

CMR1U-01  
CMR1U-02  
CMR1U-04

CMR1U-06  
CMR1U-10

**SURFACE MOUNT ULTRA FAST  
RECOVERY SILICON RECTIFIER  
1.0 AMP, 100 THRU 1000 VOLTS**



**SMB CASE**

# Central<sup>TM</sup>

## Semiconductor Corp.

### FEATURES:

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

### DESCRIPTION:

The CENTRAL SEMICONDUCTOR 1.0 Amp Surface Mount Silicon Ultra Fast Recovery Rectifier is a high quality, well constructed, highly reliable component designed for use in all types of commercial, industrial, entertainment, computer and automotive applications. To order devices on 12mm Tape and Reel (3000/ 13" Reel), add TR13 suffix to part number

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

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

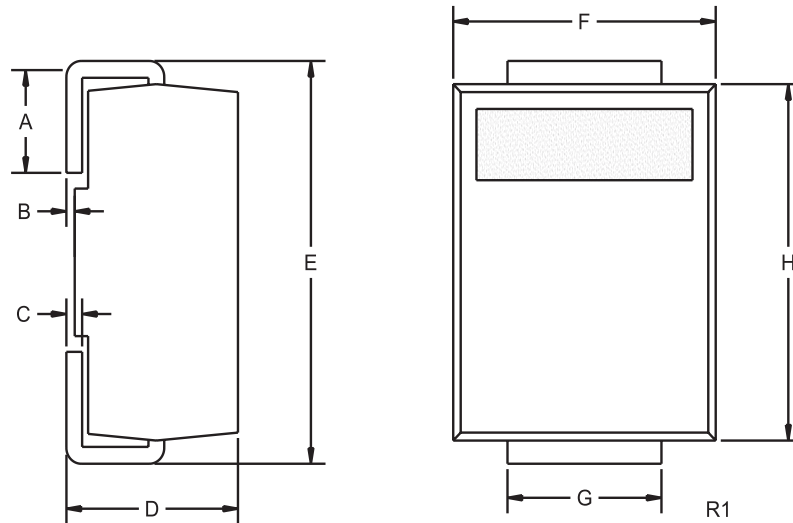
|                                                    | SYMBOL         | CMR1U<br><u>-01</u> | CMR1U<br><u>-02</u> | CMR1U<br><u>-04</u> | CMR1U<br><u>-06</u> | CMR1U<br><u>-10</u> | UNITS              |
|----------------------------------------------------|----------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|
| 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(8.3ms)                  | $I_{FSM}$      |                     |                     | 3.0                 |                     |                     | A                  |
| Operating and Storage<br>Junction Temperature      | $T_J, T_{stg}$ |                     | -65 to +175         |                     |                     |                     | $^\circ\text{C}$   |
| Thermal Resistance                                 | $\Theta_{JL}$  |                     |                     | 20                  |                     |                     | $^\circ\text{C/W}$ |

**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  | $\mu\text{A}$ |
| $I_R$    | $V_R=\text{Rated } V_{RRM}, T_A=125^\circ\text{C}$                                              |     | 100  | $\mu\text{A}$ |
| $V_F$    | $I_F=1.0\text{A}, (\text{CMR1U-01, CMR1U-02})$                                                  |     | 1.0  | V             |
| $V_F$    | $I_F=1.0\text{A}, (\text{CMR1U-04})$                                                            |     | 1.25 | V             |
| $V_F$    | $I_F=1.0\text{A}, (\text{CMR1U-06})$                                                            |     | 1.40 | V             |
| $V_F$    | $I_F=1.0\text{A}, (\text{CMR1U-10})$                                                            |     | 1.70 | V             |
| $t_{rr}$ | $I_F=0.5\text{A}, I_R=1.0\text{A}, \text{Recover to } 0.25\text{A} (\text{CMR1U-01, -02, -04})$ |     | 50   | ns            |
| $t_{rr}$ | $I_F=0.5\text{A}, I_R=1.0\text{A}, \text{Recover to } 0.25\text{A} (\text{CMR1U-06, -10})$      |     | 100  | ns            |

R2 (12-November 2002)

**SMB CASE - MECHANICAL OUTLINE**



**MARKING CODES:**

| DEVICE   | MARKING CODE |
|----------|--------------|
| CMR1U-01 | CU01         |
| CMR1U-02 | CU02         |
| CMR1U-04 | CU04         |
| CMR1U-06 | CU06         |
| CMR1U-10 | CU10         |

| 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)