Silicon Diode

FEP30JP

Fast Efficient Rectifier

600V / 30A

DATASHEET

from

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OEM – General Semiconductor

Source: General Semiconductor Databook 1998

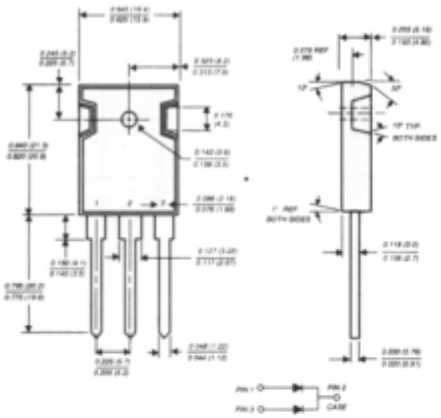
Datasheet Rev. 2.0 – 06/19– data without warranty / liability

FEP30AP THRU FEP30JP

FAST EFFICIENT PLASTIC RECTIFIER

***Reverse Voltage** - 50 to 600 Volts* ***Forward Current** - 30.0 Amperes*

TO-247AD



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 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 AND 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 repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	500	600	Volts
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	350	420	Volts
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	500	600	Volts
Maximum average forward rectified current at T_C=100°C	$I_{(AV)}$	30.0								Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T_C=100°C	I_{FSM}	300.0								Amps
Maximum instantaneous forward voltage per leg at 15.0A	V_F	0.95				1.3		1.5		Volts
Maximum DC reverse current at rated DC blocking voltage T_C=25°C / T_C=100°C	I_R	10.0 / 500.0								µA
Maximum reverse recovery time time (NOTE 1) per leg	t_{rr}	35.0				50.0				ns
Typical junction capacitance per leg (NOTE 2)	C_J	175.0						145.0		pF
Typical thermal resistance (NOTE 3)	$R_{\theta JC}$	1.0								°C/W
Operating storage and temperature range	T_J, T_{STG}	-55 to +150								°C

NOTES:
1) Reverse recovery test conditions: I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
(3) Thermal resistance from junction to case per leg mounted on heatsink

RATINGS AND CHARACTERISTIC CURVES FEP30AP THRU FEP30JP

FIG. 1 - FORWARD CURRENT DERATING CURVE

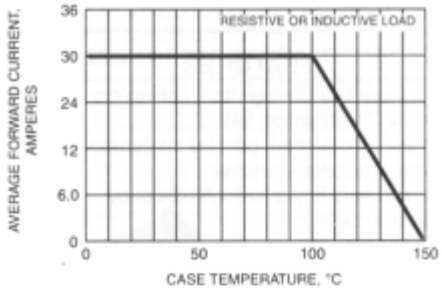


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

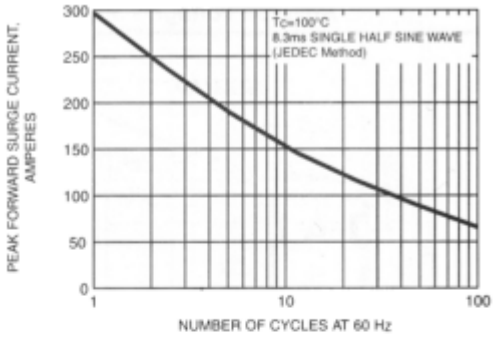


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

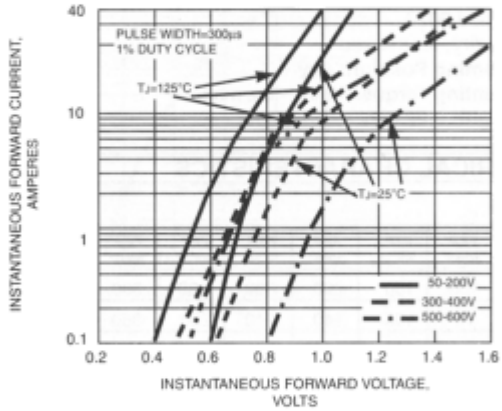


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG

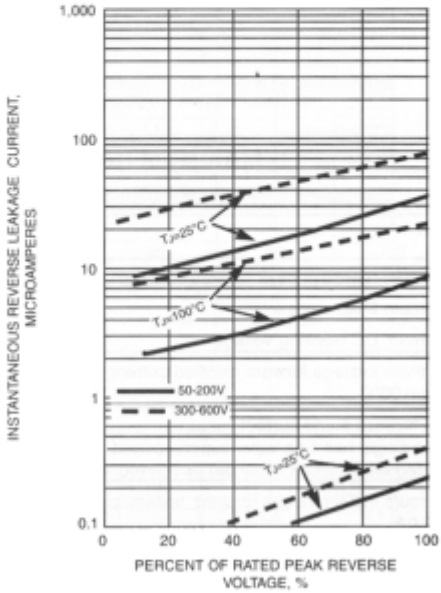
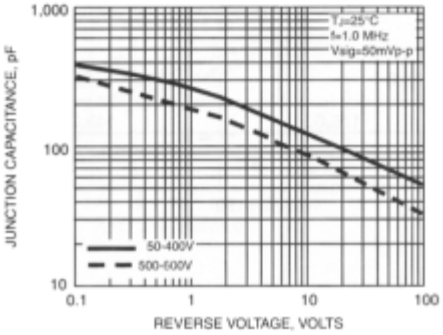



FIG. 5 - TYPICAL JUNCTION CAPACITANCE