



INTERNATIONAL SEMICONDUCTOR, Inc.

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

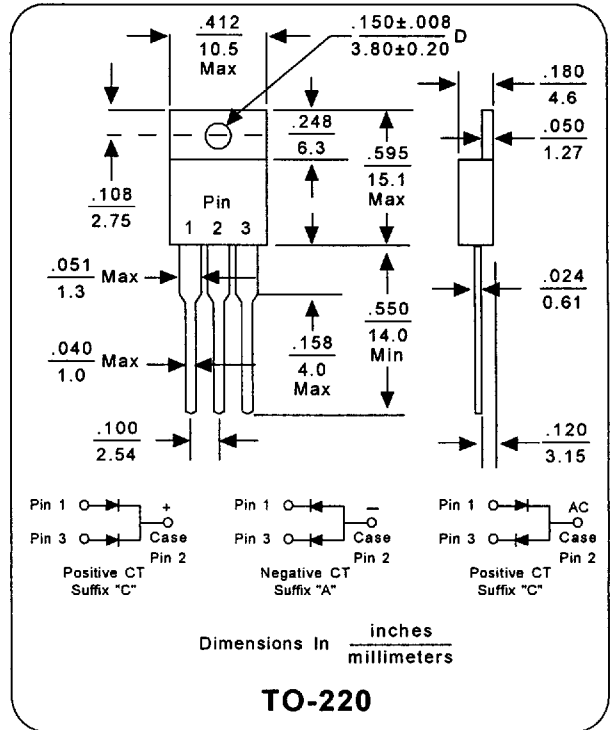
SF161 thru SF166

FEATURES

- Molded Case Epoxy carries Underwriters Laboratory Flammability Classification 94V-O
- 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	SF161	SF162	SF163	SF164	SF165	SF166	UNIT
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	V
Maximum RMS Input Voltage	V_{RMS}	35	70	105	140	210	280	V
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	V
Maximum Average Forward Current .375"(9.5mm) Lead Length, $T_c = 90^\circ C$	$I_{(AV)}$	16.0						A
Peak Forward Surge Current - 8.3 ms single half sine wave superimposed on rated load	I_{FSM}	125						A
Maximum Instantaneous Forward Voltage at 8.0A	V_F	0.975				1.3		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	5						μA
	I_R	150						μA
Maximum Recovery Time (Note 1)	T_{RR}	35						ns
Typ Junction Capacitance $T_J = 25^\circ C$ (Note 2)	C_J	80				60		pf
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	3.00						$^\circ C/W$
Operating Temperature Range	T_J	-65 to +150						$^\circ C$
Storage Temperature Range	T_{STG}	-65 to +150						$^\circ C$

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

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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SF161 thru SF166

RATING AND CHARACTERISTIC CURVES

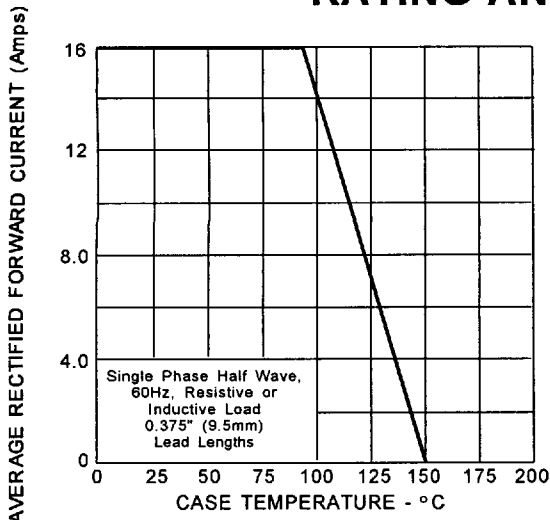


FIG. 2 - FORWARD CURRENT DERATING CURVE

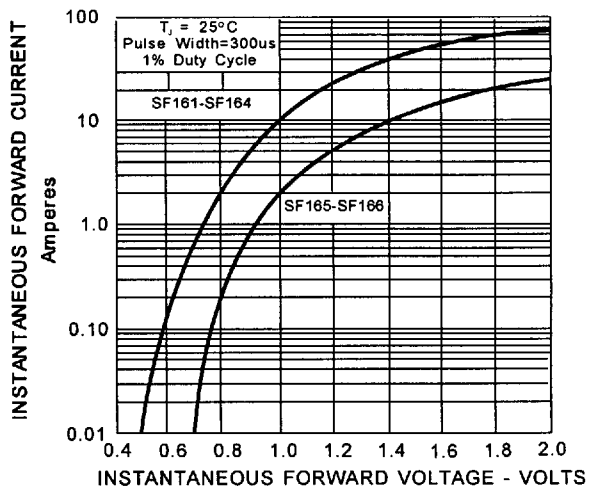


FIG. 3 - TYPICAL FORWARD CHARACTERISTICS

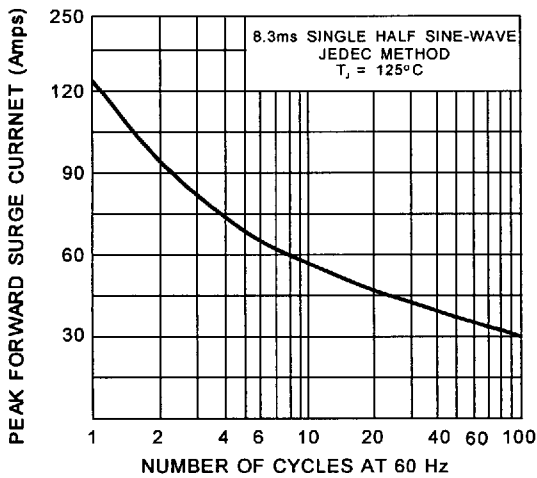


FIG. 4 - MAXIMUM NON-REPETITIVE PEAK SURGE CURRENT

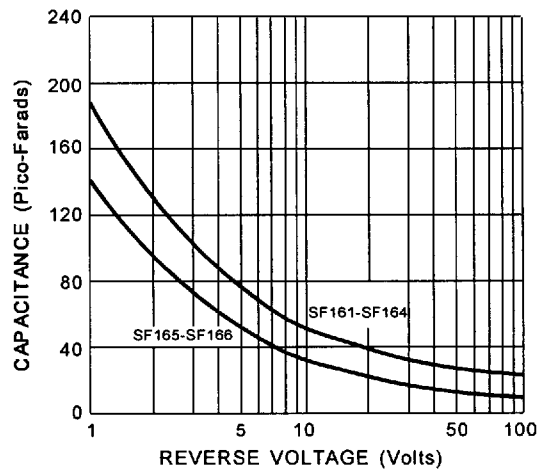


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

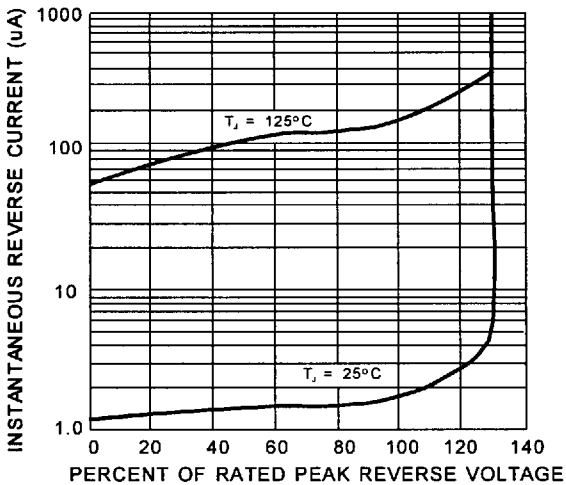


FIG. 5 TYPICAL REVERSE CHARACTERISTICS

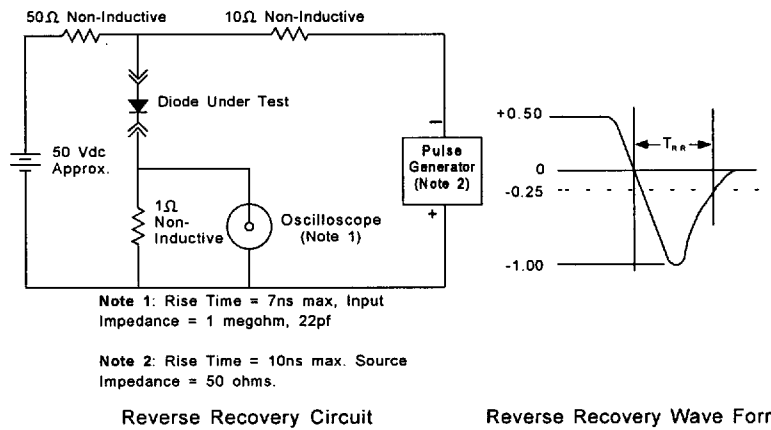


Fig. 7 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

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