

Pb Free Plating Product

## U16C20C/U16C40C/U16C60C



16.0 Ampere Heatsink Common Cathode Ultra Fast Recovery Rectifiers

**Features**

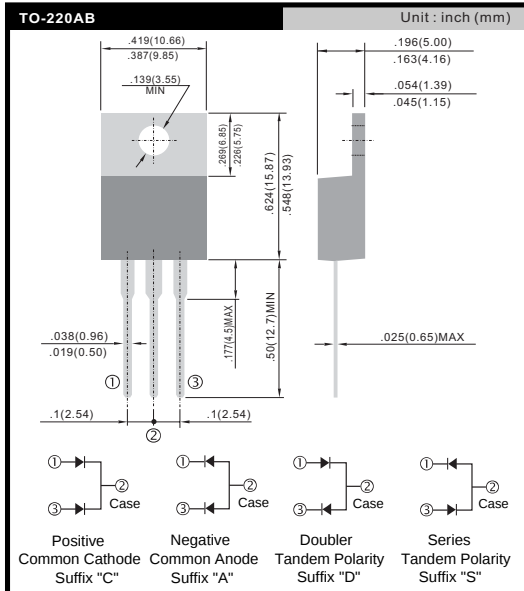
- \* Fast switching for high efficiency
- \* Low forward voltage drop
- \* High current capability
- \* Low reverse leakage current
- \* High surge current capability

**Application**

- \* Automotive Inverters and Solar Inverters
- \* Plating Power Supply, SMPS and UPS
- \* Car Audio Amplifiers and Sound Device Systems

**Mechanical Data**

- \* Case: Heatsink TO-220AB open package
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solderable per MIL-STD-202 method 208
- \* Polarity: As marked on diode body
- \* Mounting position: Any
- \* Weight: 2.2 gram approximately

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

|                                                                                                      | SYMBOL                            | U16C20C      | U16C40C | U16C60C | UNIT     |
|------------------------------------------------------------------------------------------------------|-----------------------------------|--------------|---------|---------|----------|
| Maximum Recurrent Peak Reverse Voltage                                                               | V <sub>RRM</sub>                  | 200          | 400     | 600     | V        |
| Maximum RMS Voltage                                                                                  | V <sub>RMS</sub>                  | 140          | 280     | 420     | V        |
| Maximum DC Blocking Voltage                                                                          | V <sub>DC</sub>                   | 200          | 400     | 600     | V        |
| Maximum Average Forward Rectified Current T <sub>C</sub> =100°C (Total Device 2x8A=16A)              | I <sub>F(AV)</sub>                | 16.0         |         |         | A        |
| Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method)    | I <sub>FSM</sub>                  | 175          | 150     |         | A        |
| Maximum Instantaneous Forward Voltage @ 8.0 A (Per Diode/Per Leg)                                    | V <sub>F</sub>                    | 0.98         | 1.3     | 1.7     | V        |
| Maximum DC Reverse Current @T <sub>J</sub> =25°C At Rated DC Blocking Voltage @T <sub>J</sub> =125°C | I <sub>R</sub>                    | 5.0<br>100   |         |         | μA<br>μA |
| Maximum Reverse Recovery Time (Note 1)                                                               | T <sub>rr</sub>                   | 35           |         |         | nS       |
| Typical junction Capacitance (Note 2)                                                                | C <sub>J</sub>                    | 90           |         |         | pF       |
| Typical Thermal Resistance (Note 3)                                                                  | R <sub>θJC</sub>                  | 2.0          |         |         | °C/W     |
| Operating Junction and Storage Temperature Range                                                     | T <sub>J</sub> , T <sub>STG</sub> | -55 to + 150 |         |         | °C       |

NOTES : (1) Reverse recovery test conditions I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A.

(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.

(3) Thermal Resistance junction to case.

FIG.1 - FORWARD CURRENT DERATING CURVE

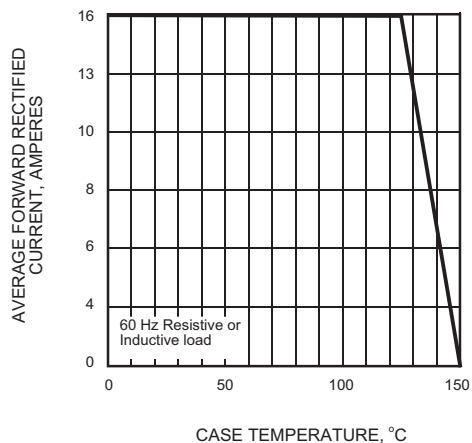


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

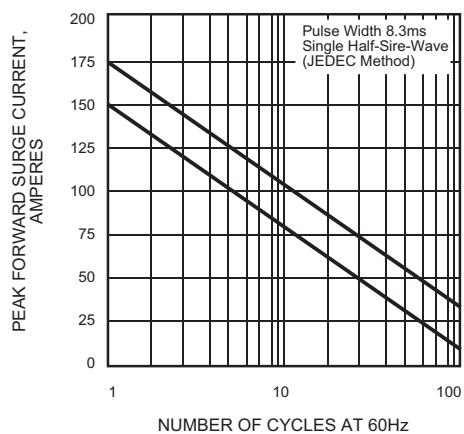


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

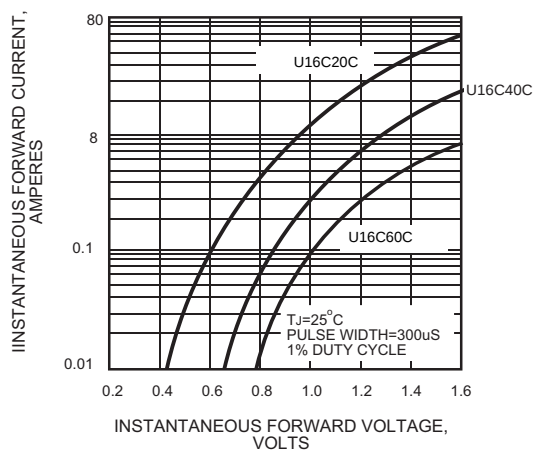


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

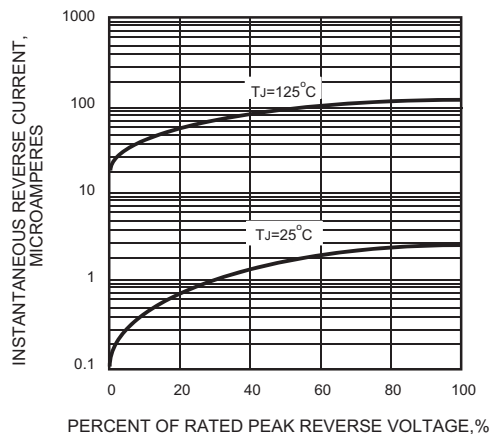


FIG.5 - TYPICAL JUNCTION CAPACITANCE

