

CMR3U-01M  
CMR3U-02M  
CMR3U-04M  
CMR3U-06M  
CMR3U-10M  
SURFACE MOUNT  
ULTRA FAST RECOVERY SILICON  
RECTIFIER  
3.0 AMP, 100 THRU 1000 VOLTS



# Central<sup>TM</sup> Semiconductor Corp.

## FEATURES:

- SUPER MINIATURE CASE
- LOW COST
- HIGH RELIABILITY
- GLASS PASSIVATED CHIP
- SPECIAL SELECTIONS AVAILABLE
- SUPERIOR LOT TO LOT CONSISTENCY
- "C" BEND CONSTRUCTION PROVIDES STRAIN RELIEF, WHEN MOUNTED ON PC BOARD

## DESCRIPTION:

The CENTRAL SEMICONDUCTOR 3.0 Amp Surface Mount Ultra Fast Recovery Silicon Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications where small size is required. The SMB case occupies approximately 55% less board space than the SMC case. To order devices on 12mm Tape and Reel (5000/13" Reel), add TR13 suffix to part number.

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

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

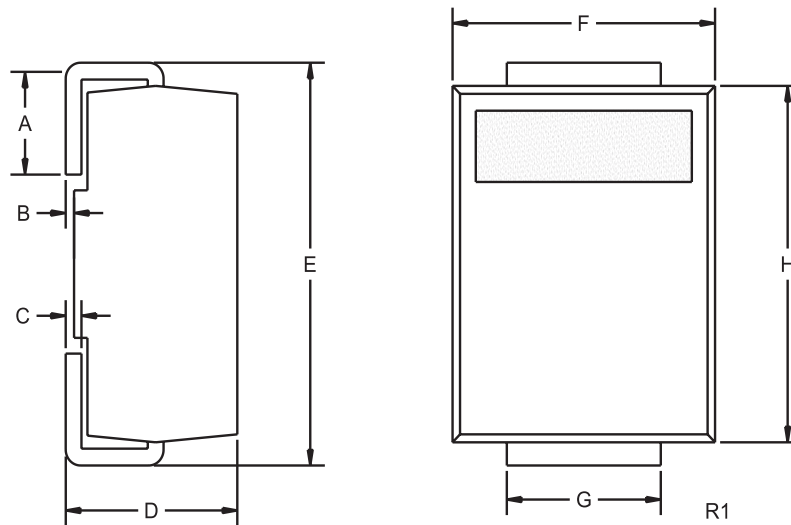
|                                                   | SYMBOL         | CMR3U<br>-01M | CMR3U<br>-02M | CMR3U<br>-04M | CMR3U<br>-06M | CMR3U<br>-10M | UNITS              |
|---------------------------------------------------|----------------|---------------|---------------|---------------|---------------|---------------|--------------------|
| 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( $T_A=75^\circ\text{C}$ ) | $I_O$          |               |               | 3.0           |               |               | A                  |
| Peak Forward Surge Current (8.3ms)                | $I_{FSM}$      |               |               | 100           |               |               | 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                                                                     | MIN | MAX  | UNITS         |
|----------|-------------------------------------------------------------------------------------|-----|------|---------------|
| $I_R$    | $V_R=\text{Rated } V_{RRM}$                                                         |     | 5.0  | $\mu\text{A}$ |
| $I_R$    | $V_R=\text{Rated } V_{RRM}, T_A=100^\circ\text{C}$                                  |     | 500  | $\mu\text{A}$ |
| $V_F$    | $I_F=3.0\text{A}$ (CMR3U-01M, CMR3U-02M)                                            |     | 1.00 | V             |
| $V_F$    | $I_F=3.0\text{A}$ (CMR3U-04M)                                                       |     | 1.25 | V             |
| $V_F$    | $I_F=3.0\text{A}$ (CMR3U-06M)                                                       |     | 1.40 | V             |
| $V_F$    | $I_F=3.0\text{A}$ (CMR3U-10M)                                                       |     | 2.00 | V             |
| $t_{rr}$ | $I_F=500\text{mA}, I_R=1.0\text{A}, I_{rr}=250\text{mA}$ (CMR3U-01M thru CMR3U-04M) |     | 50   | nS            |
| $t_{rr}$ | $I_F=500\text{mA}, I_R=1.0\text{A}, I_{rr}=250\text{mA}$ (CMR3U-06M, CMR3U-10M)     |     | 100  | nS            |

R2 (14-November 2002)

**SMB CASE - MECHANICAL OUTLINE**



**MARKING CODES:**

| DEVICE    | MARKING CODE |
|-----------|--------------|
| CMR3U-01M | CU301M       |
| CMR3U-02M | CU302M       |
| CMR3U-04M | CU304M       |
| CMR3U-06M | CU306M       |
| CMR3U-10M | CU310M       |

| DIMENSIONS |        |       |             |      |
|------------|--------|-------|-------------|------|
| SYMBOL     | 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          | 0.086  | 0.096 | 2.18        | 2.44 |
| E          | 0.200  | 0.220 | 5.08        | 5.59 |
| F          | 0.130  | 0.150 | 3.30        | 3.81 |
| G          | 0.077  | 0.083 | 1.96        | 2.11 |
| H          | 0.160  | 0.180 | 4.06        | 4.57 |

SMB (REV: R1)