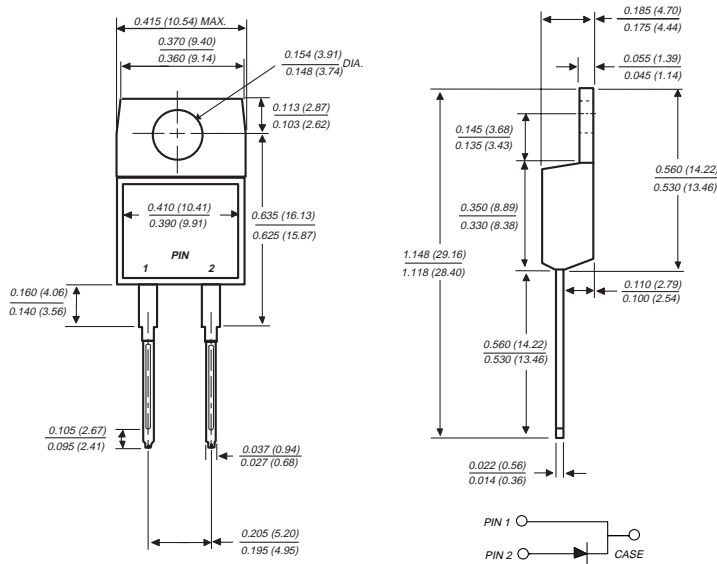


# UG8FT AND UG8GT

## ULTRAFAST SOFT RECOVERY RECTIFIER

**Reverse Voltage - 300 to 400 Volts    Forward Current - 8.0 Amperes**

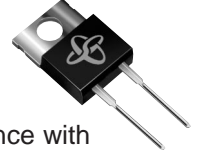
### TO-220AC



Dimensions 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
- ◆ Optimized to reduce switching losses
- ◆ High temperature soldering in accordance with CECC 802 / Reflow guaranteed
- ◆ Glass passivated chip junction



### MECHANICAL DATA

**Case:** JEDEC TO-220AC 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	UG8FT	UG8GT	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	300	400	Volts
Working peak reverse voltage	$V_{RWM}$	225	300	Volts
Maximum RMS voltage	$V_{RMS}$	210	280	Volts
Maximum DC blocking voltage	$V_{DC}$	300	400	Volts
Maximum average forward rectified current at $T_C=100^\circ\text{C}$	$I_{(AV)}$	8.0		Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	100.0		Amps
Maximum instantaneous forward voltage at $I_F=8\text{A}$ (NOTE 1) $T_J=25^\circ\text{C}$ $T_J=150^\circ\text{C}$	$V_F$	1.30 1.00		Volts
Maximum reverse leakage current at working peak reverse voltage $T_C=25^\circ\text{C}$ $T_C=100^\circ\text{C}$	$I_R$	10 350		$\mu\text{A}$
Maximum reverse recovery time at $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{rr}=0.25\text{A}$	$t_{rr}$	35		ns
Maximum Reverse recovery time at $I_F=1.0\text{A}$ , $di/dt=100\text{A}/\mu\text{s}$ , $V_R=30\text{V}$ , $I_{rr}=0.1 I_{RM}$	$t_{rr}$	50		ns
Maximum reverse recovery current at $I_F=10\text{A}$ , $di/dt=50\text{A}/\mu\text{s}$ , $V_R=30\text{V}$ $T_C=100^\circ\text{C}$	$I_{RM}$	5.5		Amps
Maximum stored charge $I_F=2\text{A}$ , $di/dt=20\text{A}/\mu\text{s}$ , $V_R=30\text{V}$ , $I_{rr}=0.1 I_{RM}$	$Q_{rr}$	55		nC
Typical thermal resistance from junction to case	$R_{\theta JC}$	2.2		$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-40 to +150		$^\circ\text{C}$

**NOTE:** (1) Pulse test: 300 $\mu\text{s}$  pulse width, 1% duty cycle

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

# RATINGS AND CHARACTERISTIC CURVES UG8FT AND UG8GT

FIG. 1 - FORWARD CURRENT DERATING CURVE

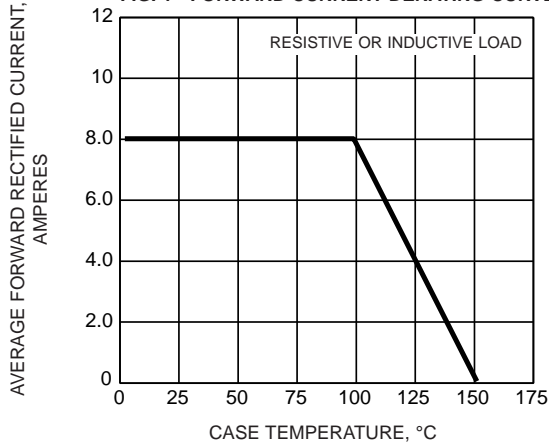


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

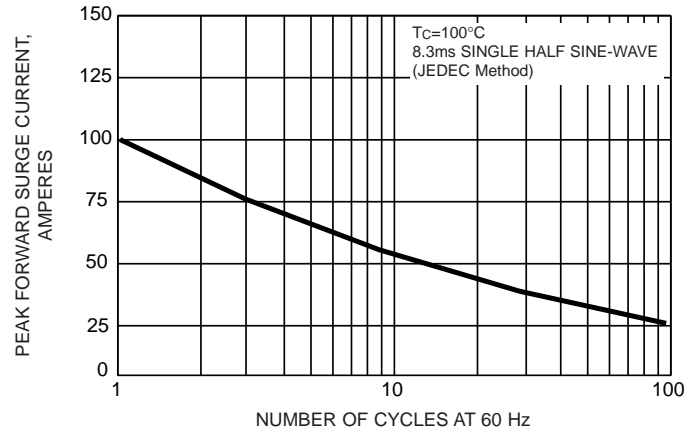


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

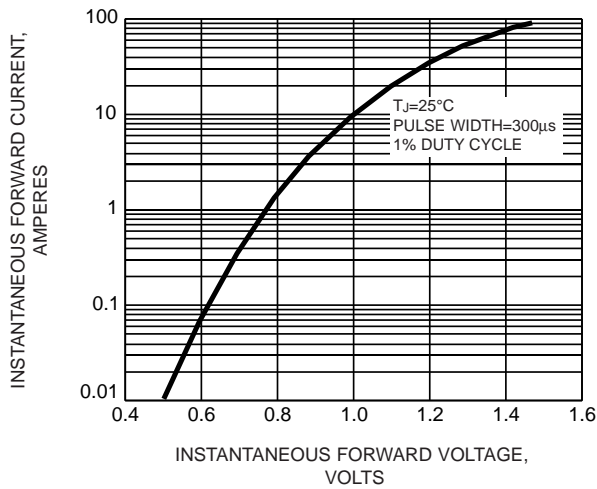


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

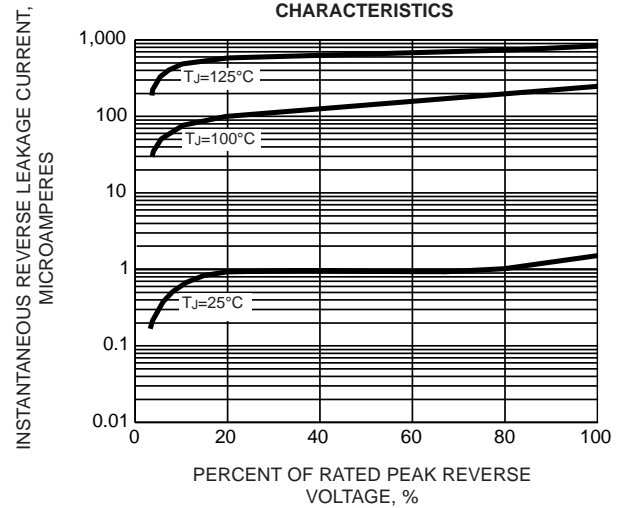


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS

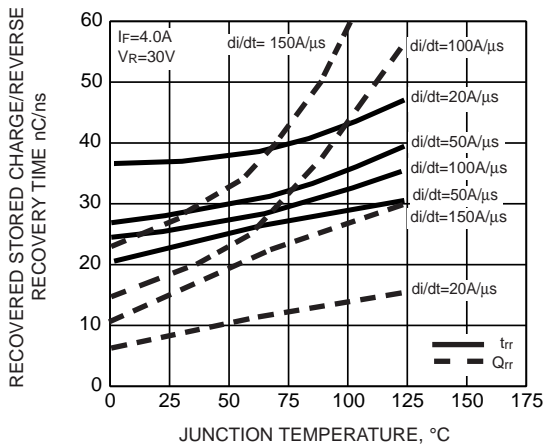


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

