

SF1010C-SF1060C

Super Fast Rectifiers



VOLTAGE RANGE: 50 --- 600 V

FORWARD CURRENT: 10 A

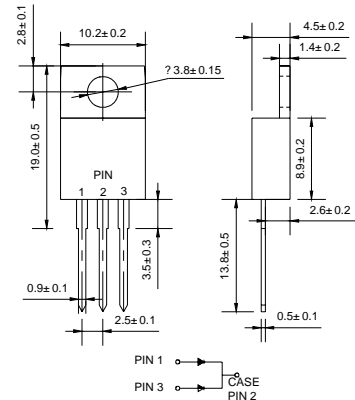
Features

- ◇ Low cost
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

Mechanical Data

- ◇ Case: JEDEC TO-220AB, molded plastic
- ◇ Polarity: As marked
- ◇ Weight: 0.08 ounce, 2.24 grams
- ◇ Mounting position: Any

TO-220AB



Dimensions in millimeters

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 by 20%.

Type Number	Symbol	SF 1010C	SF 1015C	SF 1020C	SF 1030C	SF 1040C	SF 1050C	SF 1060C	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	100	150	200	300	400	500	600	V
Maximum RMS voltage	V_{RMS}	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V_{DC}	100	150	200	300	400	500	600	V
Maximum average forward rectified current @ $T_C=100^\circ\text{C}$	$I_{F(AV)}$	10							A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	I_{FSM}	125							A
Maximum instantaneous forward voltage @ 5.0A	V_F	0.975		1.3		1.7		V	
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	I_R	10 400							μA
Maximum reverse recovery time (Note1)	t_{rr}	35							ns
Typical junction capacitance (Note2)	C_J	70			50				pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	3.0							$^\circ\text{C/W}$
Operating junction temperature range	T_J	- 55 ----- + 150							$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ----- + 150							$^\circ\text{C}$

NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=0.25\text{A}$.

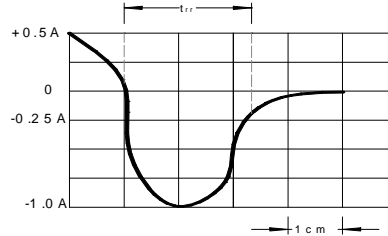
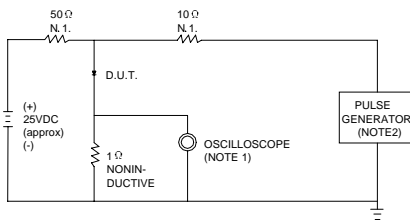
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance from junction to ambient.



Ratings AND Characteristic Curves

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



NOTES:1.RISE TIME = 7ns MAX.INPUT IMPEDANCE = 1MΩ .22pF.
2.RISE TIME =10ns MAX.SOURCE IMPEDANCE=50 Ω .

SET TIME BASE FOR 10 ns/cm

FIG.2 -- TYPICAL FORWARD CHARACTERISTIC

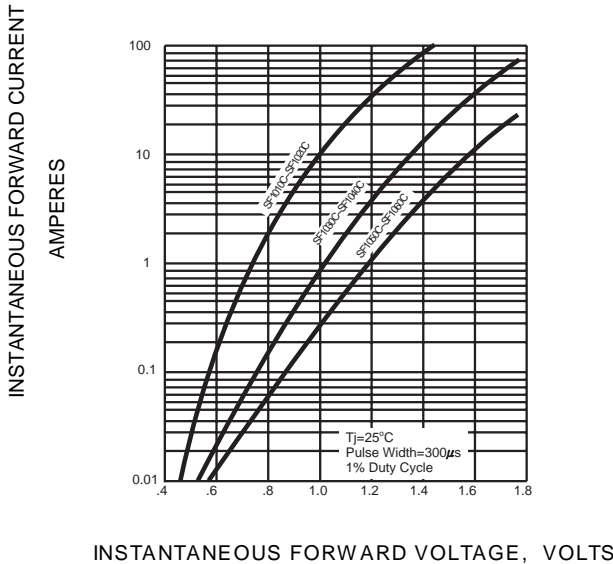


FIG.3 -- FORWARD DERATING CURVE

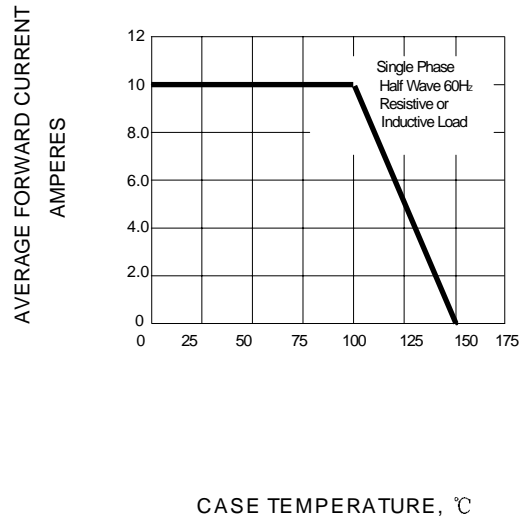


FIG.4 -- TYPICAL JUNCTION CAPACITANCE

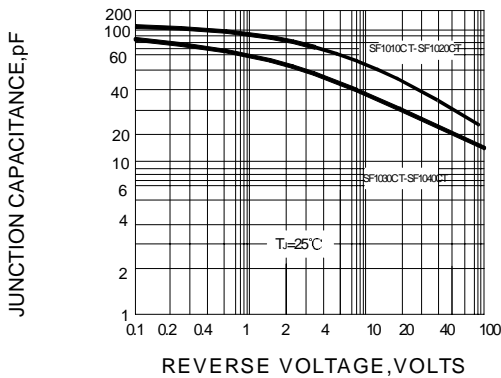
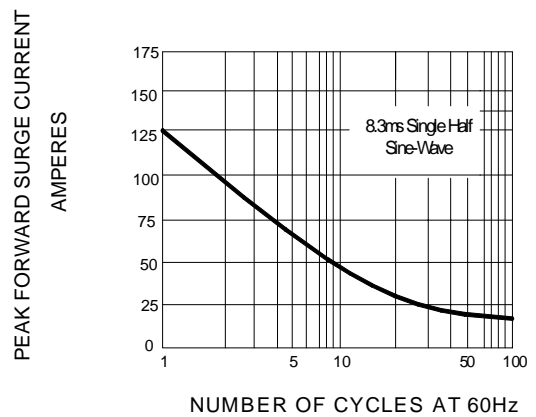


FIG.5 -- PEAK FORWARD SURGE CURRENT



PACKAGE	PCS/TUBE	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
TO-220	50	5000	57*22*18	13	9