | MIN        | MAX   | MIN         | MAX  |
| A      | 0.030      | 0.060 | 0.76        | 1.52 |
| B      | 0.004      | 0.008 | 0.10        | 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: R2)

R6 (1-May 2015)

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## 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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