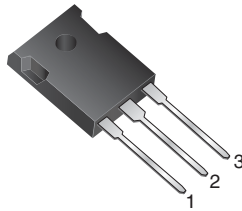
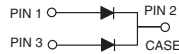


## Dual Common Cathode Ultrafast Plastic Rectifier



TO-247AD (TO-3P)



PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	30 A
$V_{RRM}$	50 V, 100 V, 150 V, 200 V
$I_{FSM}$	300 A
$t_{rr}$	25 ns
$V_F$ at $I_F$	0.85 V
$T_J$ max.	150 °C
Package	TO-247AD (TO-3P)
Diode variation	Common cathode

### FEATURES

- Power pack
- Glass passivated pellet chip junction
- Ultrafast recovery time
- Low switching losses, high efficiency
- Low forward voltage drop
- High forward surge capability
- Solder dip 275 °C max., 10 s per JESD 22-B106
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS  
COMPLIANT

### TYPICAL APPLICATIONS

For use in high frequency rectifier of switching mode power supplies, inverters, freewheeling diodes, DC/DC converters, and other power switching application.

### MECHANICAL DATA

**Case:** TO-247AD (TO-3P)

Molding compound meets UL 94V-0 flammability rating  
Base P/N-E3 - RoHS-compliant, commercial grade

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

**Polarity:** As marked

**Mounting Torque:** 10 in-lbs max.

ELECTRICAL CHARACTERISTICS ( $T_A = 25\text{ °C}$ unless otherwise noted)						
PARAMETER	SYMBOL	UG30APT	UG30BPT	UG30CPT	UG30DPT	UNIT
Max. repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	V
Max. RMS voltage	$V_{RMS}$	35	70	105	140	V
Max. DC blocking voltage	$V_{DC}$	50	100	150	200	V
Max. average forward rectified current at $T_C = 120\text{ °C}$	$I_{F(AV)}$	30				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	$I_{FSM}$	300				A
Operating and storage temperature range	$T_J, T_{STG}$	-65 to +150				°C



ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)								
PARAMETER	TEST CONDITIONS		SYMBOL	UG30APT	UG30BPT	UG30CPT	UG30DPT	UNIT
Max. instantaneous forward voltage per diode	15 A	T <sub>J</sub> = 100 °C	V <sub>F</sub>	1.0				V
	30 A			1.15				
	10 A			0.85				
Max. DC reverse current at rated DC blocking voltage per diode			I <sub>R</sub>	15				μA
				800				
Max. reverse recovery time	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A		t <sub>rr</sub>	25				ns
Max. reverse recovery time	I <sub>F</sub> = 15 A, V <sub>R</sub> = 30 V, dI/dt = 50 A/μs, I <sub>RR</sub> = 10 % I <sub>RM</sub>	T <sub>J</sub> = 25 °C	t <sub>rr</sub>	35				ns
		T <sub>J</sub> = 100 °C		50				
Max. recovered stored charge	I <sub>F</sub> = 15 A, V <sub>R</sub> = 30 V, dI/dt = 50 A/μs, I <sub>RR</sub> = 10 % I <sub>RM</sub>	T <sub>J</sub> = 25 °C	Q <sub>rr</sub>	22				nC
		T <sub>J</sub> = 100 °C		50				
Typical junction capacitance	4.0 V, 1 MHz		C <sub>J</sub>	70				pF

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	UG30APT	UG30BPT	UG30CPT	UG30DPT	UNIT
Typical thermal resistance per diode <sup>(1)</sup>	R <sub>θJC</sub>	2.0				°C/W

**Note**

<sup>(1)</sup> Thermal resistance from junction to case per diode mounted on heatsink

ORDERING INFORMATION (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-247AD	UG30DPT-E3/45	6.15	30	30/tube	Tube



**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

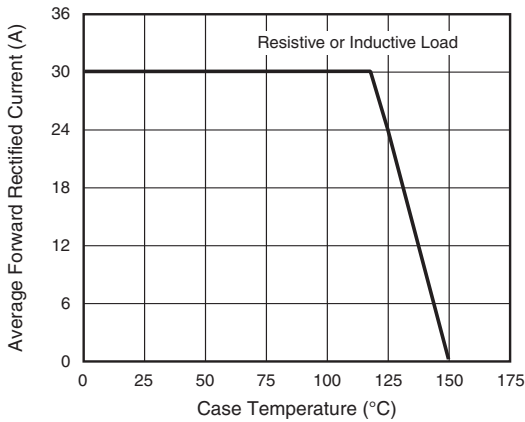


Fig. 1 - Max. Forward Current Derating Curve

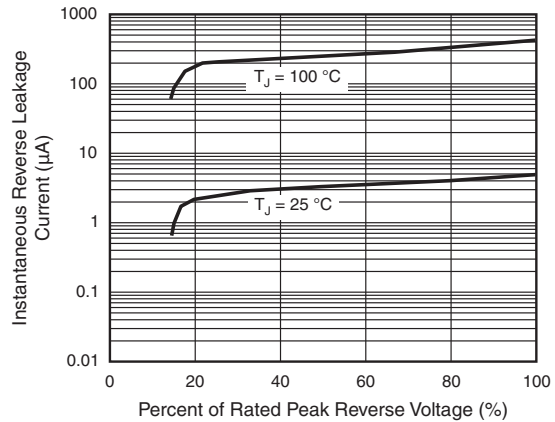


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

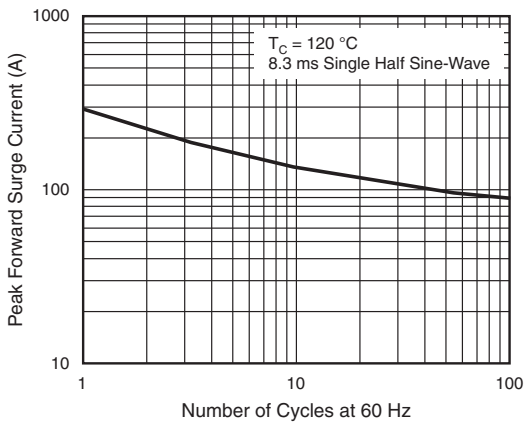


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current Per Diode

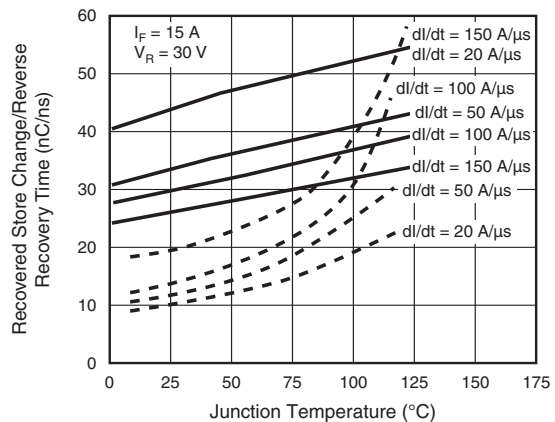


Fig. 5 - Reverse Switching Characteristics Per Diode

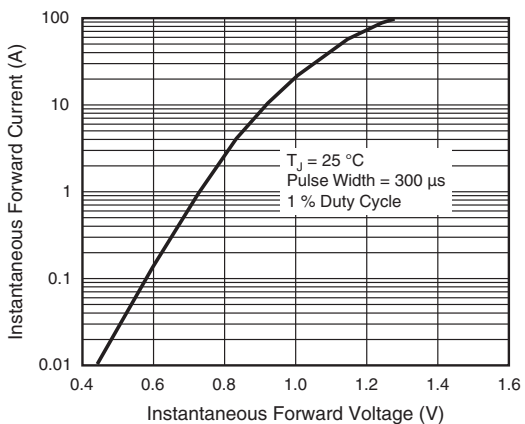


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

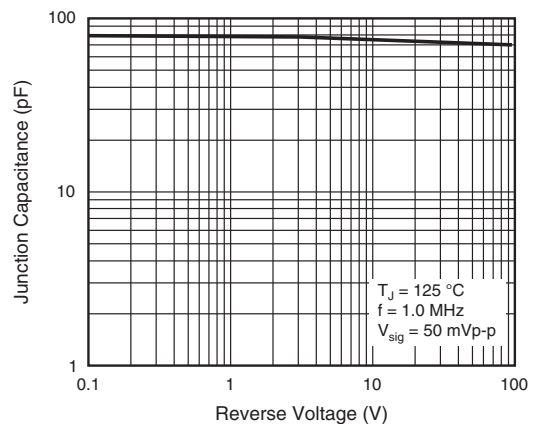


Fig. 6 - Typical Junction Capacitance Per Diode



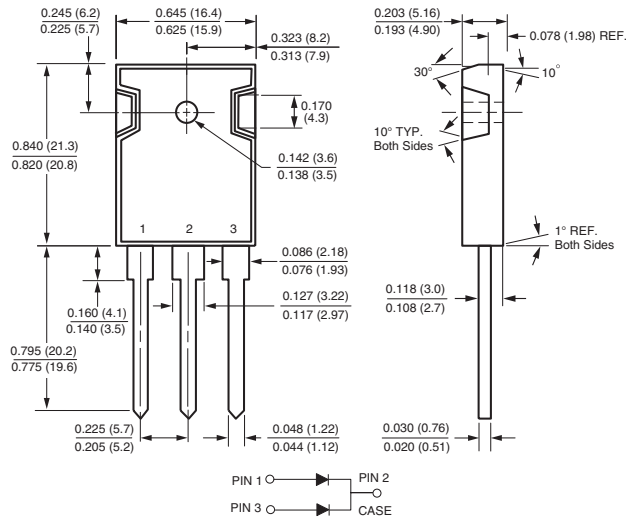
# UG30APT-E3, UG30BPT-E3, UG30CPT-E3, UG30DPT-E3

[www.vishay.com](http://www.vishay.com)

Vishay General Semiconductor

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### TO-247AD (TO-3P)





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