

# FML-12S

Super Fast Rectifiers

**VOLTAGE RANGE: 200 V**

**CURRENT: 5.0 A**

**ITO-220AB**

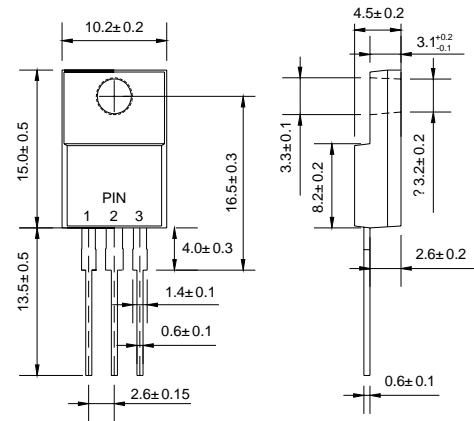


## Features

- ◇ 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 ITO-220AB
- ◇ Polarity: As marked
- ◇ Weight: 0.06 ounce, 1.67 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, 50 Hz, resistive or inductive load. For capacitive load, derate by 20%.

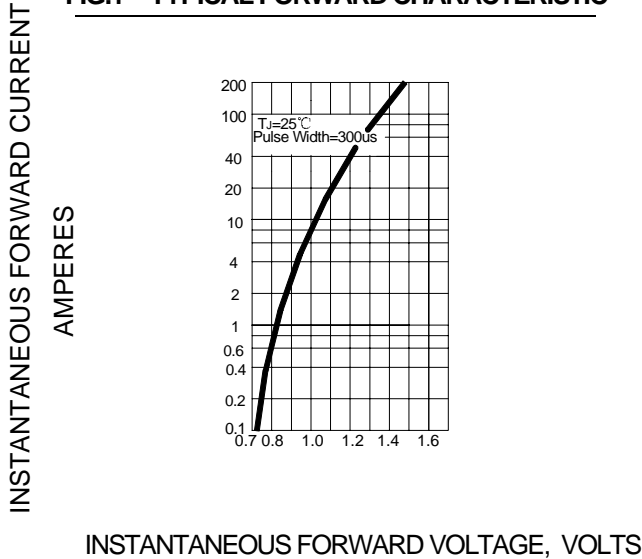
		FML- 12S	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	200	V
Maximum RMS voltage	$V_{RMS}$	140	V
Maximum DC blocking voltage	$V_{DC}$	200	V
Maximum average forward rectified current @ $T_C=100^\circ\text{C}$	$I_{F(AV)}$	5.0	A
Peak forward surge current 10ms single half-sine-wave superimposed on rated load	$I_{FSM}$	35	A
Maximum instantaneous forward voltage ( $I_F=2.5A$ )	$V_F$	0.98	V
Maximum reverse current @ $T_J=25^\circ\text{C}$ at rated DC blocking voltage @ $T_J=100^\circ\text{C}$	$I_R$	0.15 0.5	mA
Maximum reverse recovery time (Note1)	$t_{rr}$	30	ns
Typical thermal resistance (Note2)	$R_{\theta JC}$	4.0	$^\circ\text{C}/\text{W}$
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  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .

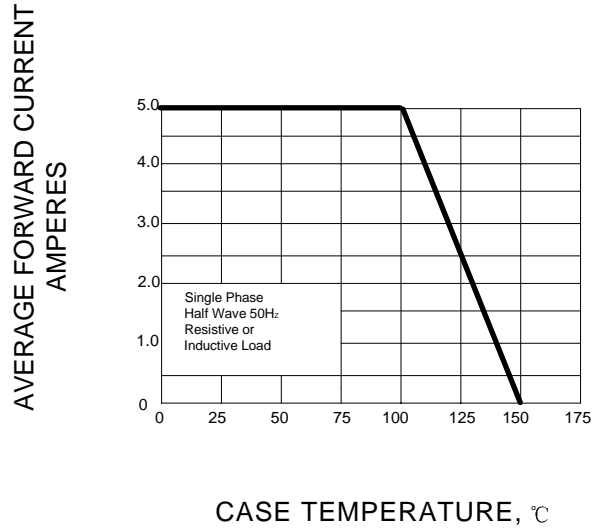
2. Thermal resistance junction to case.

## Ratings AND Characteristic Curves

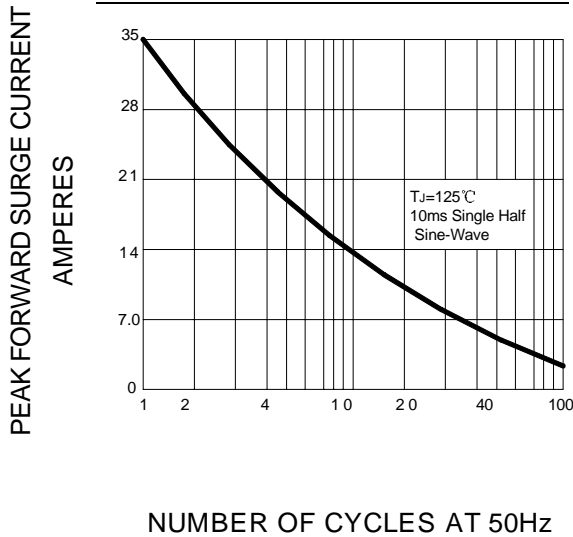
**FIG.1 – TYPICAL FORWARD CHARACTERISTIC**



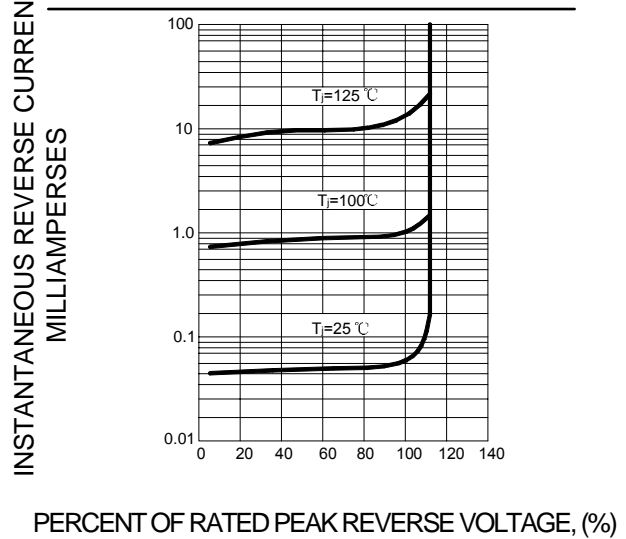
**FIG.2- FORWARD DERATING CURVE**



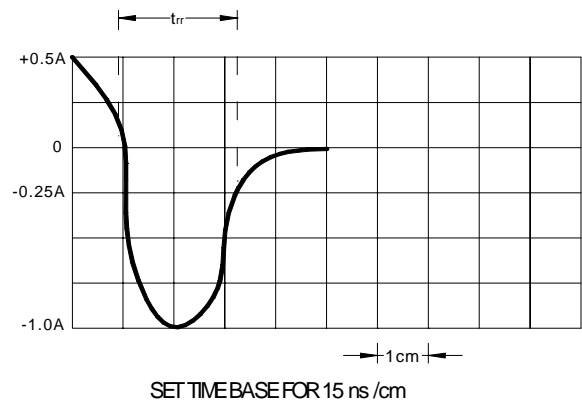
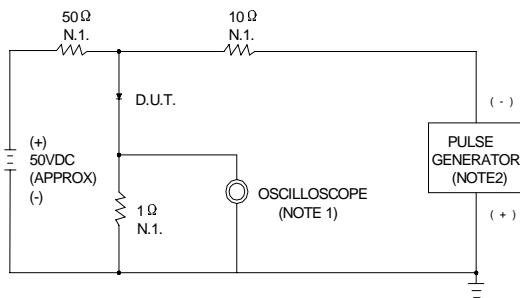
**FIG.3- PEAK FORWARD SURGE CURRENT**



**FIG.4 – TYPICAL REVERSE CHARACTERISTICS**



**FIG.5 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



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