

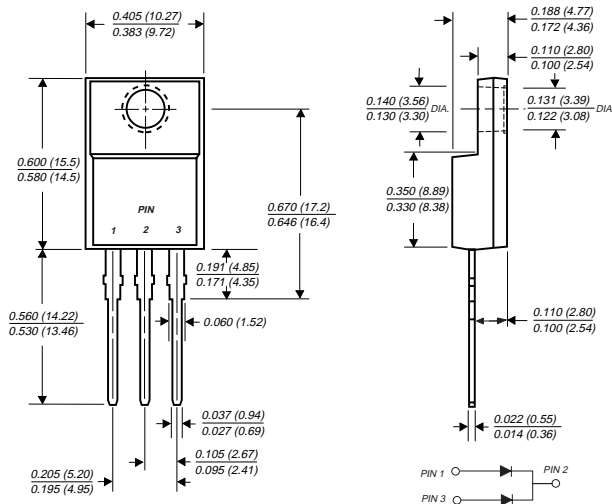
# UGF18ACT THRU UGF18DCT

## ULTRAFAST EFFICIENT PLASTIC RECTIFIER

Reverse Voltage - 50 to 200 Volts

Forward Current - 18.0 Amperes

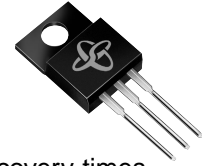
### ITO-220AB



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- ◆ Ideally suited for use in very high frequency switching power supplies, inverters and as a free wheeling diode
- ◆ Ultrafast 25 nanosecond reverse recovery times
- ◆ Soft recovery characteristics
- ◆ Excellent high temperature switching
- ◆ Glass passivated junctions
- ◆ High temperature soldering guaranteed: 250°C, 0.25" (6.35mm) from case for 10 seconds



### MECHANICAL DATA

**Case:** JEDEC ITO-220AB 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	UGF18ACT	UGF18BCT	UGF18CCT	UGF18DCT	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	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 $T_C=105^\circ\text{C}$	$I_{(AV)}$	18.0				Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg at $T_C=105^\circ\text{C}$	$I_{FSM}$	175.0				Amps
Maximum instantaneous forward voltage per leg at 9.0A 20A 5.0A, $T_J=100^\circ\text{C}$	$V_F$	1.10 1.20 0.95				Volts
Maximum DC reverse current at rated DC blocking voltage per leg $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	$I_R$	10.0 300.0				$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	20.0				ns
Maximum reverse recovery time (NOTE 2) $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$	$t_{rr}$	30.0 50.0				ns
Maximum recovered stored charge (NOTE 2) $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$	$Q_{rr}$	20.0 45.0				nC
Typical junction capacitance (NOTE 3)	$C_J$	30.0				pF
Typical thermal resistance (NOTE 4)	$R_{\theta JC}$	4.0				$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +150				$^\circ\text{C}$

**NOTES:** (1) Reverse recovery test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$

(2)  $t_{rr}$  and  $Q_{rr}$  measured at:  $I_F=9.0\text{A}$ ,  $V_R=30\text{V}$ ,  $di/dt=50\text{A}/\mu\text{s}$ ,  $I_{rr}=10\%$   $I_{RM}$

(3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

(4) Thermal resistance from junction to case per leg

FIG. 1 - FORWARD CURRENT DERATING CURVE

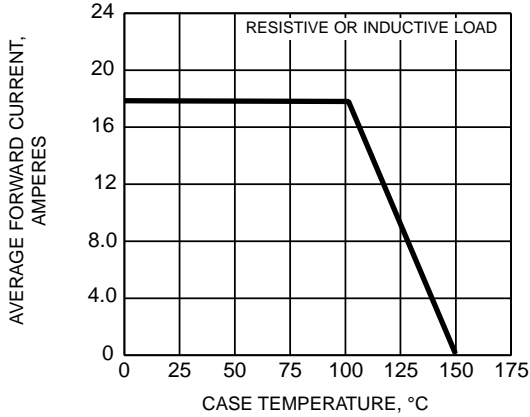


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

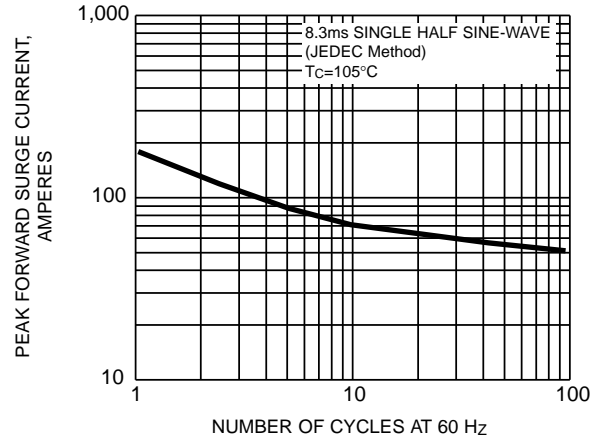


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

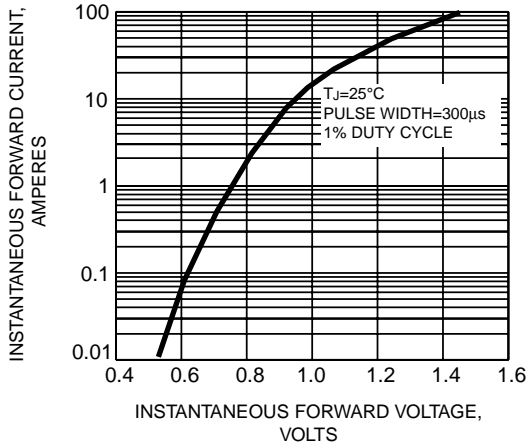
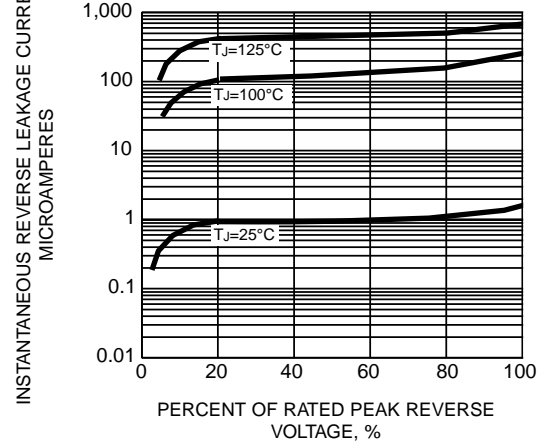


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG



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FIG. 5 - REVERSE SWITCHING CHARACTERISTICS PER LEG

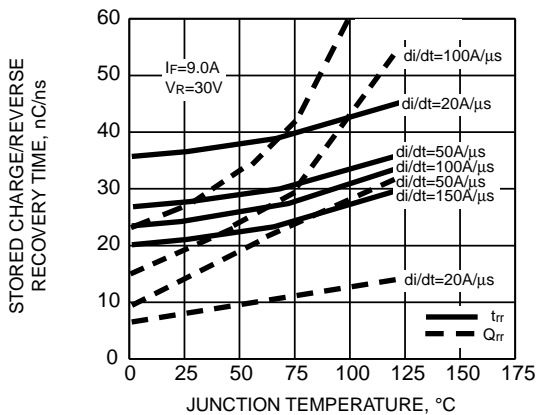


FIG. 6 - TYPICAL JUNCTION CAPACITANCE PER LEG

