



INTERNATIONAL SEMICONDUCTOR, Inc.

SUPER FAST RECOVERY, GLASS PASSIVATED, PLASTIC RECTIFIERS
VOLTAGE - 50 TO 400 Volts CURRENT - 16.0 Ampere

FEP16AT thru FEP16JT

FEATURES

- Molded Case Epoxy carries Underwriters Laboratory Flammability Classification 94V-0
- Low cost construction utilizing void-free transfer molding technique
- High Reliability
- Glass Passivated Junction
- Low Forward Voltage Drop
- High Current Capability
- High Surge Current Capability
- High temperature soldering guaranteed: 250°C/10 seconds/.375"(9.5mm) lead lengths at 5 lbs(2.3kg) tension

MECHANICAL DATA

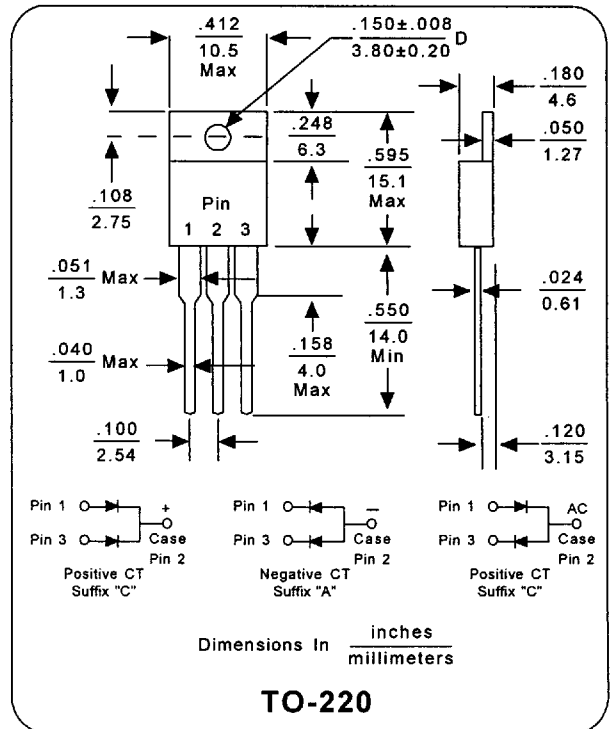
CASE: JEDEC TO-220A, molded plastic case

TERMINALS: Plated axial leads, solderable per MIL-S-202, Method 208

WEIGHT: 0.08 ounce, 2.24 grams

MOUNTING POSITION: Any

HANDLING PRECAUTIONS: None



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified
Single phase, half wave, 60 Hz, resistive or inductive load
For capacitive load, derate current by 20%

SYMBOL	FEP 16AT	FEP 16BT	FEP 16CT	FEP 16DT	FEP 16FT	FEP 16GT	FEP 16HT	FEP 16JT	UNIT	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	500	600	V
Maximum RMS Input 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 Current .375"(9.5mm) Lead Length, $T_c = 90^\circ\text{C}$	$I_{(AV)}$	16.0								A
Peak Forward Surge Current - 8.3 ms single half sine wave superimposed on rated load	I_{FSM}	200								A
Maximum Instantaneous Forward Voltage at 8.0A	V_F		0.975		1.3		1.5		V	
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	I_R	10.0								μA
	I_R	500								μA
Maximum Recovery Time (Note 1)	T_{RR}	35			50				ns	
Typ Junction Capacitance $T_J=25^\circ\text{C}$ (Note 2)	C_J	65							pf	
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	3.00							$^\circ\text{C}/\text{W}$	
Operating Temperature Range	T_J	-65 to +150							$^\circ\text{C}$	
Storage Temperature Range	T_{STG}	-65 to +150							$^\circ\text{C}$	

Note 1: Reverse Recovery Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

Note 2: Measured at 1.0 MHz and 4.0 Volt Bias Voltage

Note 3: Thermal Resistance from Junction to case per element

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FEP16AT thru FEP16JT

RATING AND CHARACTERISTIC CURVES

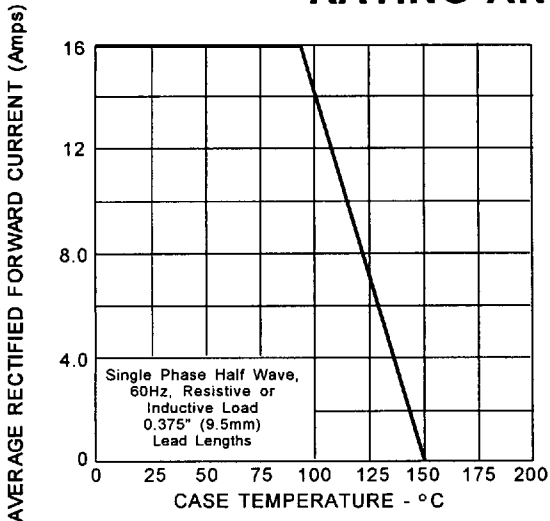


FIG. 2 - FORWARD CURRENT DERATING CURVE

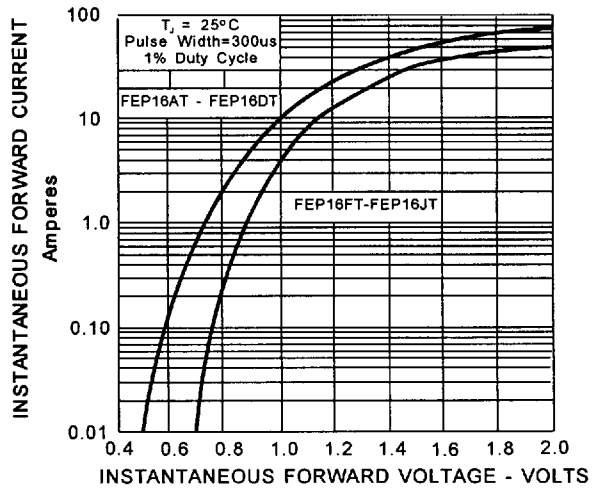


FIG. 3 - TYPICAL FORWARD CHARACTERISTICS

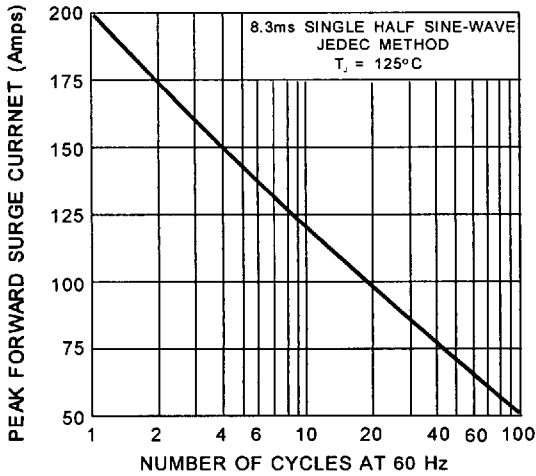


FIG. 4 - MAXIMUM NON-REPETITIVE PEAK SURGE CURRENT

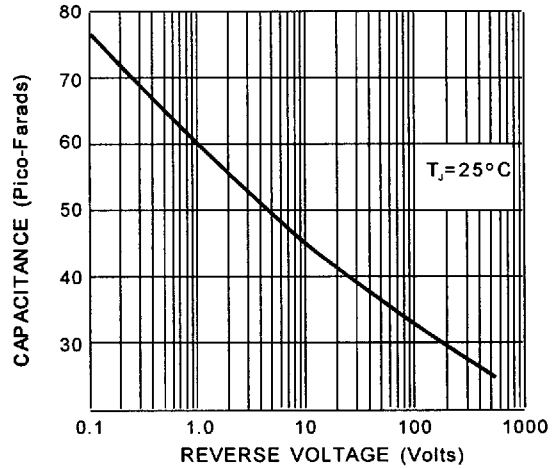


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

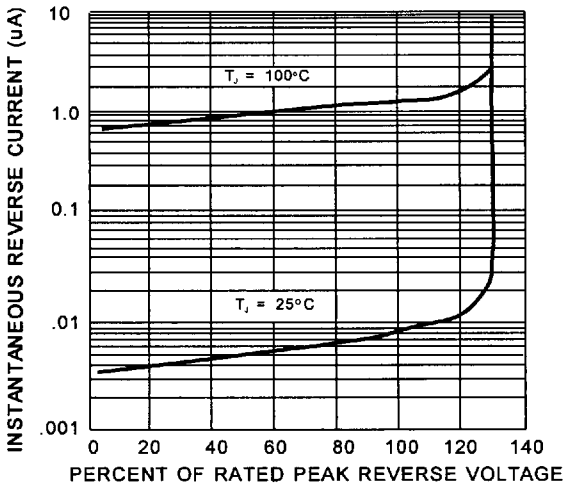


FIG. 5 TYPICAL REVERSE CHARACTERISTICS

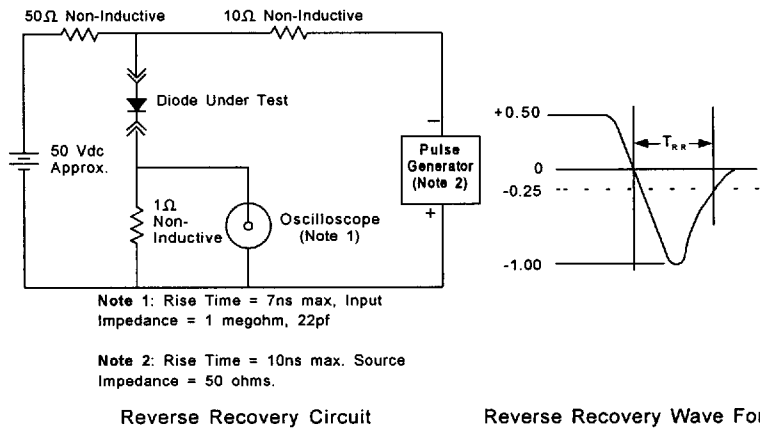


Fig. 7 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

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