



SF1010-SF1060

Super Fast Rectifiers

VOLTAGE RANGE: 50 --- 600 V

CURRENT: 10 A

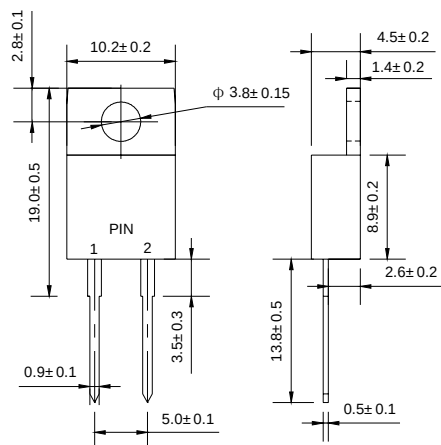
Features

- ◇ Low cost
- ◇ Diffuse junction
- ◇ 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-220AC, molded plastic
- ◇ Polarity: As marked
- ◇ Weight: 0.064 ounces, 1.96 gram
- ◇ Mounting position: Any

TO-220AC



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%.

		SF 1010	SF 1020	SF 1030	SF 1040	SF 1050	SF 1060	UNITS
Maximum recurrent peak reverse voltage	V _{RRM}	100	200	300	400	500	600	V
Maximum RMS voltage	V _{RMS}	70	140	210	280	350	420	V
Maximum DC blocking voltage	V _{DC}	100	200	300	400	500	600	V
Maximum average forward rectified current @T _C =100 °C	I _{F(AV)}	10						A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @T _J =125°C	I _{FSM}	150						A
Maximum instantaneous forward voltage @ 10A	V _F	0.98		1.3		1.7		V
Maximum reverse current @T _A =25°C at rated DC blocking voltage @T _A =100°C	I _R	10 400						μ A
Maximum reverse recovery time (Note1)	t _{rr}	35						ns
Typical junction capacitance (Note2)	C _J	70		50				pF
Typical thermal resistance (Note3)	R _{θJA}	3.0						°C/W
Operating junction temperature range	T _J	- 55 ----- + 150						°C
Storage temperature range	T _{STG}	- 55 ----- + 150						°C

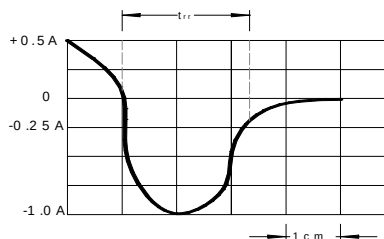
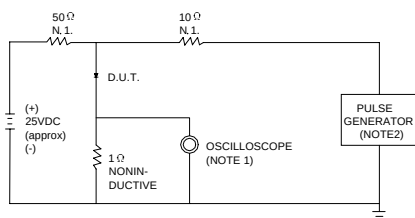
NOTE: 1. Measured with $I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $t_r = 0.25\text{A}$.

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

3. Thermal resistance from junction to ambient.

Ratings AND Characteristic Curves

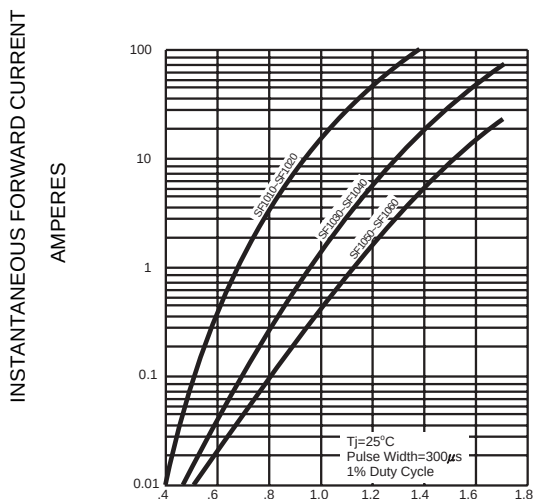
FIG.1 -- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

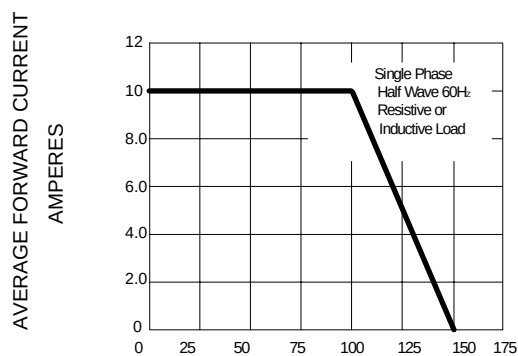
SET TIME BASE FOR 15 ns/cm

FIG.2 -- TYPICAL FORWARD CHARACTERISTIC



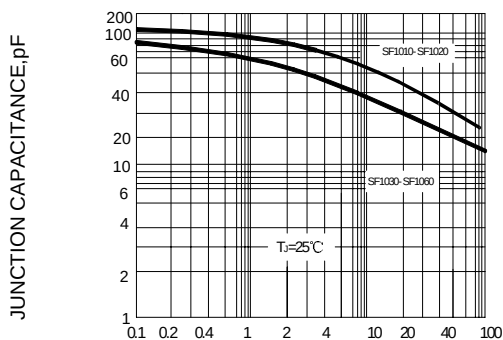
INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG.3 -- FORWARD DERATING CURVE



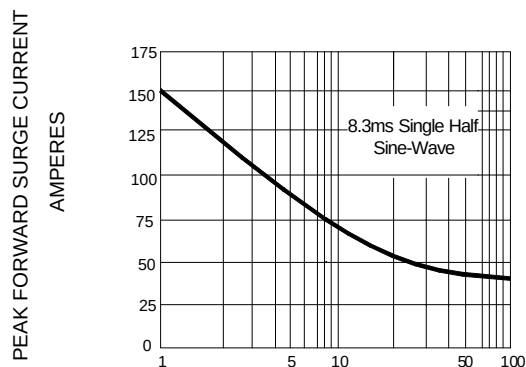
CASE TEMPERATURE, °C

FIG.4 -- TYPICAL JUNCTION CAPACITANCE



REVERSE VOLTAGE,VOLTS

FIG.5 -- PEAK FORWARD SURGE CURRENT



NUMBER OF CYCLES AT 60Hz