

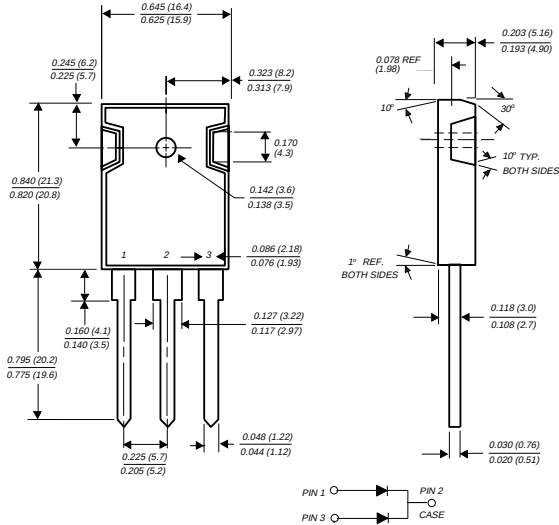
UG30APT THRU UG30DPT

ULTRAFAST EFFICIENT PLASTIC RECTIFIER

Reverse Voltage - 50 to 200 Volts

Forward Current - 30.0 Amperes

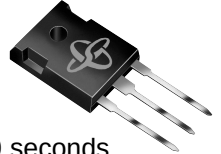
TO-247AD



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_{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 $T_C=120^\circ\text{C}$	$I_{(AV)}$	30.0				Amps
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_C=120^\circ\text{C}$	I_{FSM}	300.0				Amps
Maximum instantaneous forward voltage per leg at 15A 30A 10A $T_J=100^\circ\text{C}$	V_F	1.0 1.15 0.85				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	5.0 800.0				μA
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}	35.0 50.0				ns
Maximum recovered stored charge (NOTE 2) $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$	Q_{rr}	22.0 50.0				nC
Typical junction capacitance (NOTE 3)	C_J	70.0				pF
Typical thermal resistance (NOTE 4)	$R_{\theta JC}$	2.0				$^\circ\text{C/W}$
Operating 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: $I_F=15\text{A}$, $V_R=30\text{V}$, $di/dt=50\text{ A}/\mu\text{s}$, $I_{RR}=10\% I_{RM}$ for measurement of t_{rr}

(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

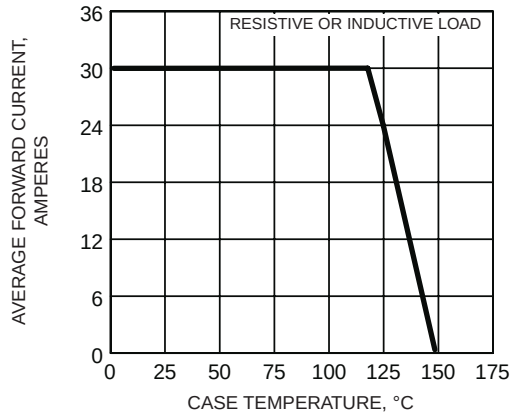


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

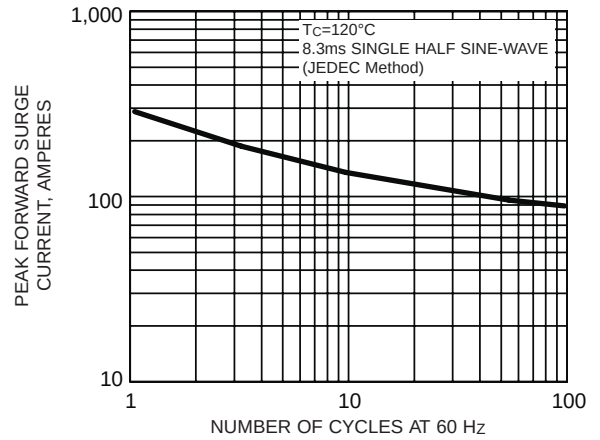


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

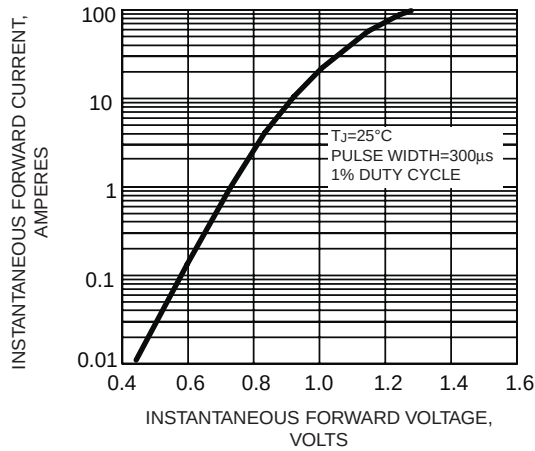


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG

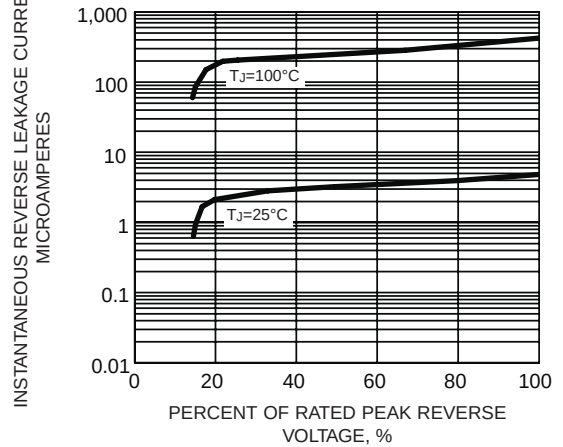


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS PER LEG

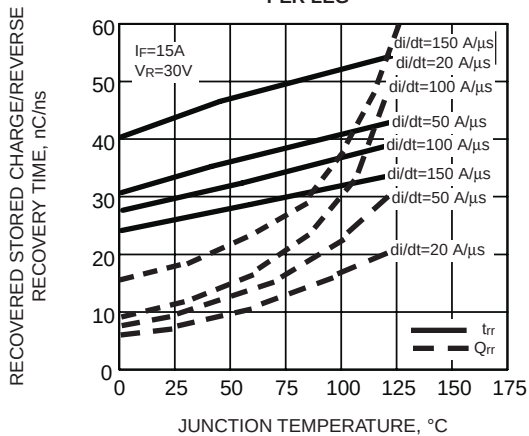


FIG. 6 - TYPICAL JUNCTION CAPACITANCE PER LEG

