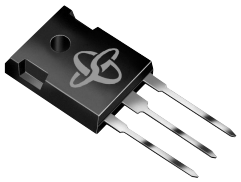
GENERAL SEMICONDUCTOR®

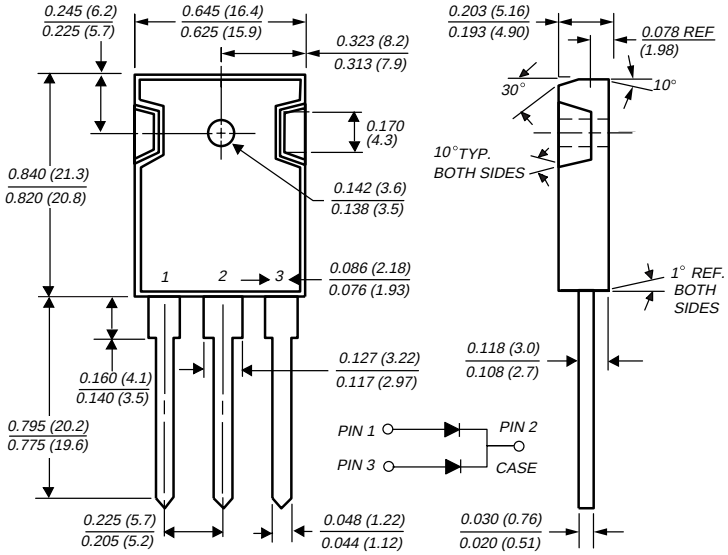
UG30APT thru UG30DPT

Ultrafast Plastic Rectifier

Reverse Voltage 50 to 200V
Forward Current 30A



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
- Soft recovery characteristics
- Excellent high temperature switching

Mechanical Data

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

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

High temperature soldering guaranteed:
250°C, 0.16" (4.06mm) from case for 10 seconds

Polarity: As marked

Mounting Position: Any

Weight: 2.2 ounces, 6.3 grams

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	UG30APT	UG30BPT	UG30CPT	UG30DPT	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	V
Maximum average forward rectified current at T_C=120°C	$I_{F(AV)}$	30				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) at T_C=120°C	I_{FSM}	300				A
Typical thermal resistance (1)	$R_{\Theta JC}$	2.0				°C/W
Operating and storage temperature range	T_J, T_{STG}	–65 to +150				°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Maximum instantaneous forward voltage per leg at 15A 30A 10A T_J=100°C	V_F	1.0 1.15 0.85	V
Maximum DC reverse current at rated DC blocking voltage per leg T_A =25°C T_A =100°C	I_R	15 800	µA
Maximum reverse recovery time at I_F=0.5A, I_R=1.0A, I_{rr}=0.25A	t_{rr}	20	ns
Maximum reverse recovery time at I_F=15A, V_R=30V, di/dt=50 A/µs, I_{RR}=10% I_{RM} T_J= 25°C T_J=100°C	t_{rr}	35 50	ns
Maximum recovered stored charge I_F=15A, V_R=30V, di/dt=50 A/µs, I_{RR}=10% I_{RM} T_J=25°C T_J=100°C	Q_{rr}	22 50	nC
Typical junction capacitance at 4.0V, 1MHz	C_J	70	pF

Note: (1) Thermal resistance from junction to case per leg mounted on heatsink

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Ratings and Characteristic Curves

Fig. 1 – Maximum Forward Current Derating Curve

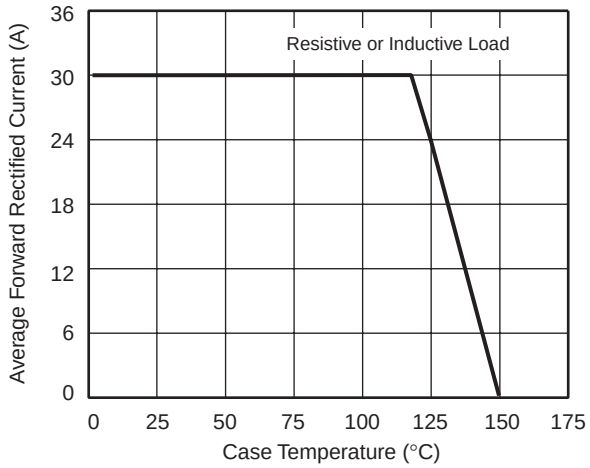

Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

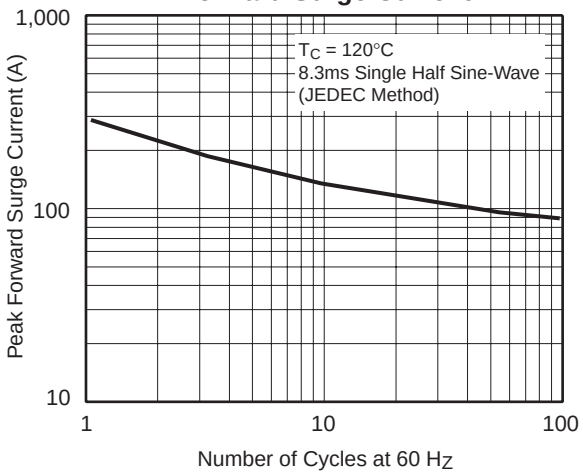

Fig. 3 – Typical Instantaneous Forward Characteristics

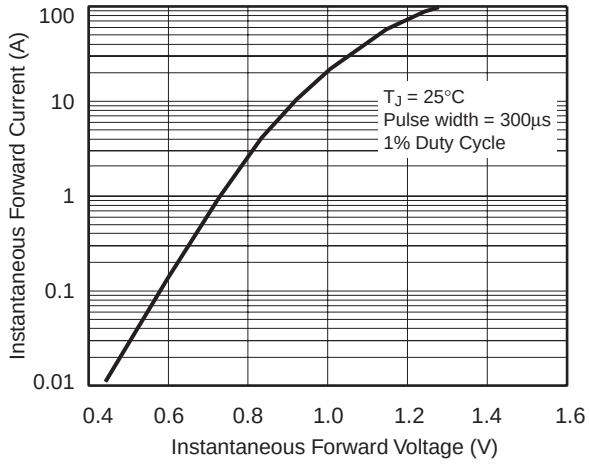

Fig. 4 – Typical Reverse Leakage Characteristics

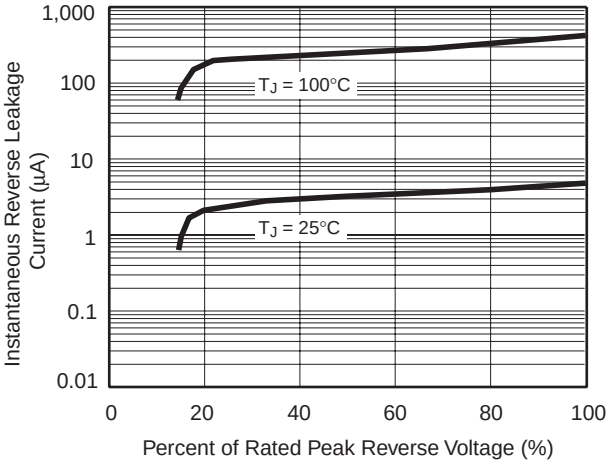

Fig. 5 – Reverse Switching Characteristics Per Leg

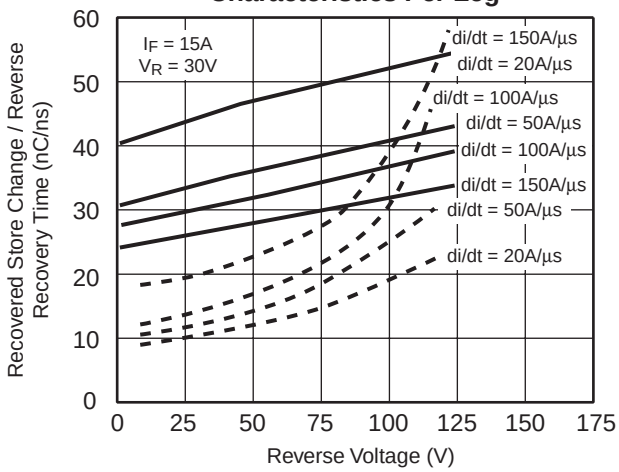

Fig. 6 – Typical Junction Capacitance