

SUPER FAST RECTIFIERS

VOLTAGE RANGE: 100 --- 600 V

CURRENT: 10 A

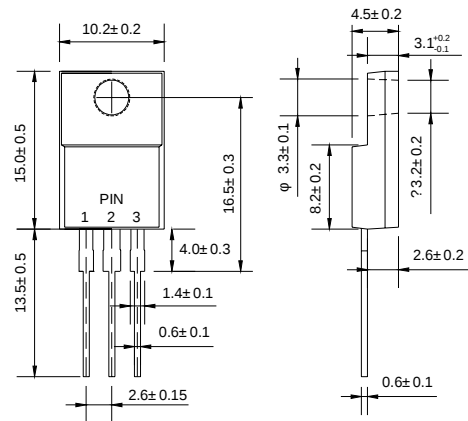
FEATURES

- ◇ 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 TO-220AB, molded plastic
- ◇ Terminals: Solderable per MIL-STD-202, Method 208
- ◇ Polarity: As marked
- ◇ Weight: 0.0071 ounce, 2.006 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%.

		USF 1010C	USF 1020C	USF 1030C	USF 1040C	USF 1050C	USF 1060C	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 @ $T_C=100^{\circ}C$	$I_{F(AV)}$	10						A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^{\circ}C$	I_{FSM}	60						A
Maximum instantaneous forward voltage @ 5.0A	V_F	0.98		1.3		1.7		V
Maximum reverse current @ $T_A=25^{\circ}C$ at rated DC blocking voltage @ $T_A=100^{\circ}C$	I_R	5.0		10		500		μA
		250						
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						$^{\circ}C/W$
Operating junction temperature range	T_J	- 55 ----- + 150						$^{\circ}C$
Storage temperature range	T_{STG}	- 55 ----- + 150						$^{\circ}C$

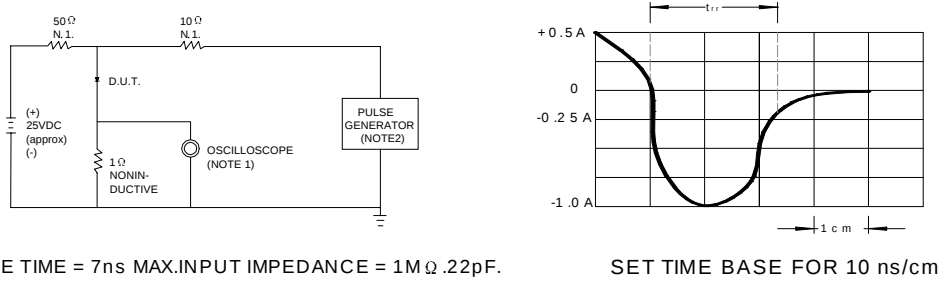
NOTE: 1. Measured with $I_F=0.5A$, $I_P=1A$, $I_{rr}=0.25A$.

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

3. Thermal resistance from junction to ambient.

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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 .

FIG.2 -- TYPICAL FORWARD CHARACTERISTIC

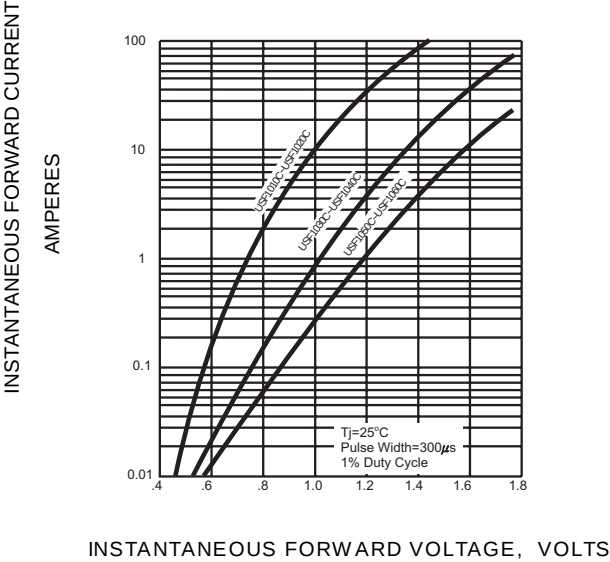


FIG.3 -- FORWARD DERATING CURVE

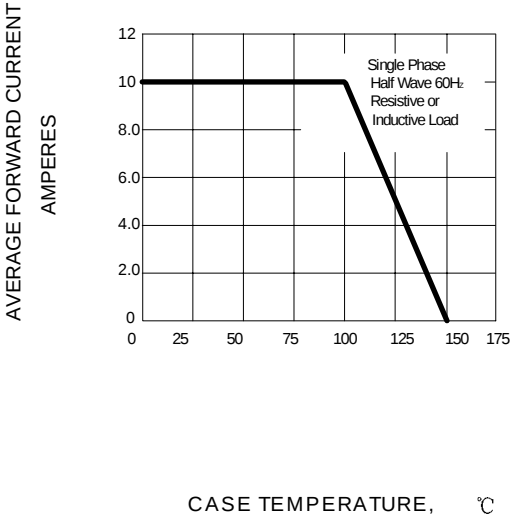


FIG.4 -- TYPICAL JUNCTION CAPACITANCE

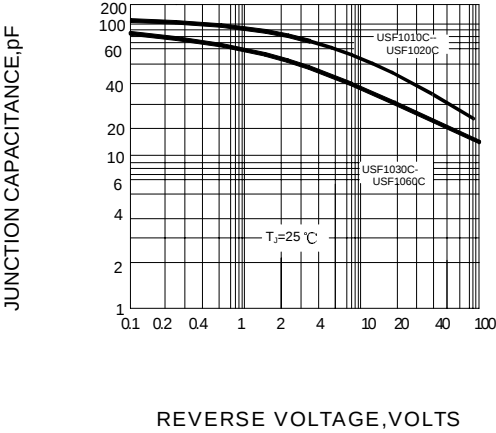


FIG.5 -- PEAK FORWARD SURGE CURRENT

