

SF161CTD THRU SF168CTD

GLASS PASSIVATED SUPER FAST RECTIFIER

Reverse Voltage – 50 to 800 V

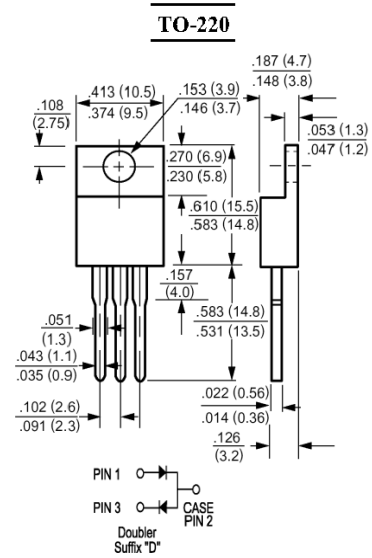
Forward Current – 16 A

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



Absolute Maximum Ratings and Characteristics

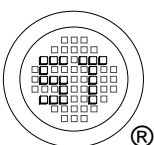
Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	SF161CTD	SF162CTD	SF163CTD	SF164CTD	SF165CTD	SF166CTD	SF167CTD	SF168CTD	Units	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	500	600	V	
Maximum RMS 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 Rectified Current at $T_C = 100^\circ\text{C}$	$I_{(AV)}$	16								A	
Peak Forward Surge Current, 8.3 ms Single half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	125								A	
Maximum Forward Voltage at 8 A and 25 °C	V_F	0.95			1.3		1.7			V	
Maximum Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 100^\circ\text{C}$	I_R	10				500					μA
Typical Junction Capacitance ¹⁾	C_J	80				60					pF
Maximum Reverse Recovery Time ²⁾	t_{rr}	35				50					ns
Typical Thermal Resistance ³⁾	$R_{\theta JC}$	2.5								$^\circ\text{C}/\text{W}$	
Operating and Storage Temperature Range	T_J, T_{SIG}	-55 to +150								$^\circ\text{C}$	

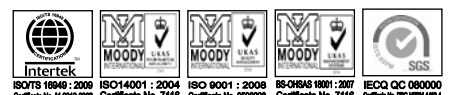
¹⁾ Measured at 1 MHz and applied reverse voltage of 4 VDC.

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

³⁾ Thermal resistance from Junction to case per leg mounted on heatsink.

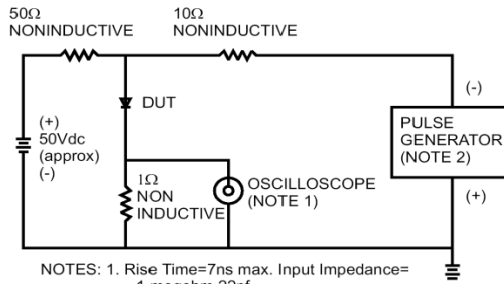


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FIG.1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. Rise Time=7ns max. Input Impedance=1 megohm 22pf
2. Rise Time=10ns max. Source Impedance=50 ohms

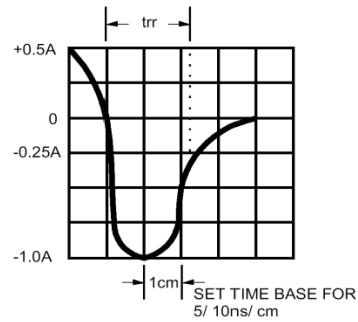


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

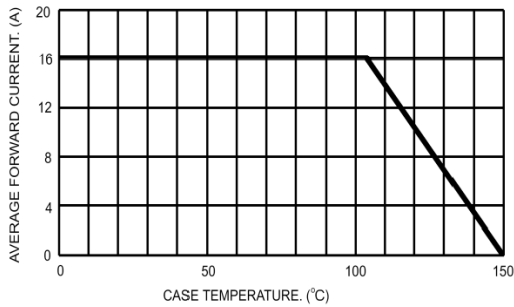


FIG.3- TYPICAL REVERSE CHARACTERISTICS

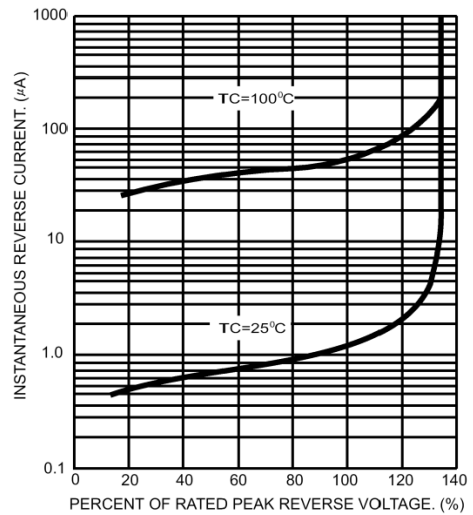


FIG.4- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

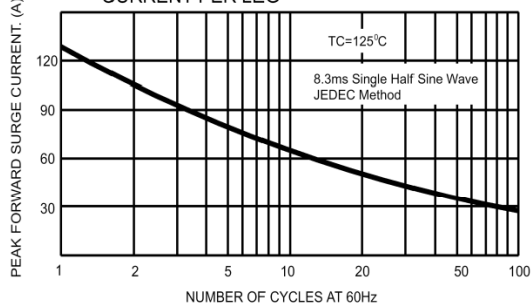


FIG.6- TYPICAL FORWARD CHARACTERISTICS PER LEG

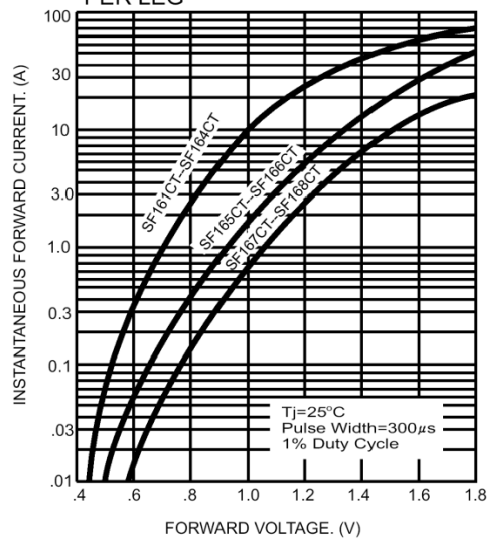
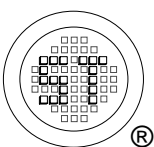
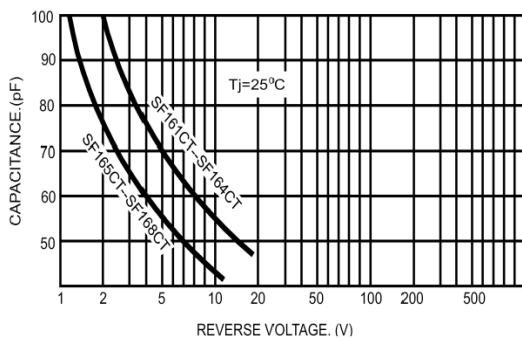


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG



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