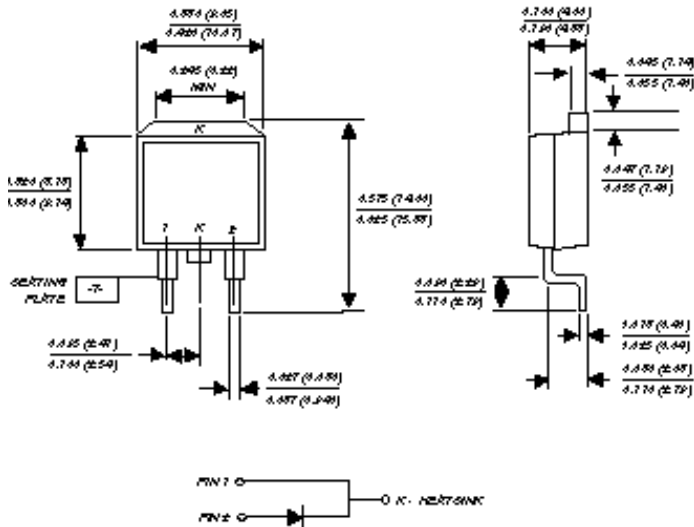


UGB8HT AND UGB8JT

ULTRAFAST SOFT RECOVERY RECTIFIER

Reverse Voltage - 500 to 600 Volts Forward Current - 8.0 Amperes

TO-263AB



Dimensions are in inches and (millimeters)

FEATURES

- ◆ Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- ◆ Ideally suited for freewheeling diode power factor correction applications
- ◆ Soft recovery characteristics
- ◆ Excellent high temperature switching
- ◆ Planar technology
- ◆ Optimized to reduce switching losses
- ◆ High temperature soldering in accordance with CECC 802 / Reflow guaranteed



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
Weight: 0.08 ounce, 2.24 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| | SYMBOLS | UGB8HT | UGB8JT | UNITS |
|--|-----------------------------------|-----------------------|--------|-------|
| Maximum repetitive peak reverse voltage | VRRM | 500 | 600 | Volts |
| Working peak reverse voltage | VRWM | 400 | 480 | Volts |
| Maximum RMS voltage | VRMS | 350 | 420 | Volts |
| Maximum DC blocking voltage | VDC | 500 | 600 | Volts |
| Maximum average forward rectified current at T _C =100°C | I(AV) | 8.0 | | Amps |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | IFSM | 100.0 | | Amps |
| Maximum instantaneous forward voltage at I _F = 8A (NOTE 1) | V _F | T _J =25°C | 1.75 | Volts |
| | | T _J =125°C | 1.50 | |
| Maximum reverse leakage current at working peak reverse voltage | I _R | T _C =25°C | 30.0 | μA |
| | | T _C =100°C | 800.0 | μA |
| | | T _C =125°C | 4.0 | mA |
| Maximum reverse recovery time at I _F =0.5A, I _R =1.0A, I _{rr} =0.25A | t _{rr} | 25 | | ns |
| Reverse recovery time at I _F =1.0A, di/dt=50A/μs, V _R =30V, I _{rr} =0.1 I _{RM} | t _{rr} | Maximum | 50 | ns |
| | | Typical | 35 | |
| Typical softness factor (t _b /t _a) I _F =8.0A, di/dt=240A/μs, V _R =400V I _{rr} =0.1 I _{RM} | S | 1.0 | | - |
| Maximum reverse recovery current at I _F =8.0A, di/dt=64A/μs, V _R =400V | I _{RM} | 5.5 | | Amps |
| Typical reverse recovery current at I _F =8.0A, di/dt=240A/μs, V _R =400V | I _{RM} | 10.0 | | Amps |
| Peak forward recovery time at I _F =8A, di/dt=64A/μs measured at 1.1 V _F | t _{fr} | Maximum | 500 | ns |
| | | Typical | 250 | |
| Typical thermal resistance from junction to case | R _{θJC} | 2.2 | | °C/W |
| Operating junction and storage temperature range | T _J , T _{STG} | -55 to+150 | | °C |

NOTE: (1) Pulse test: 300μs pulse width, 1% duty cycle

NOTICE: Advanced product information is subject to change without notice

RATINGS AND CHARACTERISTIC CURVES UGB8HT AND UGB8JT

FIG. 1 - FORWARD CURRENT DERATIVE CURVE

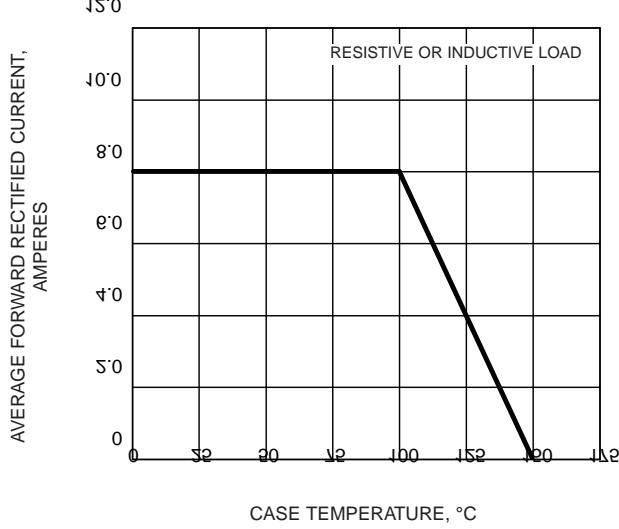


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

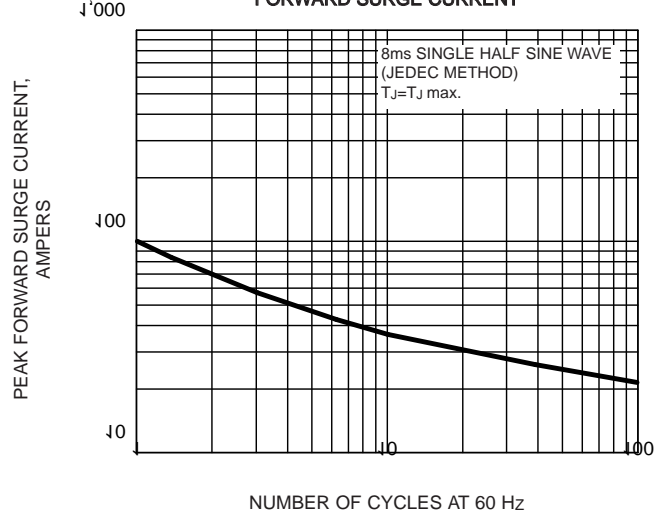


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

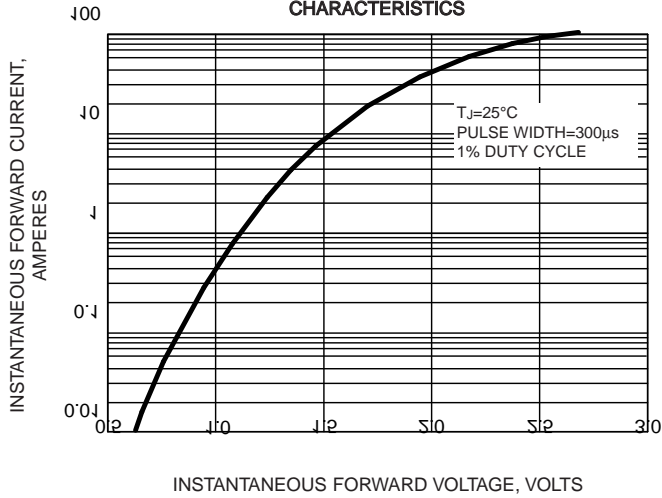


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

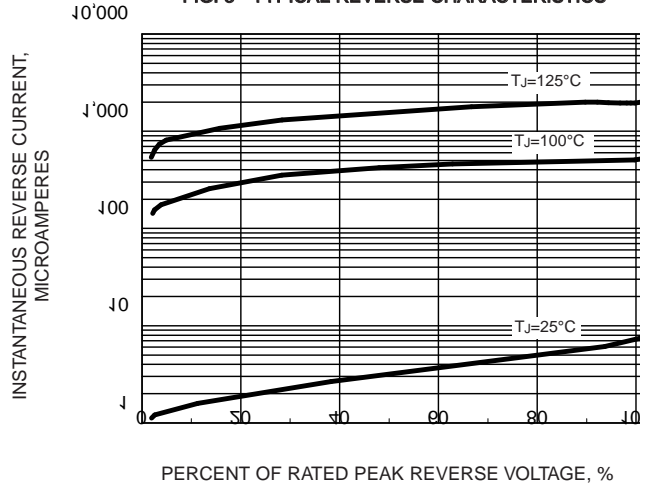


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

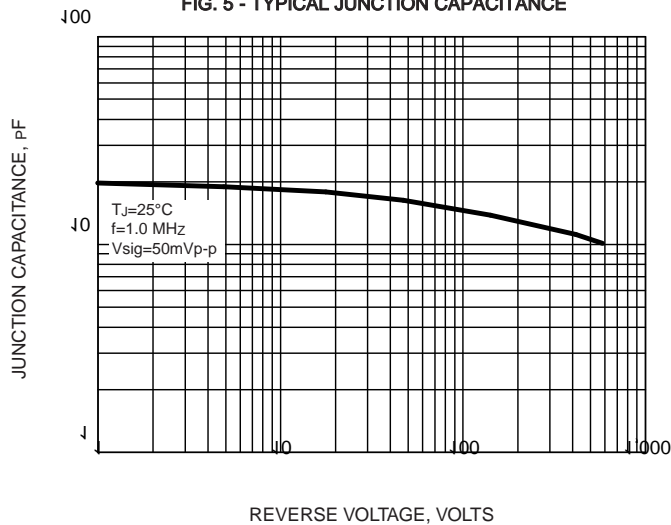


FIG. 6 - REVERSE SWITCHING CHARACTERISTICS

