

**GLASS PASSIVATED SUPER FAST RECTIFIER**

**VOLTAGE 400 Volts CURRENT 16.0 Amperes**

**FEATURES**

- \* Low switching noise
- \* Low forward voltage drop
- \* Low thermal resistance
- \* High current capability
- \* Super fast switching speed
- \* High reliability
- \* Good for switching mode circuit

**MECHANICAL DATA**

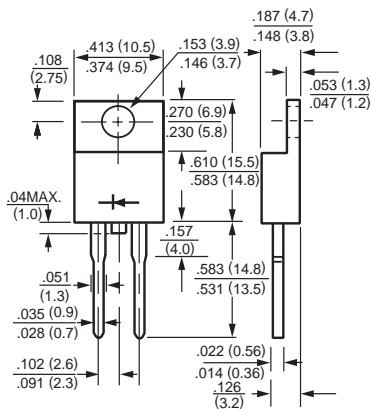
- \* Case: TO-220A molded plastic
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 2.24 grams

**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%.



**TO-220A**



**MAXIMUM RATINGS** (At TA = 25°C unless otherwise noted)

RATINGS	SYMBOL	SF166	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	400	Volts
Maximum RMS Voltage	VRMS	280	Volts
Maximum DC Blocking Voltage	Vdc	400	Volts
Maximum Average Forward Rectified Current at Tc = 100°C	IO	16.0	Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM	250	Amps
Typical Thermal Resistance	RθJC	1.2	°C/W
	RθJA	16	
Typical Junction Capacitance (Note 2)	CJ	175	pF
Operating and Storage Temperature Range	TJ, TSTG	-55 to + 150	°C

**ELECTRICAL CHARACTERISTICS** (At TA = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	SF166	UNITS
Maximum Instantaneous Forward Voltage at 16.0A DC	VF	1.35	Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	IR	@Tc = 25°C	10
		@Tc = 100°C	500
Maximum Reverse Recovery Time (Note 1)	trr	50	nSec

NOTES : 1. Test Conditions: IF = 0.5A, IR = -1.0A, IRR = -0.25A  
 2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
 3. Suffix "R" for Reverse Polarity.

# RATING AND CHARACTERISTIC CURVES ( SF166 )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

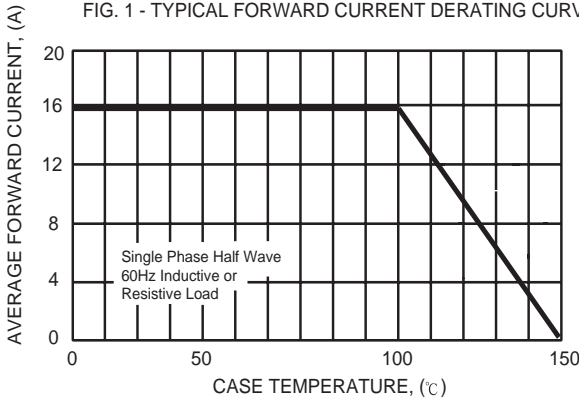


FIG. 2 - TYPICAL REVERSE CHARACTERISTICS

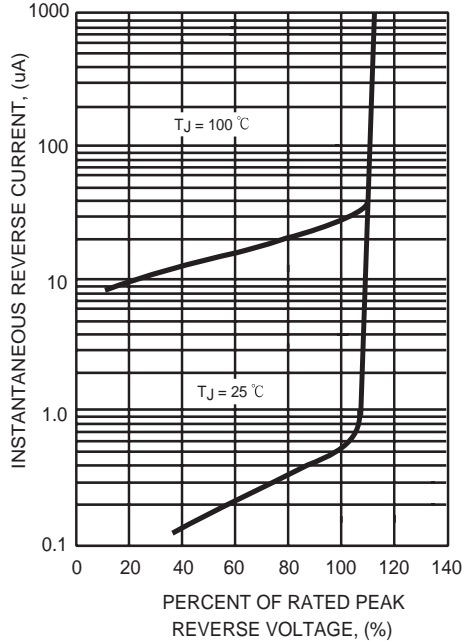


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

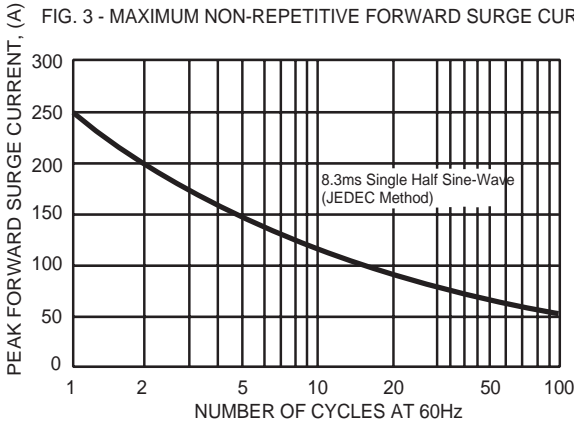


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

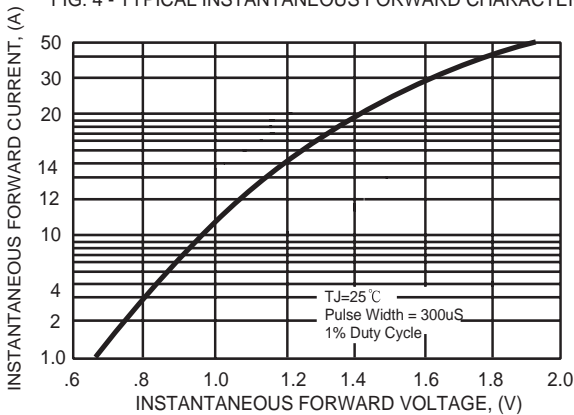


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

