

UGB10ACT THRU UGB10DCT

ULTRAFAST SOFT RECOVERY RECTIFIER

Reverse Voltage - 50 to 200 Volts Forward Current - 10.0 Amperes

TO-263AB

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 in accordance with CECC 802 / Reflow guaranteed
- ♦ Glass passivated chip junction



MECHANICAL DATA

Case: JEDEC TO-263AB molded plastic body

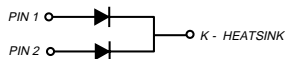
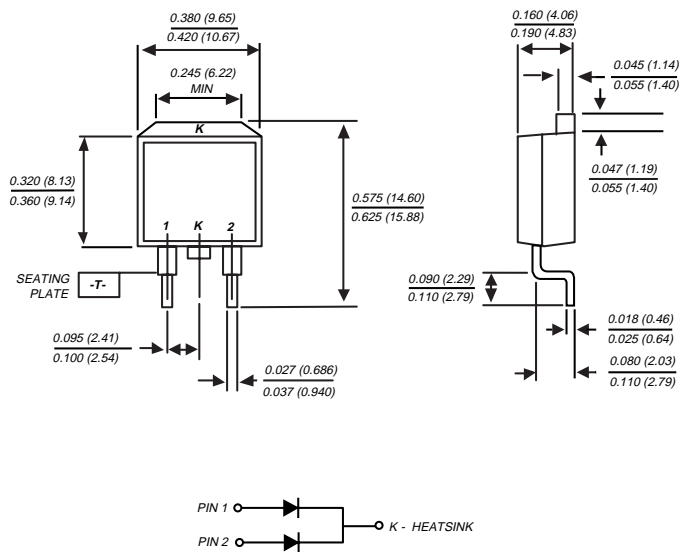
Terminals: Plated leads, solderable per MIL-STD-750, Method 2026

Polarity: As marked

Mounting Position: Any

Mounting Torque: 5 in. - lbs. max.

Weight: 0.08 ounce, 2.24 grams



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| | SYMBOLS | UGB10ACT | UGB10BCT | UGB10CCT | UGB10DCT | UNITS |
|---|-----------------|-----------------------|----------|----------|----------|---------------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 150 | 200 | Volts |
| Working peak reverse voltage | V_{RWM} | 50 | 100 | 150 | 200 | Volts |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 105 | 140 | Volts |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 150 | 200 | Volts |
| Maximum average forward rectified current at $T_C=100^\circ\text{C}$ | $I_{(AV)}$ | 10 | | | | Amps |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg | I_{FSM} | 60 | | | | Amps |
| Maximum instantaneous forward voltage per leg at $I_F=10\text{A}$, $T_J=25^\circ\text{C}$ $I_F=5\text{A}$, $T_J=25^\circ\text{C}$ $I_F=5\text{A}$, $T_J=150^\circ\text{C}$ | V_F | 1.25 1.10 0.895 | | | | Volts |
| Maximum reverse leakage current per leg at working peak reverse voltage $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$ | I_R | 10 200 | | | | μA |
| Maximum reverse recovery time per leg at $I_F=1.0\text{A}$, $di/dt=100\text{A}/\mu\text{s}$, $V_R=30\text{V}$, $I_{rr}=0.1 I_{RM}$ | t_{rr} | 25 | | | | ns |
| Maximum reverse recovery time per leg at $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$ | t_{rr} | 25 15 | | | | ns |
| Maximum reverse recovery current per leg at $I_F=5\text{A}$, $di/dt=50\text{A}/\mu\text{s}$, $V_R=30\text{V}$ | I_{RM} | 0.7 | | | | Amps |
| Maximum stored charge per leg $I_F=2\text{A}$, $di/dt=20\text{A}/\mu\text{s}$, $V_R=30\text{V}$, $I_{rr}=0.1 I_{RM}$ | Q_{rr} | 5.5 4.5 | | | | nC |
| Typical thermal resistance from junction to case per leg | $R_{\theta JC}$ | 4.5 | | | | $^\circ\text{C}/\text{W}$ |
| Operating junction and storage temperature range | T_J, T_{STG} | -40 to +150 | | | | $^\circ\text{C}$ |

RATINGS AND CHARACTERISTIC CURVES UGB10ACT THRU UGB10DCT

FIG. 1 - FORWARD CURRENT DERATING CURVE

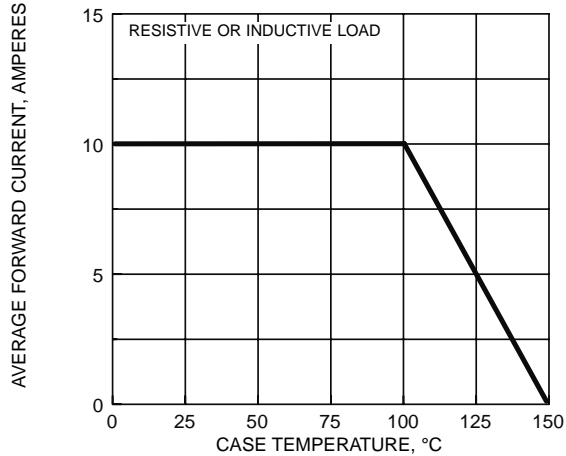


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

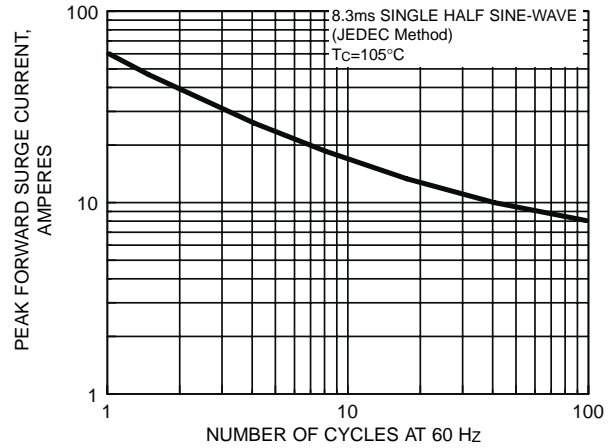


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

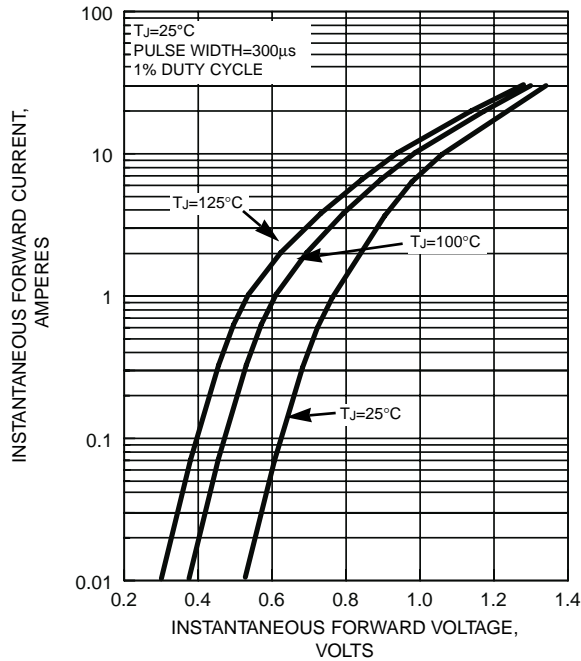


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG

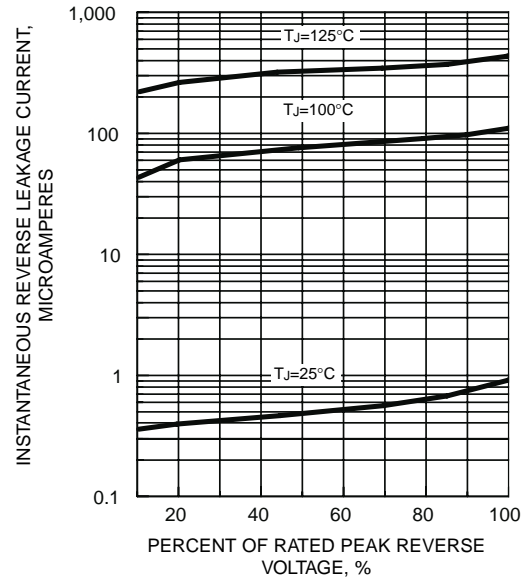


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS PER LEG

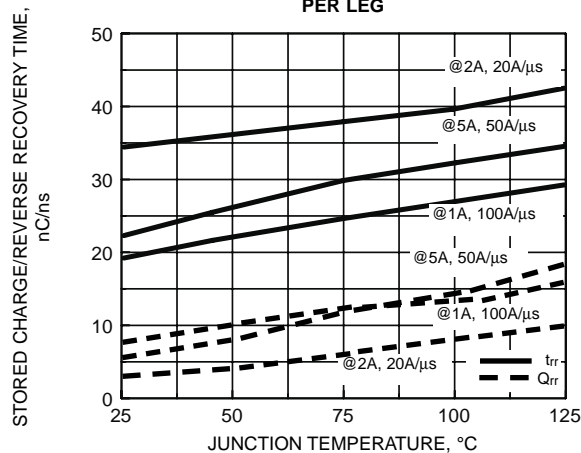


FIG. 6 - TYPICAL JUNCTION CAPACITANCE PER LEG

