



**THE DATASHEET OF  
CMR3U-04 TR13 PBFREE**



CMR3U-01 CMR3U-06  
 CMR3U-02 CMR3U-10  
 CMR3U-04

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



**SMC CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMR3U-01 series 3.0 Amp surface mount silicon Ultra Fast Recovery rectifiers are highly reliable components designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications. To order devices on 16mm Tape and Reel (3000/13" Reel), add TR13 suffix to part number.

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

**FEATURES:**

- High reliability
- Glass passivated chip
- Special selections available
- "C" bend construction provides strain relief when mounted on PC board

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

|  | SYMBOL         | CMR3U-01 | CMR3U-02 | CMR3U-04    | CMR3U-06 | CMR3U-10 | 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, $t_p=8.3\text{ms}$     | $I_{FSM}$      |          |          | 150         |          |          | A                  |
| Operating and Storage Junction Temperature         | $T_J, T_{stg}$ |          |          | -65 to +175 |          |          | $^\circ\text{C}$   |
| Thermal Resistance                                 | $\Theta_{JL}$  |          |          | 10          |          |          | $^\circ\text{C/W}$ |

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

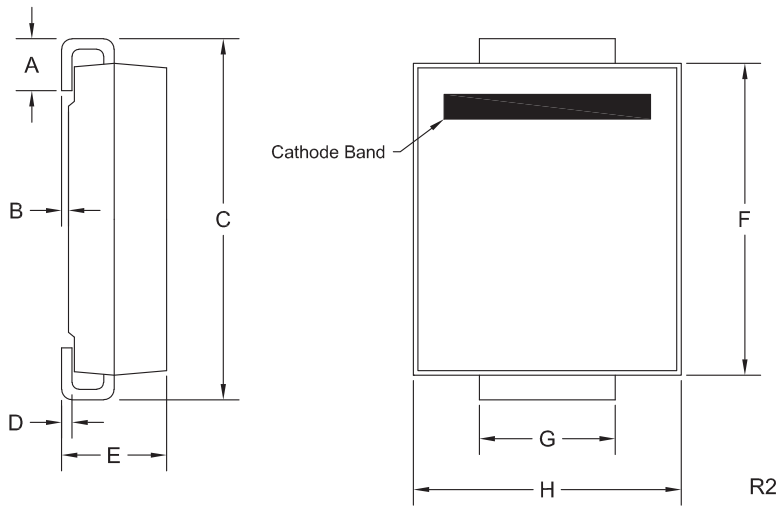
| SYMBOL   | TEST CONDITIONS  | MAX  | UNITS         |
|----------|--|------|---------------|
| $I_R$    | $V_R$ =Rated $V_{RRM}$   | 5.0  | $\mu\text{A}$ |
| $I_R$    | $V_R$ =Rated $V_{RRM}$ , $T_A=100^\circ\text{C}$                                   | 500  | $\mu\text{A}$ |
| $V_F$    | $I_F=3.0\text{A}$ (CMR3U-01, -02)  | 1.00 | V             |
| $V_F$    | $I_F=3.0\text{A}$ (CMR3U-04)   | 1.25 | V             |
| $V_F$    | $I_F=3.0\text{A}$ (CMR3U-06)   | 1.40 | V             |
| $V_F$    | $I_F=3.0\text{A}$ (CMR3U-10)   | 1.70 | V             |
| $t_{rr}$ | $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{rr}=0.25\text{A}$ (CMR3U-01, -02, -04) | 50   | ns            |
| $t_{rr}$ | $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{rr}=0.25\text{A}$ (CMR3U-06, -10)      | 100  | ns            |

CMR3U-01 CMR3U-06  
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 CMR3U-04



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**SMC CASE - MECHANICAL OUTLINE**



| DEVICE   | MARKING CODE |
|----------|--------------|
| CMR3U-01 | CU301        |
| CMR3U-02 | CU302        |
| CMR3U-04 | CU304        |
| CMR3U-06 | CU306        |
| CMR3U-10 | CU310        |

| 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      | 0.305  | 0.320 | 7.75        | 8.13 |
| D      | 0.006  | 0.012 | 0.15        | 0.31 |
| E      | 0.079  | 0.103 | 2.00        | 2.62 |
| F      | 0.260  | 0.280 | 6.60        | 7.11 |
| G      | 0.108  | 0.128 | 2.75        | 3.25 |
| H      | 0.220  | 0.245 | 5.59        | 6.22 |

SMC (REV: R2)

R4 (11-September 2013)

## 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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