



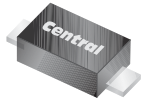
**THE DATASHEET OF  
CMMR1U-04 TR PBFREE**



**CMMR1U SERIES**  
**SURFACE MOUNT**  
**ULTRA FAST RECOVERY**  
**SILICON RECTIFIER**  
**1 AMP, 200 THRU 800 VOLTS**



www.centrasemi.com



**SOD-123F CASE**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMMR1U Series are high quality 1.0 Amp Surface Mount Silicon Rectifiers, well constructed, highly reliable components designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications. The SOD-123F case occupies 58% less board space than the SMA, with a 67% lower profile.

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

**FEATURES:**

- Flat lead design and clip assembly allow for a larger die size and improved thermal efficiency
- Superior lot to lot consistency
- Low cost
- High reliability

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

|  | SYMBOL         | CMMR1U<br><u>-02</u> | CMMR1U<br><u>-04</u> | CMMR1U<br><u>-06</u> | CMMR1U<br><u>-08</u> | UNITS              |
|--|----------------|----------------------|----------------------|----------------------|----------------------|--------------------|
| Peak Repetitive Reverse Voltage                    | $V_{RRM}$      | 200                  | 400                  | 600                  | 800                  | V                  |
| DC Blocking Voltage                                | $V_R$          | 200                  | 400                  | 600                  | 800                  | V                  |
| RMS Reverse Voltage                                | $V_{R(RMS)}$   | 140                  | 280                  | 420                  | 560                  | V                  |
| Average Forward Current ( $T_L=90^\circ\text{C}$ ) | $I_O$          |                      |                      | 1.0                  |                      | A                  |
| Peak Forward Surge Current (8.3ms)                 | $I_{FSM}$      |                      |                      | 30                   |                      | A                  |
| Operating and Storage Junction Temperature         | $T_J, T_{stg}$ |                      |                      | -65 to +150          |                      | $^\circ\text{C}$   |
| Thermal resistance (Note 1)                        | $\theta_{JA}$  |                      |                      | 180                  |                      | $^\circ\text{C/W}$ |
| Thermal resistance (Note 2)                        | $\theta_{JA}$  |                      |                      | 65                   |                      | $^\circ\text{C/W}$ |

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

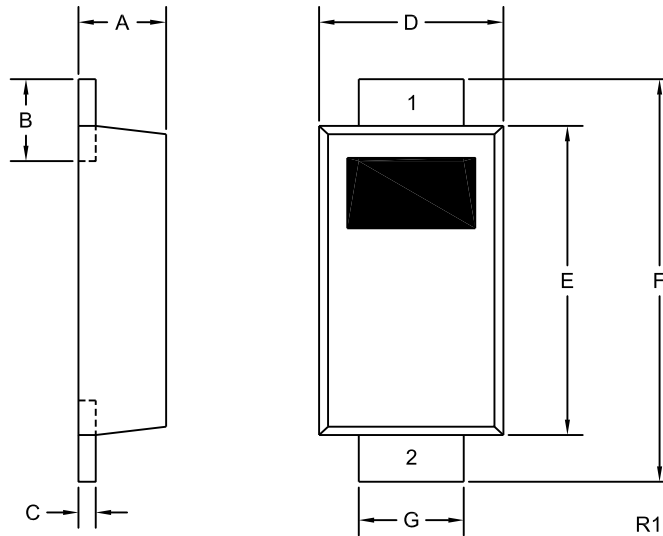
| SYMBOL   | TEST CONDITIONS  | TYP | MAX | UNITS         |
|----------|--|-----|-----|---------------|
| $I_R$    | $V_R=\text{Rated } V_{RRM}$  |     | 1.0 | $\mu\text{A}$ |
| $I_R$    | $V_R=\text{Rated } V_{RRM}, T_A=125^\circ\text{C}$                       |     | 50  | $\mu\text{A}$ |
| $V_F$    | $I_F=1.0\text{A (CMMR1U-02)}$  |     | 1.0 | V             |
| $V_F$    | $I_F=1.0\text{A (CMMR1U-04)}$  |     | 1.4 | V             |
| $V_F$    | $I_F=1.0\text{A (CMMR1U-06, -08)}$                                       |     | 1.7 | V             |
| $C_J$    | $V_R=4.0\text{V}, f=1.0\text{MHz}$                                       | 9.0 |     | pF            |
| $t_{rr}$ | $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A (CMMR1U-02, -04)}$ |     | 50  | ns            |
| $t_{rr}$ | $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A (CMMR1U-06, -08)}$ |     | 100 | ns            |

Notes: (1) FR-4 Epoxy PCB with copper mounting pad area of  $2.2\text{mm}^2$   
(2) FR-4 Epoxy PCB with copper mounting pad area of  $36\text{mm}^2$

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**SOD-123F CASE - MECHANICAL OUTLINE**



| DEVICE    | MARKING CODE |
|-----------|--------------|
| CMMR1U-02 | CU02F        |
| CMMR1U-04 | CU04F        |
| CMMR1U-06 | CU06F        |
| CMMR1U-08 | CU08F        |

| SYMBOL | INCHES |       | MILLIMETERS |      |
|--------|--------|-------|-------------|------|
|        | MIN    | MAX   | MIN         | MAX  |
| A      | 0.035  | 0.043 | 0.88        | 1.08 |
| B      | 0.020  | 0.031 | 0.50        | 0.80 |
| C      | 0.004  | 0.008 | 0.10        | 0.20 |
| D      | 0.065  | 0.077 | 1.65        | 1.95 |
| E      | 0.104  | 0.116 | 2.65        | 2.95 |
| F      | 0.140  | 0.156 | 3.55        | 3.95 |
| G      | 0.030  | 0.041 | 0.75        | 1.05 |

SOD-123F (REV:R1)

**LEAD CODE:**  
 1) Cathode  
 2) Anode

R3 (20-December 2010)

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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

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- Custom product packing

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- Customer specific screening
- Up-screening capabilities
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- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
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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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