

# SF161C ~ SF166C

**PRV : 50 ~ 400 Volts**  
**Io : 16 Ampere**

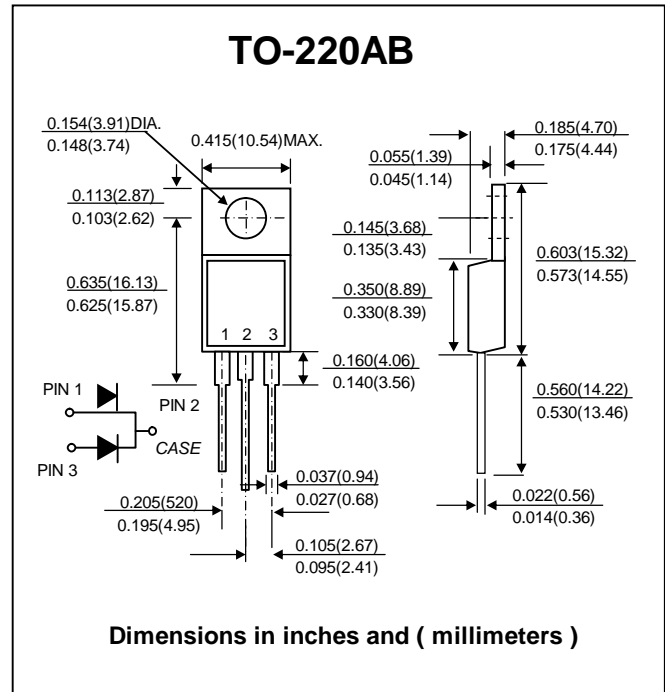
### FEATURES :

- \* High current capability
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Super fast switching speed
- \* **Pb / RoHS Free**

### MECHANICAL DATA :

- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight : 2.24 grams (Approximately)

## SUPER FAST RECTIFIERS



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 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%.

RATING	SYMBOL	SF161C	SF162C	SF163C	SF164C	SF165C	SF166C	UNIT
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	V
Maximum Working Reverse Voltage	V <sub>RWM</sub>	35	70	105	140	210	280	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	150	200	300	400	V
Maximum Average Forward Current Total Device, (Rated V <sub>R</sub> ), T <sub>c</sub> = 125°C	I <sub>F(AV)</sub>	8.0 (Per Leg)						A
		16 (Total Device)						
Maximum Peak Rectified Forward Current 8.3 ms single half sine-wave, superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	150						A
Maximum Instantaneous Forward Voltage at I <sub>F</sub> = 8 A	V <sub>F</sub>	1.0				1.35		V
Maximum Reverse Current at T <sub>c</sub> = 25 °C	I <sub>R</sub>	10						µA
Rated DC Blocking Voltage T <sub>c</sub> = 100 °C	I <sub>R(H)</sub>	500						µA
Typical Thermal Resistance, Junction to Case	R <sub>θJC</sub>	3.0						°C/W
Typical Junction Capacitance <sup>(1)</sup>	C <sub>J</sub>	50.0				30		pF
Maximum Reverse Recovery Time <sup>(2)</sup>	T <sub>rr</sub>	35				50		ns
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	- 65 to + 150						°C

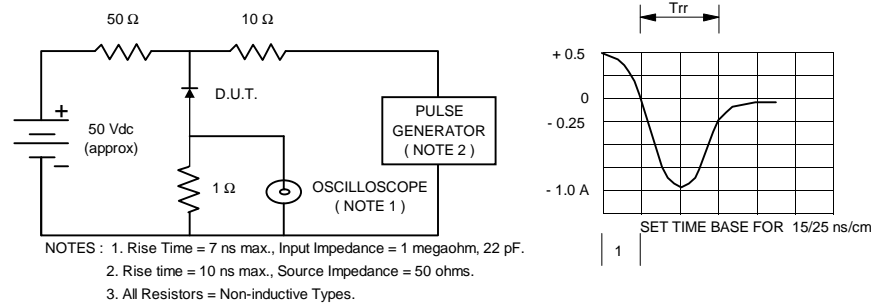
#### Notes :

(1) Measured at 1 MHz and applied reverse voltage of 4.0 volts.

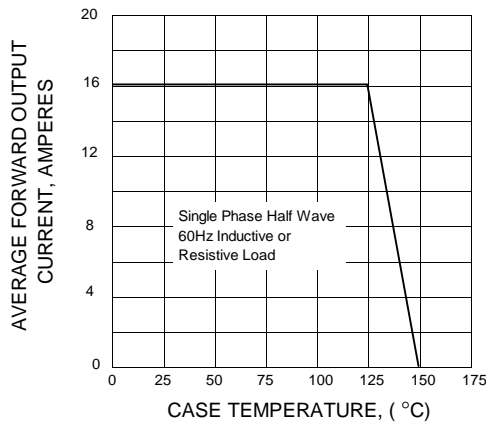
(2) Reverse Recovery Test Conditions : I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1A ; I<sub>rr</sub> = 0.25 A

## RATING AND CHARACTERISTIC CURVES ( SF161C ~ SF166C )

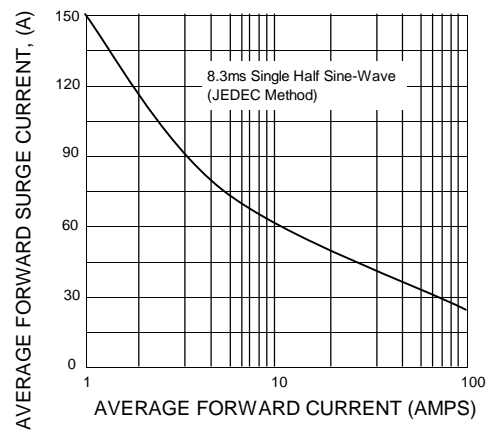
**FIG. 1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



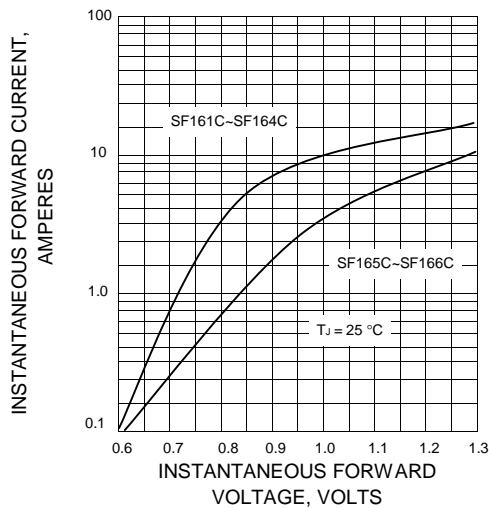
**FIG. 2 - DERATING CURVE FOR OUTPUT CURRENT**



**FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 5 - TYPICAL REVERSE CHARACTERISTICS**

