

# FML-G12S

Super Fast Rectifiers

**VOLTAGE RANGE: 200 V**

**CURRENT: 5.0 A**

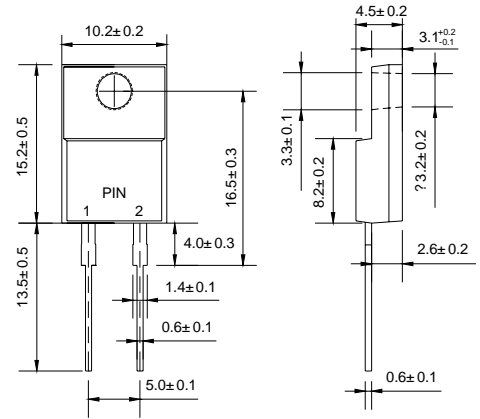
## ITO-220AC

### 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 ITO-220AC
- ◇ Polarity: As marked
- ◇ Weight: 0.056 ounces, 1.587 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%.

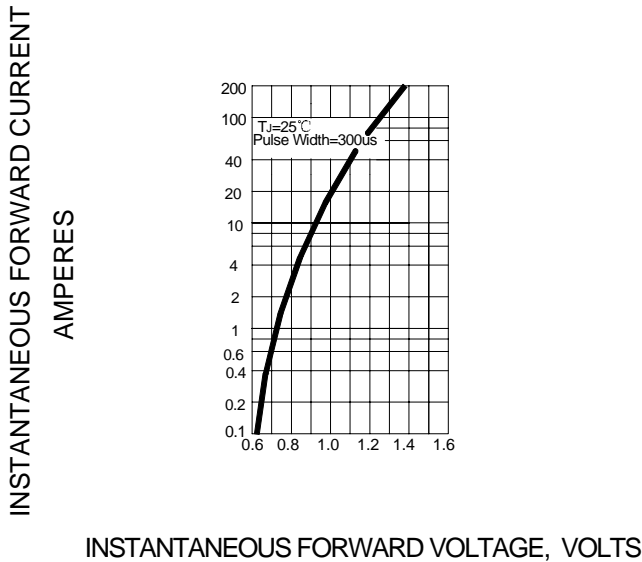
|  |                 | <b>FML- G12S</b> | UNITS                     |
|--|-----------------|------------------|---------------------------|
| Maximum recurrent peak reverse voltage   | $V_{RRM}$       | 200              | V                         |
| Maximum RMS voltage  | $V_{RMS}$       | 140              | V                         |
| Maximum DC blocking voltage  | $V_{DC}$        | 200              | V                         |
| Maximum average forward rectified current<br>@ $T_C=100^\circ\text{C}$                                     | $I_{F(AV)}$     | 5.0              | A                         |
| Peak forward surge current<br>10ms single half-sine-wave<br>superimposed on rated load                     | $I_{FSM}$       | 65               | A                         |
| Maximum instantaneous forward voltage<br>( $I_F=5.0A$ )  | $V_F$           | 0.98             | V                         |
| Maximum reverse current @ $T_J=25^\circ\text{C}$<br>at rated DC blocking voltage @ $T_J=100^\circ\text{C}$ | $I_R$           | 0.25<br>1.0      | 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  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .

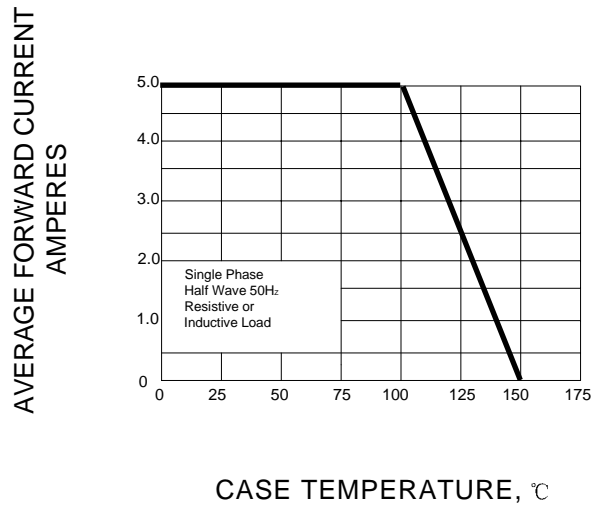
2. Thermal resistance junction to case.

## Ratings AND Characteristic Curves

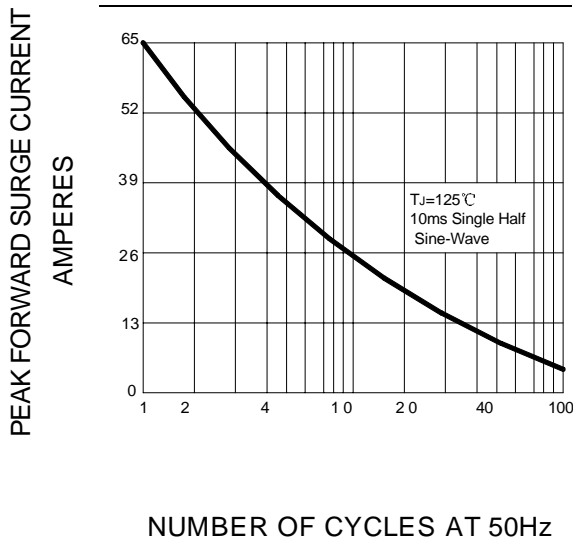
**FIG.1 – TYPICAL FORWARD CHARACTERISTIC**



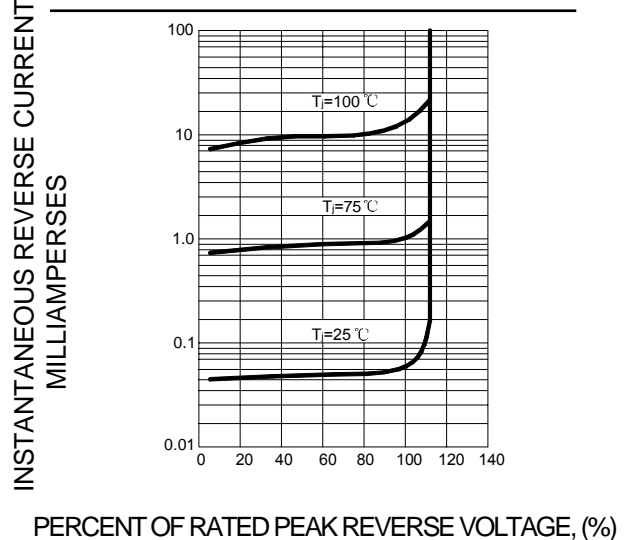
**FIG.2- FORWARD DERATING CURVE**



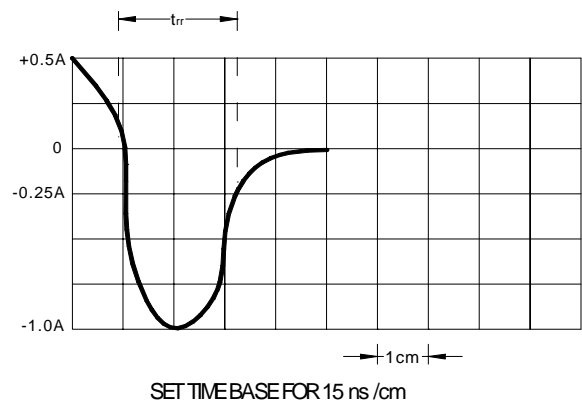
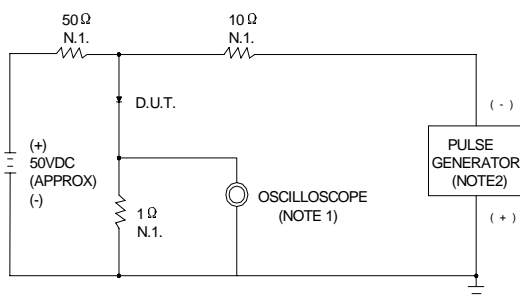
**FIG.3- PEAK FORWARD SURGE CURRENT**



**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