

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

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Manufacturers of World Class Discrete Semiconductors

CR16UD-02FP  
CR16UD-04FP  
CR16UD-08FP

ULTRA FAST RECOVERY RECTIFIERS  
DUAL, COMMON CATHODE  
16 AMP, 200 THRU 800 VOLTS

TO-220FP CASE

## FEATURES:

- HIGH RELIABILITY.
- HIGH CURRENT CAPABILITY.
- UL FLAMMABILITY CLASSIFICATION 94V-0.
- ULTRA FAST RECOVERY TIME.
- LOW FORWARD VOLTAGE.
- HIGH SURGE CAPACITY.
- SUPERIOR LOT TO LOT CONSISTENCY.
- HIGH VOLTAGE.

## DESCRIPTION:

The CENTRAL SEMICONDUCTOR CR16UD-02FP Series types are a Silicon Ultra-Fast Recovery Rectifier designed for ultra fast switching applications requiring a low forward voltage drop.

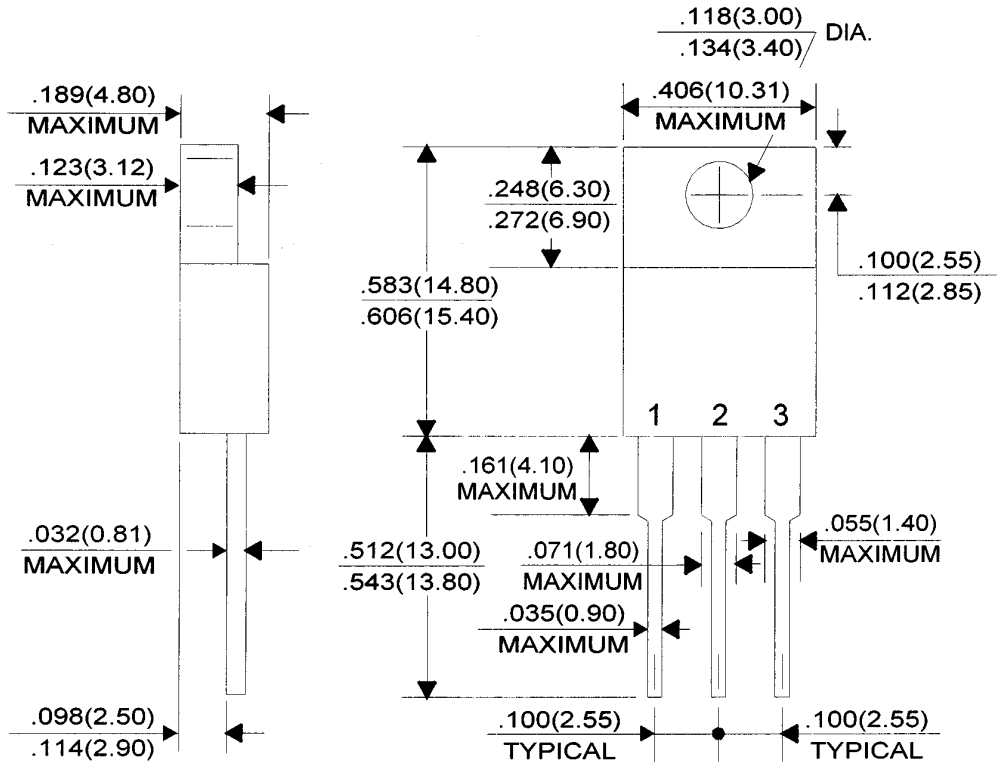
**MAXIMUM RATINGS:** ( $T_C=25^\circ\text{C}$  unless otherwise noted)

|   | <u>SYMBOL</u>  | <u>CR16UD<br/>-02FP</u> | <u>CR16UD<br/>-04FP</u> | <u>CR16UD<br/>-08FP</u> | <u>UNITS</u>       |
|---|----------------|-------------------------|-------------------------|-------------------------|--------------------|
| Peak Repetitive Reverse Voltage                     | $V_{RRM}$      | 200                     | 400                     | 800                     | V                  |
| DC Blocking Voltage                                 | $V_R$          | 200                     | 400                     | 800                     | V                  |
| RMS Reverse Voltage                                 | $V_{R(RMS)}$   | 140                     | 280                     | 560                     | V                  |
| Average Forward Current ( $T_C=100^\circ\text{C}$ ) | $I_O$          |                         | 16                      |                         | A                  |
| Peak Forward Surge Current (8.3ms)                  | $I_{FSM}$      |                         | 125                     |                         | A                  |
| Operating and Storage<br>Junction Temperature       | $T_J, T_{stg}$ |                         | -50 to +150             |                         | $^\circ\text{C}$   |
| Typical Thermal Resistance                          | $\Theta_{JC}$  |                         | 3.0                     |                         | $^\circ\text{C/W}$ |
| Typical Thermal Resistance                          | $\Theta_{JA}$  |                         | 30                      |                         | $^\circ\text{C/W}$ |

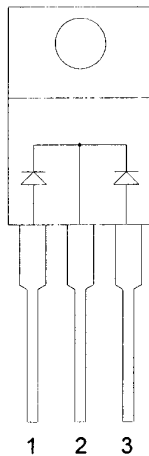
**ELECTRICAL CHARACTERISTICS PER DIODE:** ( $T_C=25^\circ\text{C}$  unless otherwise noted)

| <u>SYMBOL</u> | <u>TEST CONDITIONS</u>                                  | <u>CR16UD<br/>-02FP</u> |            | <u>CR16UD<br/>-04FP</u> |            | <u>CR16UD<br/>-08FP</u> |            | <u>UNITS</u>  |
|---------------|---|-------------------------|------------|-------------------------|------------|-------------------------|------------|---------------|
|               |   | <u>TYP</u>              | <u>MAX</u> | <u>TYP</u>              | <u>MAX</u> | <u>TYP</u>              | <u>MAX</u> |               |
| $I_R$         | $V_R=\text{Rated } V_{RRM}$                             |                         | 5.0        |                         | 10         |                         | 10         | $\mu\text{A}$ |
| $I_R$         | $V_R=\text{Rated } V_{RRM}, T_C=150^\circ\text{C}$      |                         | 250        |                         | 500        |                         | 500        | $\mu\text{A}$ |
| $V_F$         | $I_F=8.0\text{A}$                                       |                         | 0.975      |                         | 1.3        |                         | 1.5        | V             |
| $V_F$         | $I_F=8.0\text{A}, T_C=150^\circ\text{C}$                |                         | 0.895      |                         | 1.1        |                         | 1.2        | V             |
| $t_{rr}$      | $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{RR}=0.25\text{A}$ |                         | 30         |                         | 30         |                         | 90         | ns            |
| $C_J$         | $V_R=4.0\text{V}, f=1.0\text{MHz}$                      | 80                      |            | 80                      |            | 50                      |            | pF            |

# TO-220FP MECHANICAL OUTLINE



All Dimensions in Inches (mm).



LEAD CODE:

- 1) ANODE#1
- 2) CATHODE
- 3) ANODE #2

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