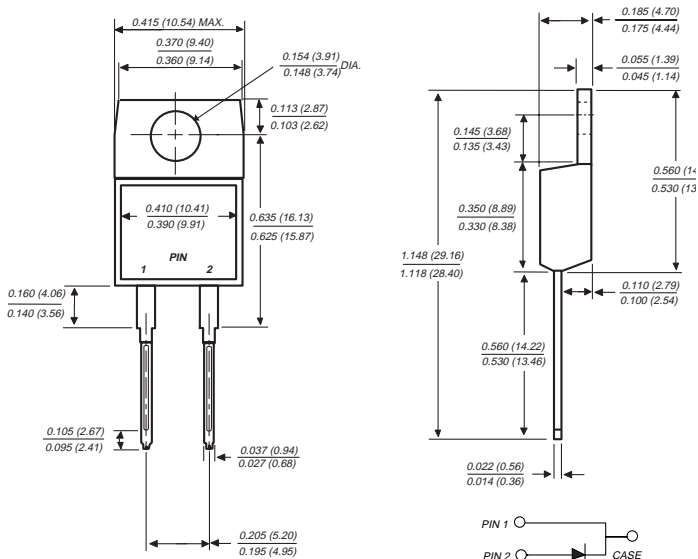


# UG8HT AND UG8JT

## ULTRAFAST SOFT RECOVERY RECTIFIER

Reverse Voltage - 500 to 600 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
- ◆ Planar technology
- ◆ Optimized to reduce switching losses
- ◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals



### 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

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

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	UG8HT	UG8JT	UNITS
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	500	600	Volts
Working peak reverse voltage	V <sub>RWM</sub>	400	480	Volts
Maximum RMS voltage	V <sub>RMS</sub>	350	420	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	500	600	Volts
Maximum average forward rectified current at T <sub>C</sub> =100°C	I <sub>(AV)</sub>	8.0		Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	100.0		Amps
Maximum instantaneous forward voltage at I <sub>F</sub> = 8A (NOTE 1)	V <sub>F</sub>	T <sub>J</sub> =25°C	1.75	Volts
		T <sub>J</sub> =125°C	1.50	
Maximum reverse leakage current at working peak reverse voltage	I <sub>R</sub>	T <sub>J</sub> =25°C	30	µA
		T <sub>J</sub> =100°C	800	µA
		T <sub>J</sub> =125°C	4.0	mA
Maximum reverse recovery time at I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>rr</sub> =0.25A	t <sub>rr</sub>	25		ns
Reverse recovery time at I <sub>F</sub> =1.0A, di/dt=50A/µs, V <sub>R</sub> =30V, I <sub>rr</sub> =0.1 I <sub>RM</sub>	Maximum	50		ns
	Typical	35		
Typical softness factor (t <sub>b</sub> /t <sub>a</sub> ) I <sub>F</sub> =8.0A, di/dt=240A/µs, V <sub>R</sub> =400V I <sub>rr</sub> =0.1 I <sub>RM</sub>	S	1.0		-
Maximum reverse recovery current at I <sub>F</sub> =8.0A, di/dt=64A/µs, V <sub>R</sub> =400V	I <sub>RM</sub>	5.5		Amps
Typical reverse recovery current at I <sub>F</sub> =8.0A, di/dt=240A/µs, V <sub>R</sub> =400V	I <sub>RM</sub>	10.0		Amps
Peak forward recovery time at I <sub>F</sub> =8A, di/dt=64A/µs measured at 1.1 V <sub>F</sub>	t <sub>fr</sub>	Maximum	500	ns
		Typical	250	
Typical thermal resistance from junction to case	R <sub>θJC</sub>	2.2		°C/W
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-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 UG8HT AND UG8JT

FIG. 1 - FORWARD CURRENT DERATING CURVE

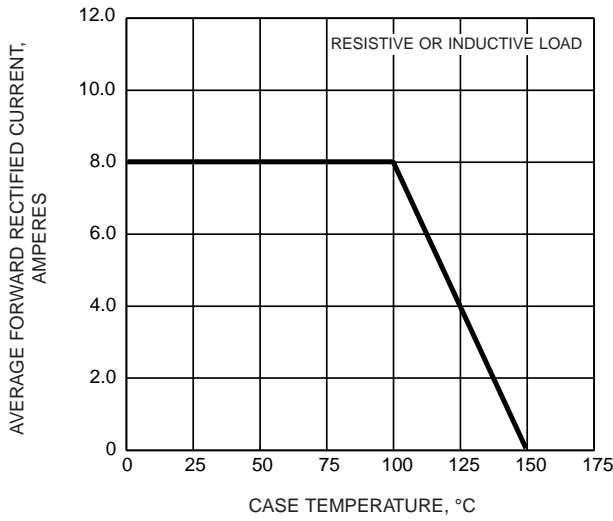


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

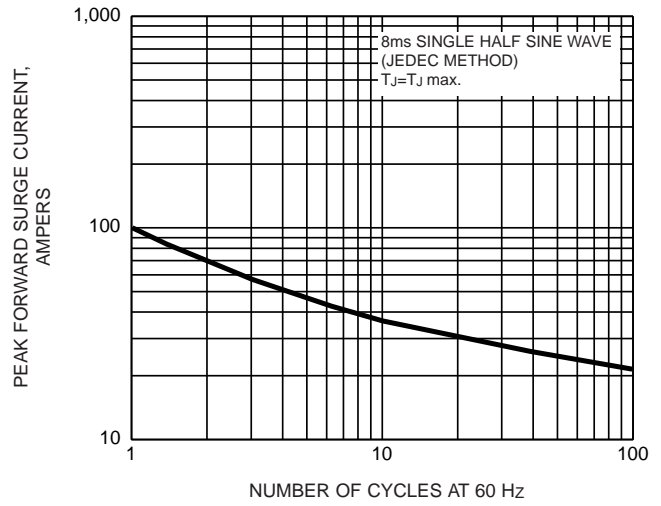


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

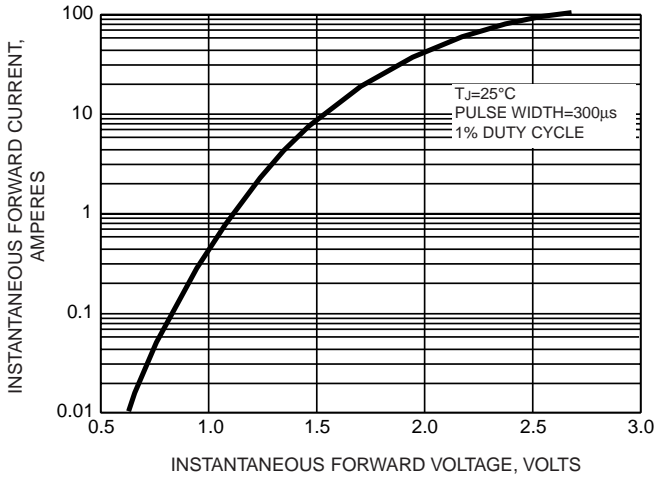


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

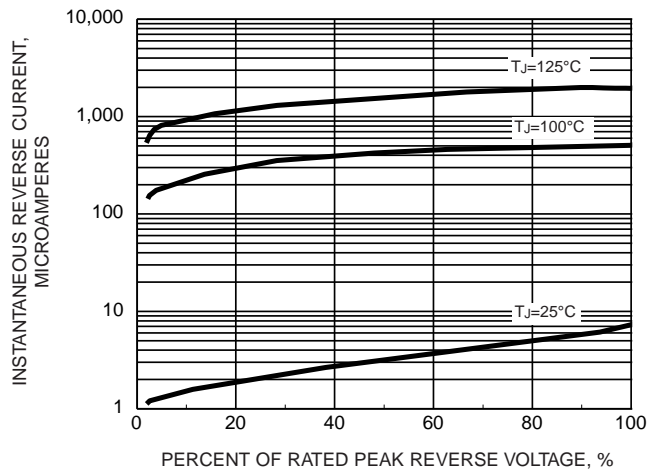


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS

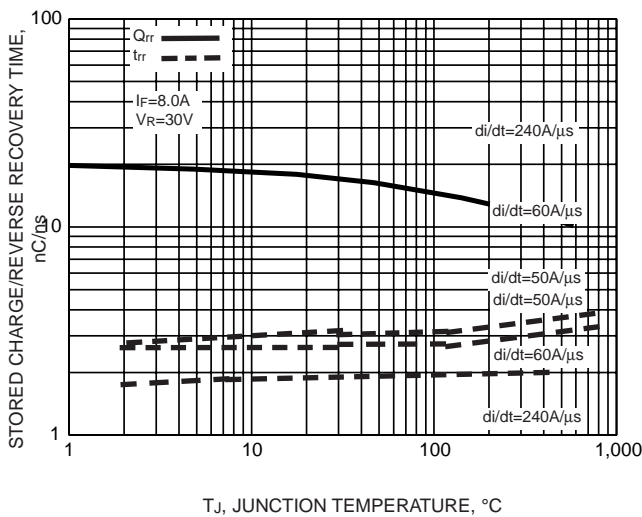


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

