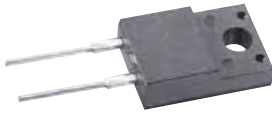


USF1010F-USF1060F

Super Fast Rectifiers

VOLTAGE RANGE: 100 --- 600 V

CURRENT: 10 A



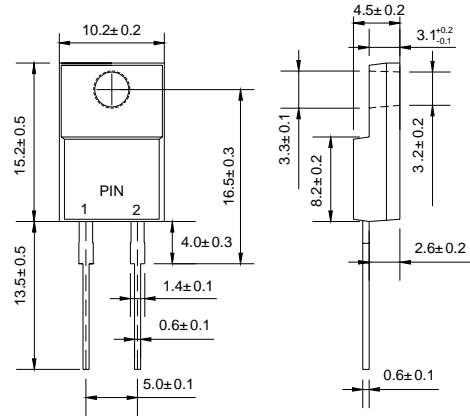
Features

- ◇ Low cost
- ◇ Diffused 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 ITO-220AC, molded plastic
- ◇ Polarity: As marked
- ◇ Weight: 0.056 ounces, 1.587 gram
- ◇ Mounting position: Any

ITO-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%.

		USF 1010F	USF 1020F	USF 1030F	USF 1040F	USF 1050F	USF 1060F	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 @ $T_C=100^\circ\text{C}$	$I_{F(AV)}$	10						A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	I_{FSM}	150						A
Maximum instantaneous forward voltage @ 10A	V_F	0.98		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}	25						ns
Typical junction capacitance (Note2)	C_J	70			50			pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	3.0						$^\circ\text{C}/\text{W}$
Operating junction temperature range	T_J	- 55 ----- + 150						$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ----- + 150						$^\circ\text{C}$

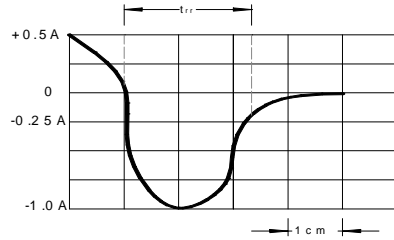
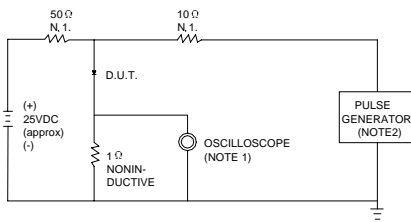
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=0.25\text{A}$.

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

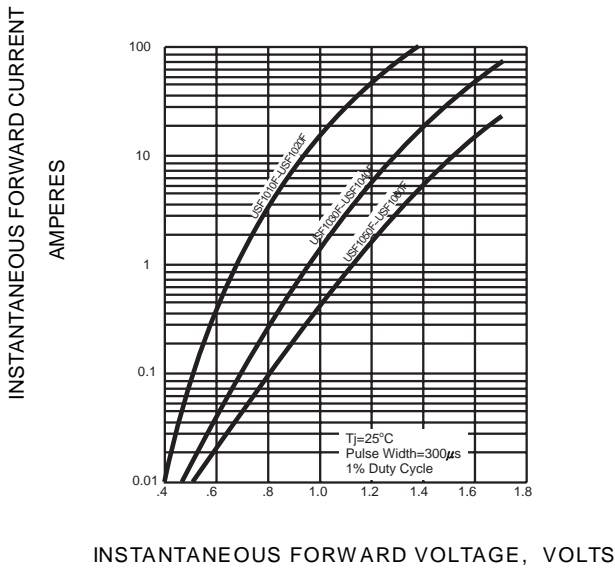


FIG.3 -- FORWARD DERATING CURVE

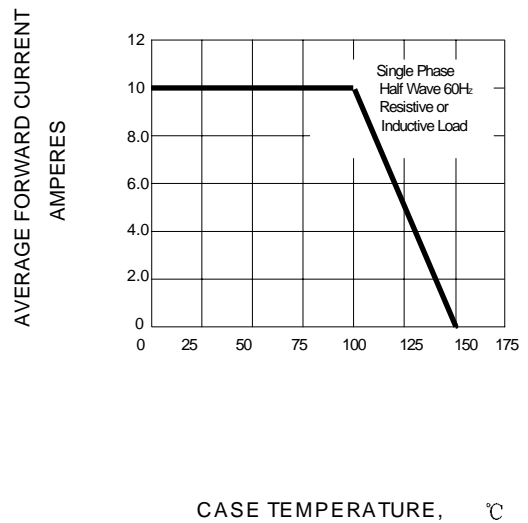


FIG.4 -- TYPICAL JUNCTION CAPACITANCE

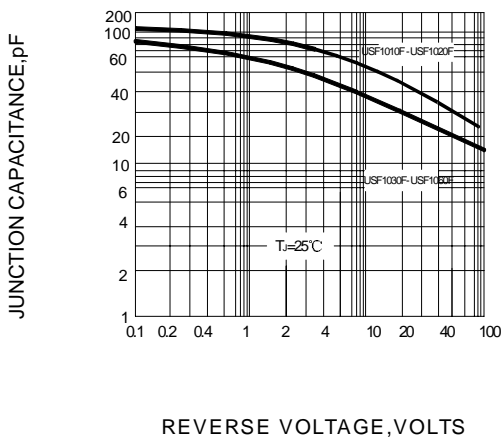


FIG.5 -- PEAK FORWARD SURGE CURRENT

