

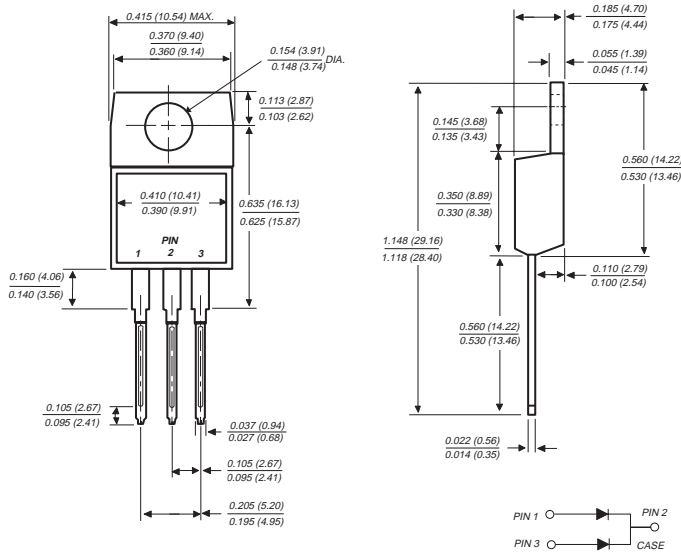
# UG10ACT THRU UG10DCT

## ULTRAFAST SOFT RECOVERY RECTIFIER

Reverse Voltage - 200 Volts

Forward Current - 10.0 Amperes

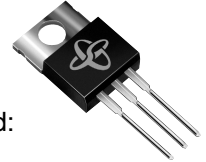
### TO-220AB



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- ◆ Ideally suited for free wheeling diode power factor correction applications
- ◆ Soft recovery characteristics
- ◆ Excellent high temperature switching
- ◆ Optimized to reduce switching losses
- ◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals
- ◆ Glass passivated chip junction



### MECHANICAL DATA

**Case:** JEDEC TO-220AB molded plastic body

**Terminals:** Plated leads, solderable per MIL-STD-750, Method 2026

**Polarity:** As marked

**Mounting Position:** Any

**Mounting Torque:** 5 in. - lbs. max.

**Weight:** 0.08 ounce, 2.24 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

|   | SYMBOLS                           | UG10ACT                          | UG10BCT | UG10CCT | UG10DCT | UNITS |
|---|-----------------------------------|----------------------------------|---------|---------|---------|-------|
| Maximum repetitive peak reverse voltage   | V <sub>RRM</sub>                  | 50                               | 100     | 150     | 200     | Volts |
| Working peak reverse voltage  | V <sub>RWM</sub>                  | 50                               | 100     | 150     | 200     | Volts |
| Maximum RMS voltage   | V <sub>RMS</sub>                  | 35                               | 70      | 105     | 140     | Volts |
| Maximum DC blocking voltage   | V <sub>DC</sub>                   | 50                               | 100     | 150     | 200     | Volts |
| Maximum average forward rectified current at T <sub>C</sub> =100°C  | I <sub>(AV)</sub>                 | 10                               |         |         |         | Amps  |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed<br>on rated load (JEDEC Method) per leg  | I <sub>FSM</sub>                  | 60                               |         |         |         | Amps  |
| Maximum instantaneous forward voltage per leg at I <sub>F</sub> =10A, T <sub>J</sub> =25°C<br>I <sub>F</sub> =5A, T <sub>J</sub> =25°C<br>I <sub>F</sub> =5A, T <sub>J</sub> =150°C | V <sub>F</sub>                    | 1.25<br>1.10<br>0.895            |         |         |         | Volts |
| Maximum reverse leakage current per leg<br>at working peak reverse voltage  | I <sub>R</sub>                    | 10<br>200                        |         |         |         | μA    |
| Maximum reverse recovery time per leg at<br>I <sub>F</sub> =1.0A, di/dt=100A/μs, V <sub>R</sub> =30V, I <sub>RR</sub> =0.1 I <sub>RM</sub>  | t <sub>rr</sub>                   | 25                               |         |         |         | ns    |
| Maximum reverse recovery time per leg at<br>I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>RR</sub> =0.25A  | t <sub>rr</sub>                   | Maximum<br>Typical<br>25<br>15   |         |         |         | ns    |
| Maximum reverse recovery current per leg at<br>I <sub>F</sub> =5A, di/dt=50A/μs, V <sub>R</sub> =30V  | I <sub>RM</sub>                   | 0.7                              |         |         |         | Amps  |
| Maximum stored charge per leg<br>I <sub>F</sub> =2A, di/dt=20A/μs, V <sub>R</sub> =30V I <sub>RR</sub> =0.1 I <sub>RM</sub>   | Q <sub>rr</sub>                   | Maximum<br>Typical<br>5.5<br>4.5 |         |         |         | nC    |
| Typical thermal resistance from junction to case per leg  | R <sub>θJC</sub>                  | 4.5                              |         |         |         | °C/W  |
| Operating junction and storage temperature range  | T <sub>J</sub> , T <sub>STG</sub> | -40 to +150                      |         |         |         | °C    |

**NOTICE:** Advanced product information is subject to change without notice

# RATINGS AND CHARACTERISTIC CURVES UG10ACT THRU UG10DCT

FIG. 1 - FORWARD CURRENT DERATING CURVE

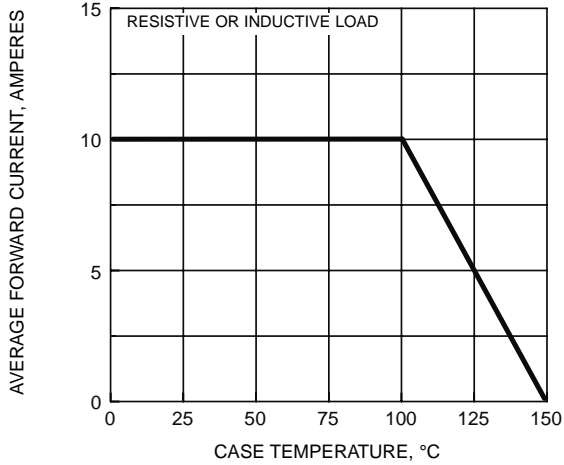


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

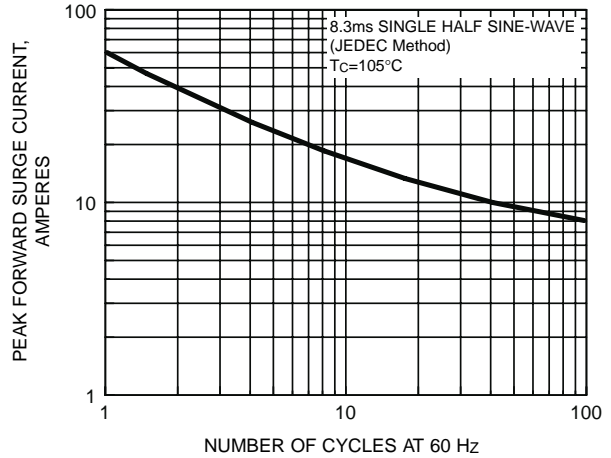


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

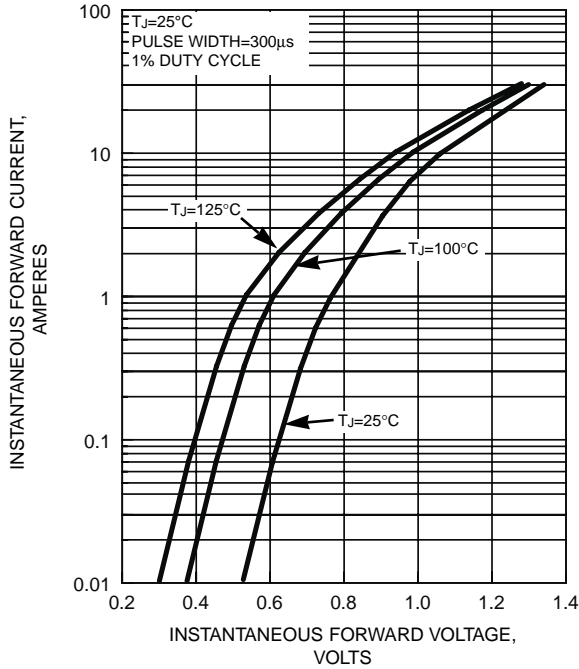


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG

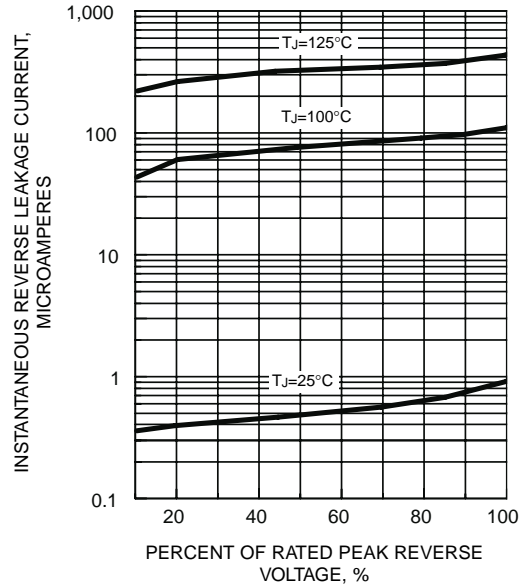


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS PER LEG

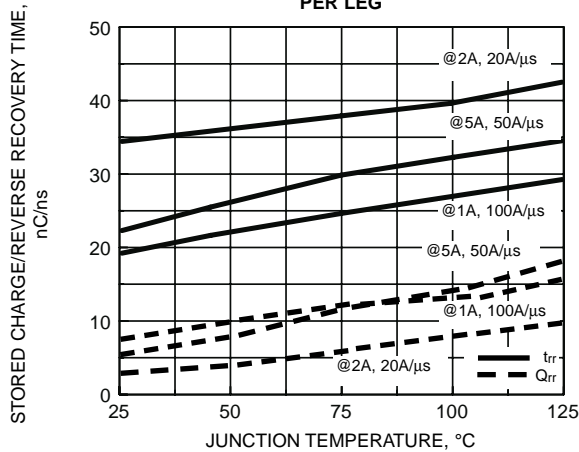


FIG. 6 - TYPICAL JUNCTION CAPACITANCE PER LEG

