



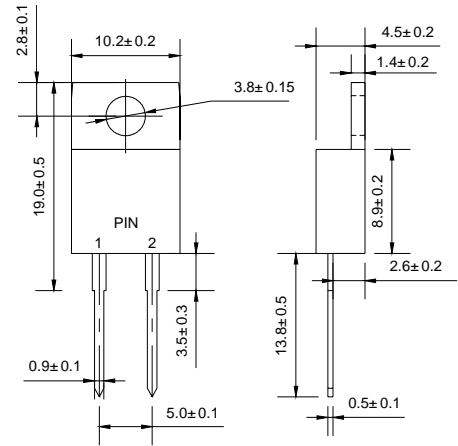
VOLTAGE RANGE: 100 --- 800 V
FORWARD CURRENT: 8.0A
TO - 220AC

Features

- ◇ Metal-Semiconductor junction with guard ring
- ◇ Epitaxial construction
- ◇ Low forward voltage drop, low switching losses
- ◇ High surge capability
- ◇ For use in low voltage, high frequency inverters free wheeling, and polarity protection applications
- ◇ 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



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%.

Parameter	Symbol	USF810	USF820	USF830	USF840	USF850	USF860	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 (see fig.1)	$I_{F(AV)}$	8.0						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 @ 8.0A (Note 1)	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	5 250			10 500			μA
Typical thermal resistance (Note 2)	$R_{\theta JA}$	60						$^\circ\text{C/W}$
Maximum reverse recovery time (Note 3)	t_{rr}	25						ns
Operating junction temperature range	T_J	-55 ---- + 150						$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ---- +150						$^\circ\text{C}$

NOTE: 1. Pulse test: 300us pulse width, 1% duty cycle.

2. Thermal resistance junction to ambient

3. Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1\text{A}$, $t_{rr}=0.25\text{A}$



Ratings AND Characteristic Curves

FIG.1 -- FORWARD CURRENT DERATING CURVE

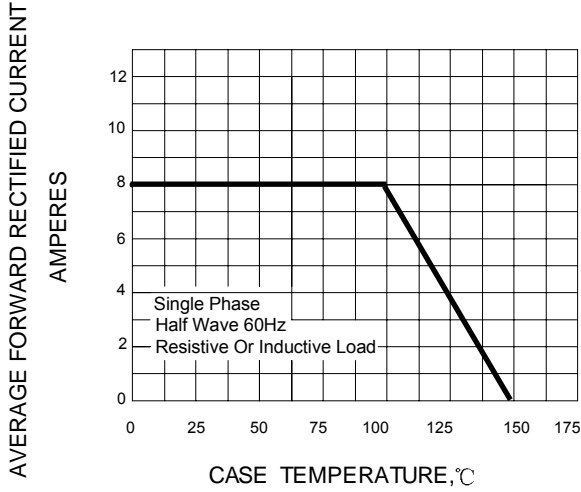


FIG.2 -- PEAK FORWARD SURGE CURRENT

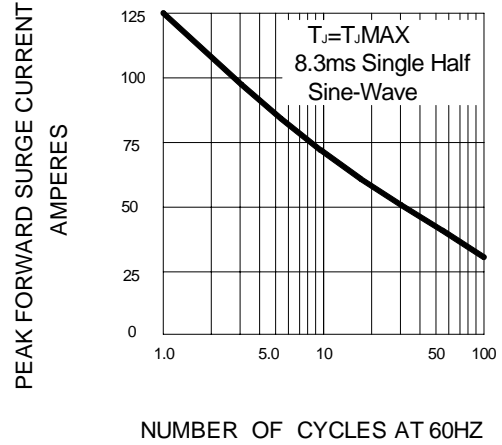
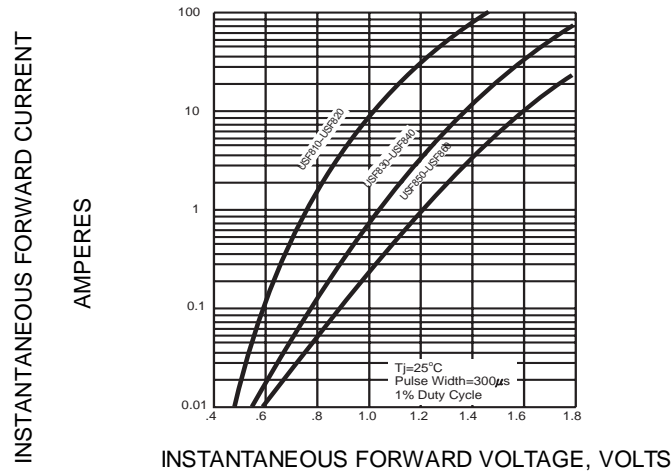


FIG.3 -- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



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