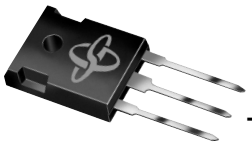
GENERAL SEMICONDUCTOR®

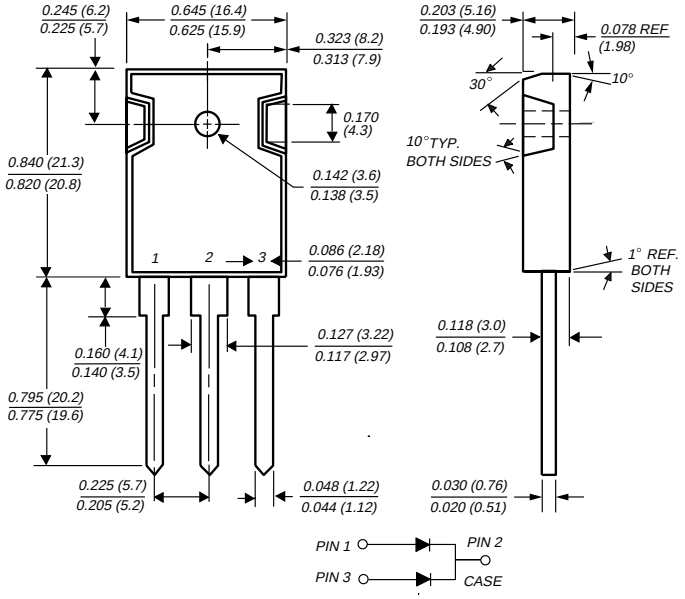
FEP30AP thru FEP30JP

Dual Ultrafast Plastic Rectifier

Reverse Voltage 50 to 600 V
Forward Current 30 A



TO-247AD (TO-3P)



Dimensions in inches and (millimeters)

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Dual rectifier construction, positive center-tap
- Glass passivated chip junctions
- Superfast recovery times for high efficiency
- Low forward voltage, high current high current capability
- Low thermal resistance, low power loss
- 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
Mounting Torque: 10 in. - lbs. max.
Weight: 0.22 ounce, 6.3 grams

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	FEP 30AP	FEP 30BP	FEP 30CP	FEP 30DP	FEP 30FP	FEP 30GP	FEP 30HP	FEP 30JP	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current at T_C=100°C	$I_{F(AV)}$	30								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T_C=100°C	I_{FSM}	300								A
Typical thermal resistance (NOTE 1)	$R_{\Theta JC}$	1.0								°C/W
Operating storage and temperature range	T_J, T_{STG}	-55 to +150								°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	FEP 30AP	FEP 30BP	FEP 30CP	FEP 30DP	FEP 30FP	FEP 30GP	FEP 30HP	FEP 30JP	Units
Maximum instantaneous forward voltage per leg at 15.0A	V_F	0.95				1.3		1.5		V
Maximum DC reverse current per leg T_C=25°C at rated DC blocking voltage T_C=100°C	I_R	10 500								µA
Maximum reverse recovery time per leg at I_F=0.5A, I_R=1.0A, I_{rr}=0.25A	t_{rr}	35				50				ns
Typical junction capacitance per leg at 4.0V, 1MHz	C_J	175						145		pF

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

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Ratings & Characteristic Curves

FIG. 1 - FORWARD CURRENT DERATING CURVE

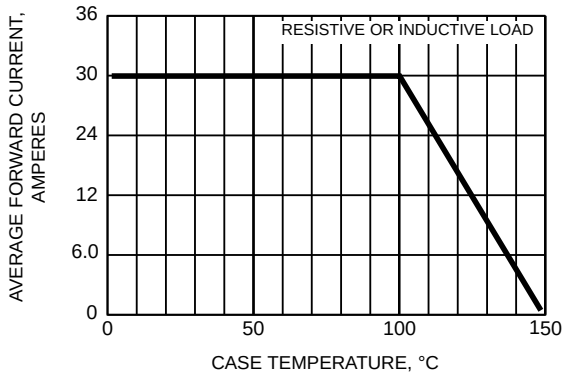

FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

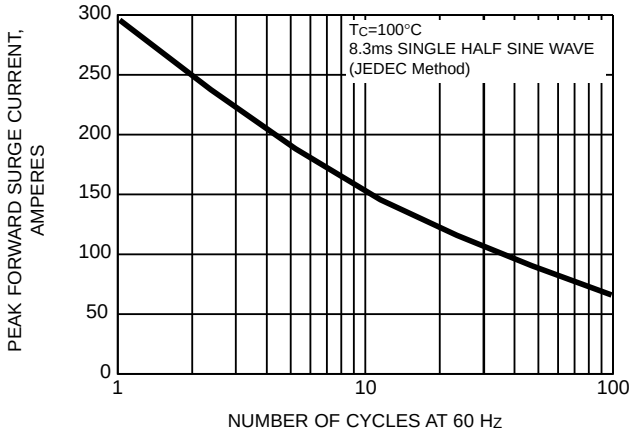

FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

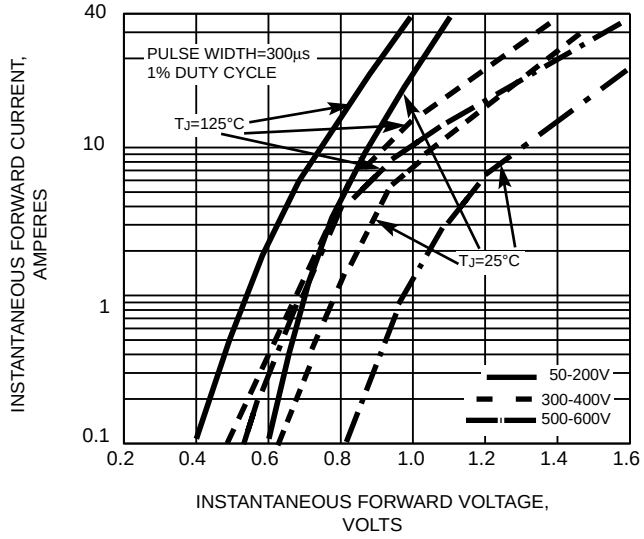

FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG

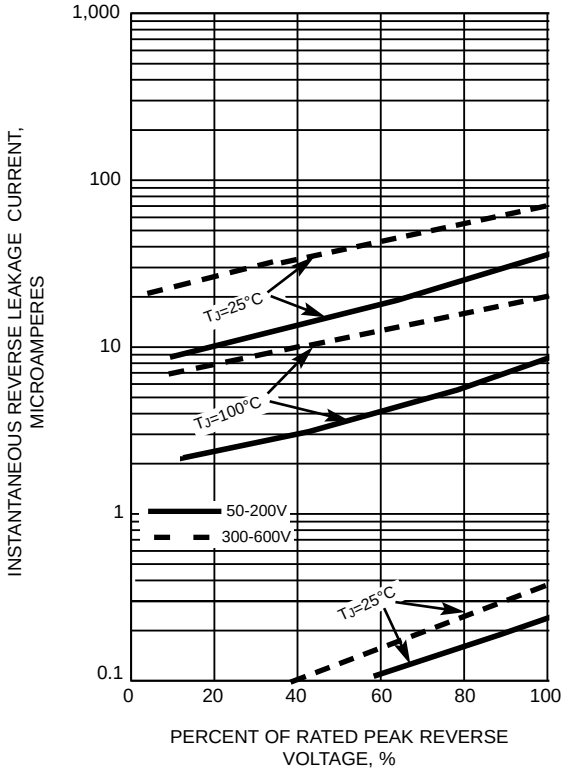

FIG. 5 - TYPICAL JUNCTION CAPACITANCE