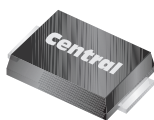


CMR1U-02FL  
CMR1U-04FL  
CMR1U-06FL

**SURFACE MOUNT ULTRA FAST  
RECOVERY SILICON RECTIFIER  
1 AMP, 200 THRU 600 VOLTS**



**SMBFL CASE**



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

#### DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMR1U-02FL series devices are 1.0 amp, surface mount, ultra fast recovery silicon rectifiers packaged in the low profile SMBFL case. The SMBFL fits on existing industry standard SMB mounting pad layouts.

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

#### APPLICATIONS:

- DC-DC converters
- Flyback diode
- Freewheeling diode

#### FEATURES:

- Ultra fast recovery time
- Low capacitance

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

|                                                     | SYMBOL         | CMR1U<br>-02FL | CMR1U<br>-04FL | CMR1U<br>-06FL | UNITS              |
|-----------------------------------------------------|----------------|----------------|----------------|----------------|--------------------|
| Peak Repetitive Reverse Voltage                     | $V_{RRM}$      | 200            | 400            | 600            | V                  |
| DC Blocking Voltage                                 | $V_R$          | 200            | 400            | 600            | V                  |
| RMS Reverse Voltage                                 | $V_{R(RMS)}$   | 140            | 280            | 420            | V                  |
| Average Forward Current ( $T_L=120^\circ\text{C}$ ) | $I_O$          |                | 1.0            |                | A                  |
| Peak Forward Surge Current, $t_p=8.3\text{ms}$      | $I_{FSM}$      |                | 30             |                | A                  |
| Operating and Storage Junction Temperature          | $T_J, T_{stg}$ |                | -55 to +150    |                | $^\circ\text{C}$   |
| Thermal Resistance                                  | $\theta_{JA}$  |                | 62.5           |                | $^\circ\text{C/W}$ |
| Thermal Resistance                                  | $\theta_{JL}$  |                | 20             |                | $^\circ\text{C/W}$ |

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

| SYMBOL   | TEST CONDITIONS                                                                  | TYP  | MAX | UNITS         |
|----------|----------------------------------------------------------------------------------|------|-----|---------------|
| $I_R$    | $V_R=\text{Rated } V_{RRM}$                                                      | 0.01 | 1.0 | $\mu\text{A}$ |
| $V_F$    | $I_F=1.0\text{A}$ , (CMR1U-02FL)                                                 |      | 1.0 | V             |
| $V_F$    | $I_F=1.0\text{A}$ , (CMR1U-04FL)                                                 |      | 1.3 | V             |
| $V_F$    | $I_F=1.0\text{A}$ , (CMR1U-06FL)                                                 |      | 1.7 | V             |
| $C_J$    | $V_R=4.0\text{V}$ , $f=1.0\text{MHz}$ (CMR1U-02FL)                               | 18   |     | pF            |
| $C_J$    | $V_R=4.0\text{V}$ , $f=1.0\text{MHz}$ (CMR1U-04FL)                               | 10   |     | pF            |
| $C_J$    | $V_R=4.0\text{V}$ , $f=1.0\text{MHz}$ (CMR1U-06FL)                               | 8.0  |     | pF            |
| $t_{rr}$ | $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{rr}=0.25\text{A}$ (CMR1U-02FL, 04FL) |      | 50  | ns            |
| $t_{rr}$ | $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{rr}=0.25\text{A}$ (CMR1U-06FL)       |      | 100 | ns            |

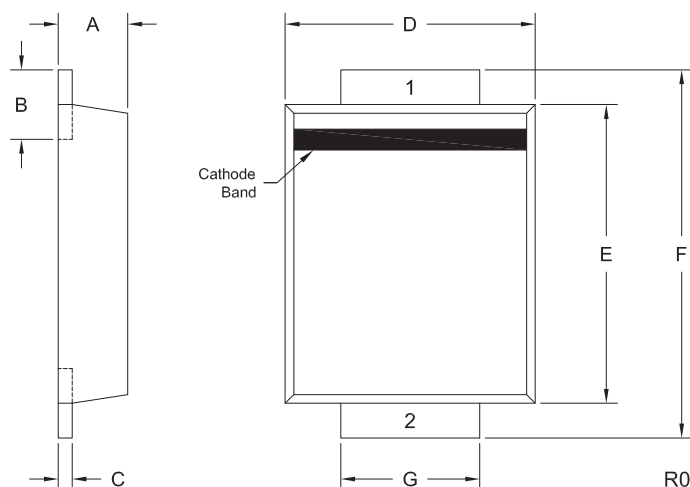
R2 (2-November 2012)

CMR1U-02FL  
CMR1U-04FL  
CMR1U-06FL

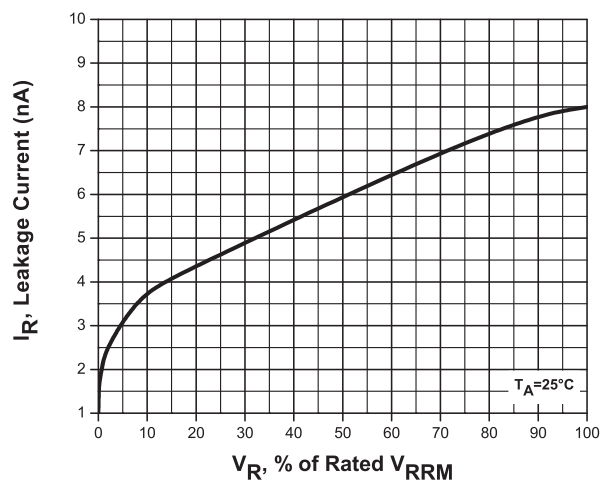
SURFACE MOUNT ULTRA FAST  
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# SMBFL CASE - MECHANICAL OUTLINE



Typical Reverse Leakage Characteristics



| DIMENSIONS |        |       |             |      |
|------------|--------|-------|-------------|------|
| SYMBOL     | INCHES |       | MILLIMETERS |      |
|            | MIN    | MAX   | MIN         | MAX  |
| A          | 0.035  | 0.044 | 0.90        | 1.10 |
| B          | 0.031  | 0.048 | 0.80        | 1.20 |
| C          | 0.006  | 0.010 | 0.15        | 0.25 |
| D          | 0.137  | 0.146 | 3.50        | 3.70 |
| E          | 0.161  | 0.178 | 4.10        | 4.50 |
| F          | 0.200  | 0.217 | 5.10        | 5.50 |
| G          | 0.074  | 0.083 | 1.90        | 2.10 |

SMBFL (REV: R0)

## LEAD CODE:

- 1) Cathode
- 2) Anode

| DEVICE     | MARKING CODE |
|------------|--------------|
| CMR1U-02FL | CU02FL       |
| CMR1U-04FL | CU04FL       |
| CMR1U-06FL | CU06FL       |

R2 (2-November 2012)