

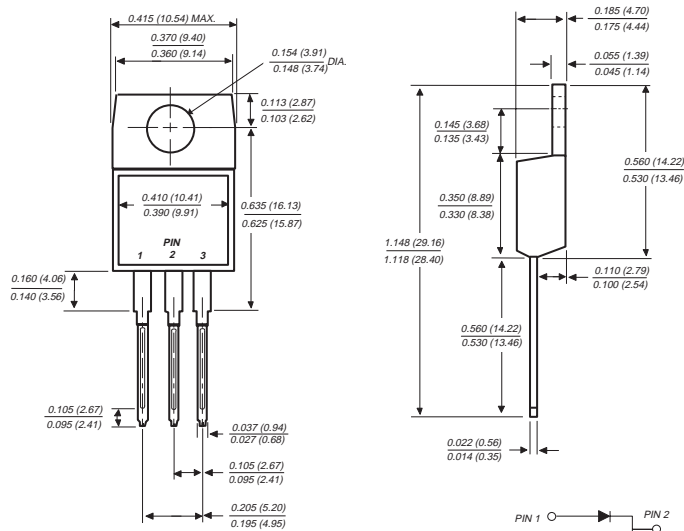
UG10FCT AND UG10GCT

ULTRAFAST SOFT RECOVERY RECTIFIER

Reverse Voltage - 400 Volts

Forward Current - 10.0 Amperes

TO-220AB



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	UG10FCT	UG10GCT	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 $T_C=100^\circ\text{C}$		$I_{(AV)}$	10		Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg		I_{FSM}	60A		Amps
Maximum instantaneous forward voltage per leg (NOTE 1) $I_F=5A$	$T_J=25^\circ\text{C}$ $T_J=150^\circ\text{C}$	V_F	1.30 1.05		Volts
Maximum reverse leakage current 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 $I_F=0.5A$, $I_R=1.0A$, $I_{rr}=0.25A$		t_{rr}	35		ns
Maximum Reverse recovery time per leg at $I_F=1.0A$, $di/dt=100A/\mu\text{s}$, $V_R=30V$, $I_{rr}=0.1 I_{RM}$		t_{rr}	50		ns
Maximum reverse recovery current per leg at $I_F=5A$, $di/dt=50A/\mu\text{s}$, $V_R=30V$	$T_C=100^\circ\text{C}$	I_{RM}	3.0		Amps
Maximum stored charge per leg $I_F=2A$, $di/dt=20A/\mu\text{s}$, $V_R=30V$, $I_{rr}=0.1 I_{RM}$		Q_{rr}	50		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		$^\circ\text{C}$

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

NOTICE: Advanced product information is subject to change without notice

RATINGS AND CHARACTERISTIC CURVES UG10FCT AND UG10GCT

FIG. 1 - FORWARD CURRENT DERATING CURVE

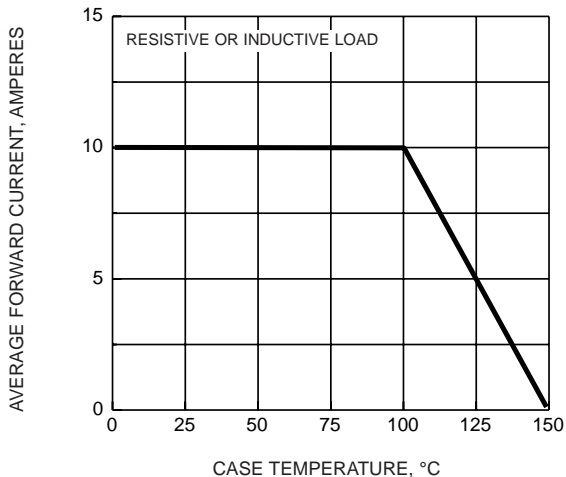


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

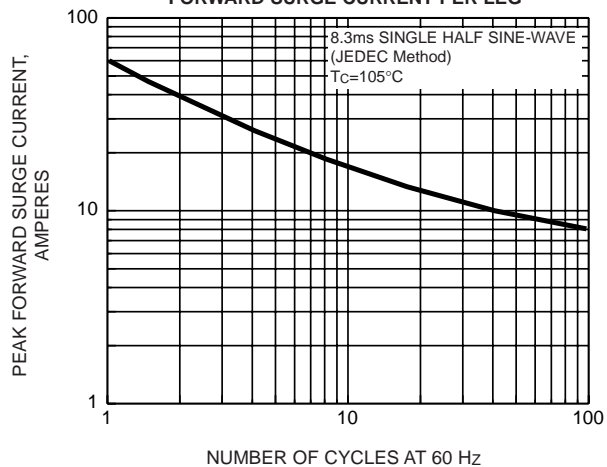


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

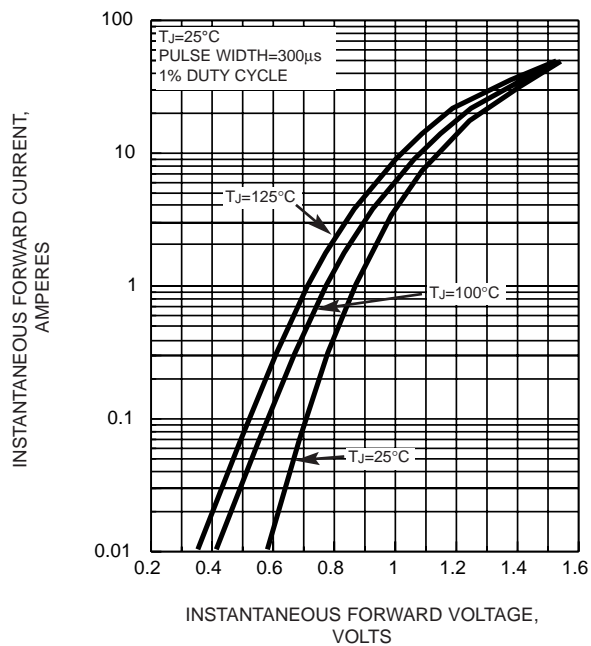


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG

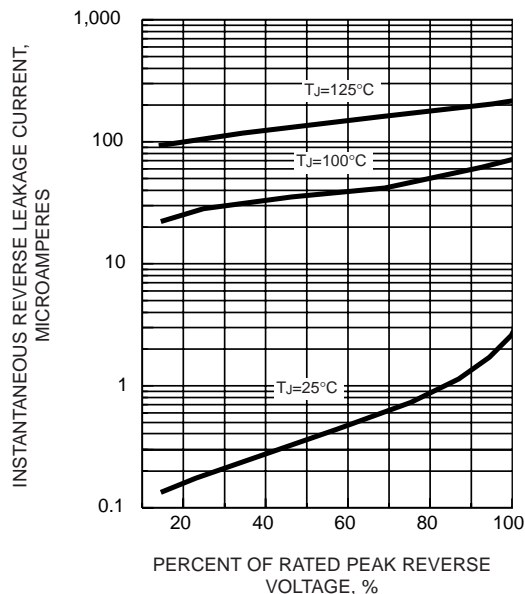


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS PER LEG

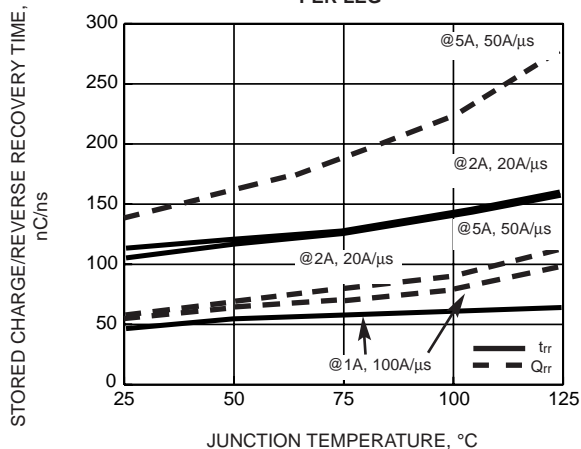


FIG. 6 - TYPICAL JUNCTION CAPACITANCE PER LEG

