

# SF161CTA THRU SF168CTA

## GLASS PASSIVATED SUPER FAST RECTIFIER

Reverse Voltage – 50 to 800 V

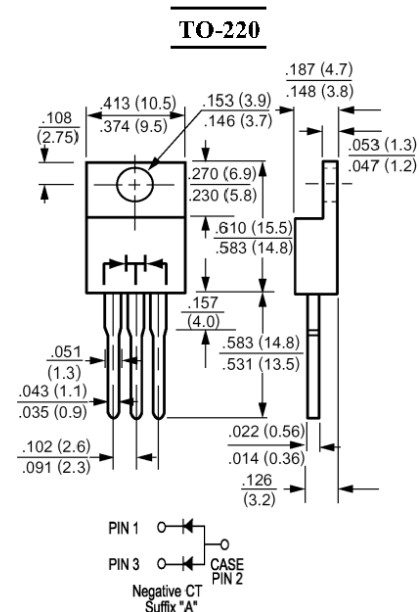
Forward Current – 16 A

### Features

- Low forward voltage drop
- Low reverse leakage current
- Superfast switching time for high efficiency
- High current capability
- High surge current capability

### Mechanical Data

- Case: Molded plastic, TO-220
- Epoxy: UL 94V-0 rate flame retardant
- Terminals: leads solderable per MIL-STD-202 method 208 guaranteed
- Polarity: As marked
- Mounting Position: Any



**Dimensions in inches and (millimeters)**

### Absolute Maximum Ratings and Characteristics

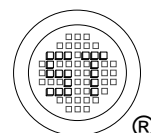
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	SF161CTA	SF162CTA	SF163CTA	SF164CTA	SF165CTA	SF166CTA	SF167CTA	SF168CTA	Units
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current at T <sub>C</sub> = 100 °C	I <sub>(AV)</sub>	16								A
Peak Forward Surge Current, 8.3 mS Single half Sine-wave Superimposed on Rated Load (JEDEC method)	I <sub>FSM</sub>	125								A
Maximum Forward Voltage at 8 A and 25 °C	V <sub>F</sub>	0.95				1.3		1.7		V
Maximum Reverse Current at T <sub>A</sub> = 25 °C at Rated DC Blocking Voltage T <sub>A</sub> = 100 °C	I <sub>R</sub>	10 500								μA
Typical Junction Capacitance <sup>1)</sup>	C <sub>J</sub>	80				60				pF
Maximum Reverse Recovery Time <sup>2)</sup>	t <sub>rr</sub>	35				50				ns
Typical Thermal Resistance <sup>3)</sup>	R <sub>θJC</sub>	2.5								°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>Stg</sub>	-55 to +150								°C

<sup>1)</sup> Measured at 1 MHz and applied reverse voltage of 4 VDC.

<sup>2)</sup> Reverse recovery test conditions:  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{RR} = 0.25\text{ A}$

<sup>3)</sup> Thermal resistance from Junction to case per leg mounted on heatsink.



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

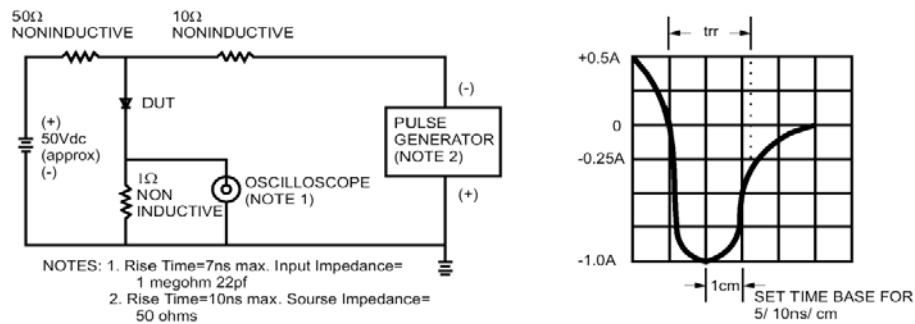


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

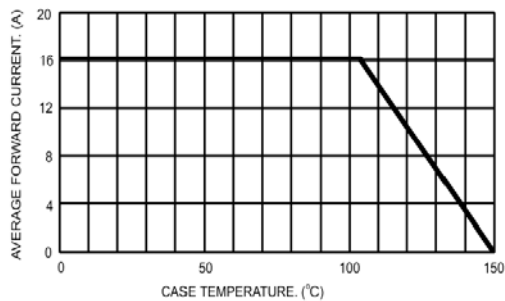


FIG.3- TYPICAL REVERSE CHARACTERISTICS

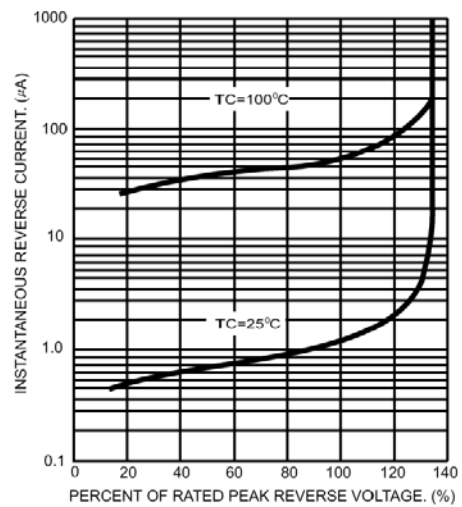


FIG.4- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

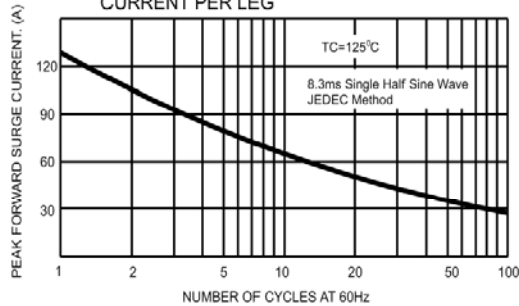


FIG.6- TYPICAL FORWARD CHARACTERISTICS PER LEG

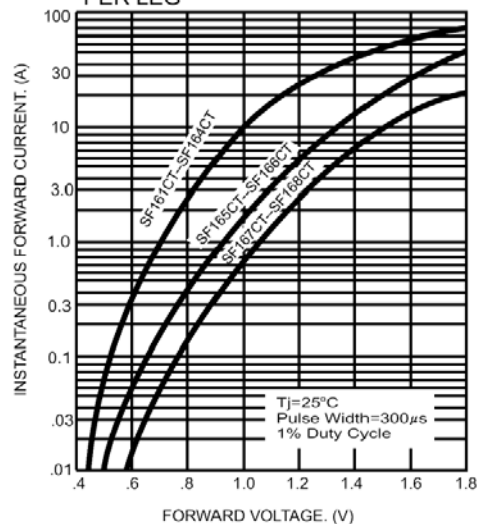


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

