

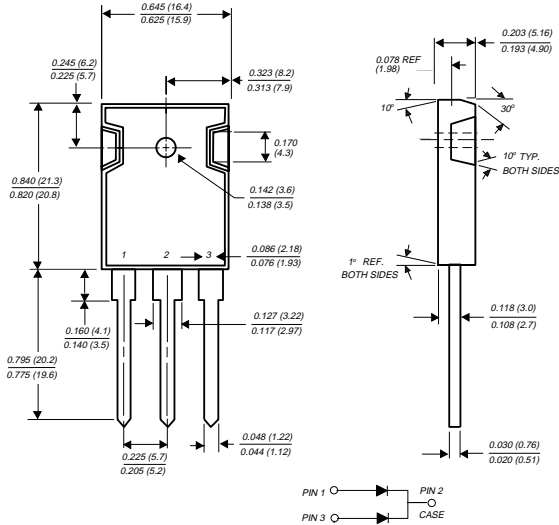
# UG30APT THRU UG30DPT

## ULTRAFAST EFFICIENT PLASTIC RECTIFIER

Reverse Voltage - 50 to 200 Volts

Forward Current - 30.0 Amperes

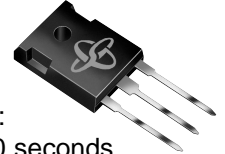
### TO-247AD



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Ideally suited for use in very high frequency switching power supplies, inverters and as a free wheeling diodes
- ◆ Ultrafast, 15 nanosecond typical recovery time
- ◆ Low leakage current
- ◆ Glass passivated chip junctions
- ◆ Soft recovery characteristics
- ◆ Excellent high temperature switching
- ◆ High temperature soldering guaranteed: 250°C, 0.16" (4.06mm) from case for 10 seconds



### MECHANICAL DATA

**Case:** JEDEC TO-247AD molded plastic body over passivated chips

**Terminals:** Plated leads solderable per MIL-STD-750, Method 2026

**Polarity:** As marked

**Mounting Position:** Any

**Weight:** 2.2 ounces, 6.3 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	UG30APT	UG30BPT	UG30CPT	UG30DPT	UNITS
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	150	200	Volts
Maximum RMS voltage	V <sub>RMS</sub>	35	70	105	140	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	150	200	Volts
Maximum average forward rectified current at T <sub>C</sub> =120°C	I <sub>(AV)</sub>	30.0				Amps
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) at T <sub>C</sub> =120°C	I <sub>FSM</sub>	300.0				Amps
Maximum instantaneous forward voltage per leg at 15A 30A 10A T <sub>J</sub> =100°C	V <sub>F</sub>	1.0 1.15 0.85				Volts
Maximum DC reverse current at rated DC blocking voltage per leg T <sub>A</sub> =25°C T <sub>A</sub> =100°C	I <sub>R</sub>	5.0 800.0				μA
Maximum reverse recovery time (NOTE 1)	t <sub>rr</sub>	20.0				ns
Maximum reverse recovery time (NOTE 2)	T <sub>J</sub> = 25°C T <sub>J</sub> =100°C t <sub>rr</sub>	35.0 50.0				ns
Maximum recovered stored charge (NOTE 2)	T <sub>J</sub> =25°C T <sub>J</sub> =100°C Q <sub>rr</sub>	22.0 50.0				nC
Typical junction capacitance (NOTE 3)	C <sub>J</sub>	70.0				pF
Typical thermal resistance (NOTE 4)	R <sub>θJC</sub>	2.0				°C/W
Operating and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150				°C

#### NOTES:

- (1) Reverse recovery test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub> =1.0A, I<sub>rr</sub>=0.25A
- (2) t<sub>rr</sub> and Q<sub>rr</sub> measured at: I<sub>F</sub>=15A V<sub>R</sub>=30V, di/dt=50 A/μs, I<sub>RR</sub>=10% I<sub>RM</sub> for measurement of t<sub>rr</sub>
- (3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (4) Thermal resistance from junction to case per leg mounted on heatsink

# RATINGS AND CHARACTERISTIC CURVES UG30APT THRU UG30DPT

FIG. 1 - FORWARD CURRENT DERATING CURVE

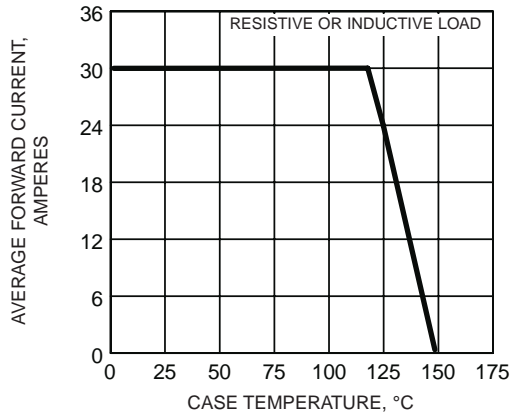


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

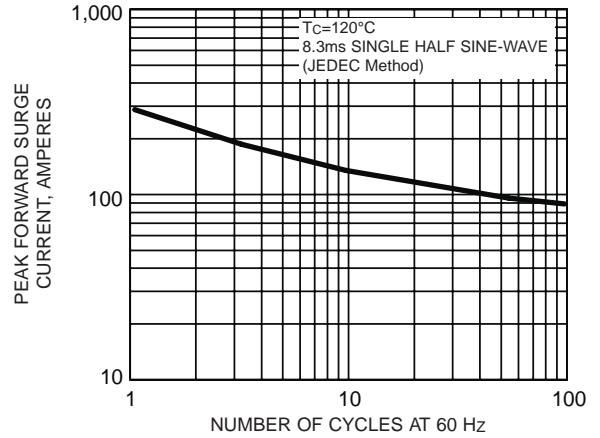


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

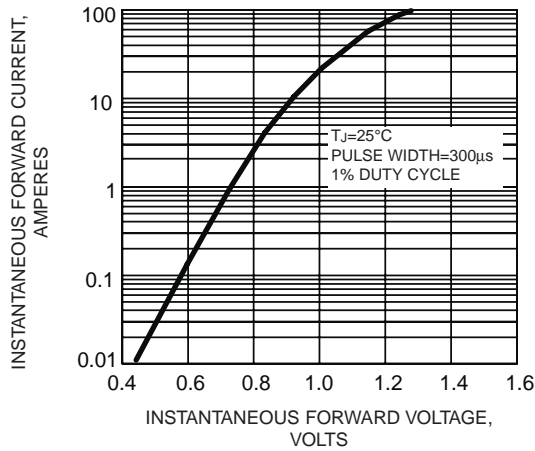


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG

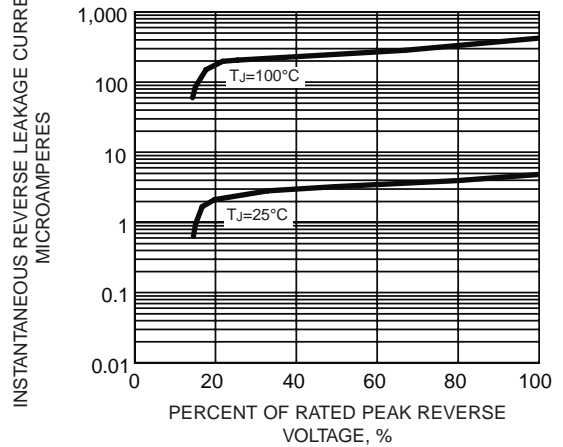


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS PER LEG

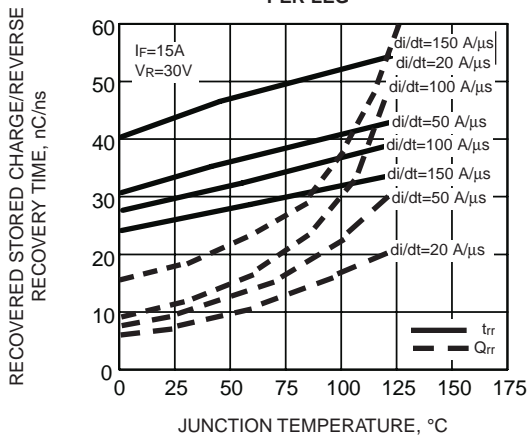


FIG. 6 - TYPICAL JUNCTION CAPACITANCE PER LEG

