

Pb Free Plating Product

FML32R/FML33R/FML34R/FML35R/FML36R



20.0 Ampere Heatsink Dual Common Anode Ultra Fast Recovery Rectifiers

**Features**

- ★ Fast switching for high efficiency
- ★ Low forward voltage drop
- ★ High current capability
- ★ Low reverse leakage current
- ★ High surge current capability

**Application**

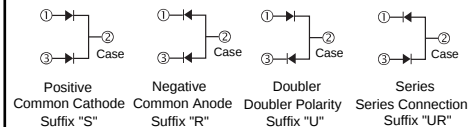
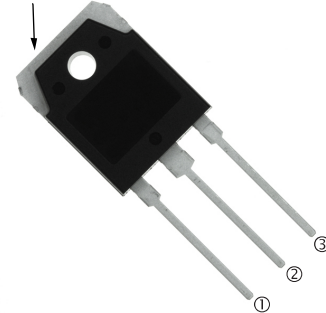
- ★ Automotive Inverters and Solar Inverters
- ★ Plating Power Supply, Motor Control, SMPS and UPS
- ★ Car Audio Amplifiers and Sound Device Systems

**Mechanical Data**

- ★ Case: Heatsink TO-3PN open metal package
- ★ Epoxy: UL 94V-0 rate flame retardant
- ★ Terminals: Solderable per MIL-STD-202 method 208
- ★ Polarity: As marked on diode body
- ★ Mounting position: Any
- ★ Weight: 0.61 gram approximately

**TO-3PN**

② Bottom Side Metal Heat Sink

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

|                                                                                                   | SYMBOL   | FML32R       | FML33R<br>FML34R | FML35R<br>FML36R | UNIT     |
|---------------------------------------------------------------------------------------------------|----------|--------------|------------------|------------------|----------|
| Maximum Recurrent Peak Reverse Voltage                                                            | VRRM     | 200          | 400              | 600              | V        |
| Maximum RMS Voltage                                                                               | VRMS     | 140          | 280              | 420              | V        |
| Maximum DC Blocking Voltage                                                                       | Vbc      | 200          | 400              | 600              | V        |
| Maximum Average Forward Rectified Current Tc=125℃ (Total Device 2x10A=20A)                        | IF(AV)   | 20.0         |                  |                  | A        |
| Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method) | IFSM     | 200          |                  |                  | A        |
| Maximum Instantaneous Forward Voltage @ 10.0 A (Per Diode/Per Leg)                                | VF       | 0.98         | 1.3              | 1.7              | V        |
| Maximum DC Reverse Current @TJ=25℃<br>At Rated DC Blocking Voltage @TJ=125℃                       | IR       | 5.0<br>100   |                  |                  | μA<br>μA |
| Maximum Reverse Recovery Time (Note 1)                                                            | Trr      | 35           |                  |                  | nS       |
| Typical junction Capacitance (Note 2)                                                             | CJ       | 120          | 70               |                  | pF       |
| Typical Thermal Resistance (Note 3)                                                               | RθJC     | 0.85         |                  |                  | ℃/W      |
| Operating Junction and Storage Temperature Range                                                  | TJ, TSTG | -55 to + 150 |                  |                  | ℃        |

NOTES : (1) Reverse recovery test conditions I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A.

(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.

(3) Thermal Resistance junction to case.

FIG.1 - FORWARD CURRENT DERATING CURVE

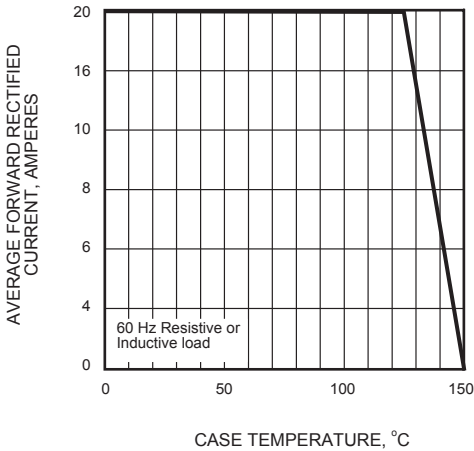


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

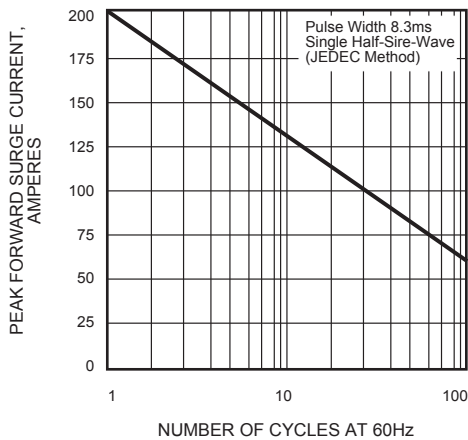


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

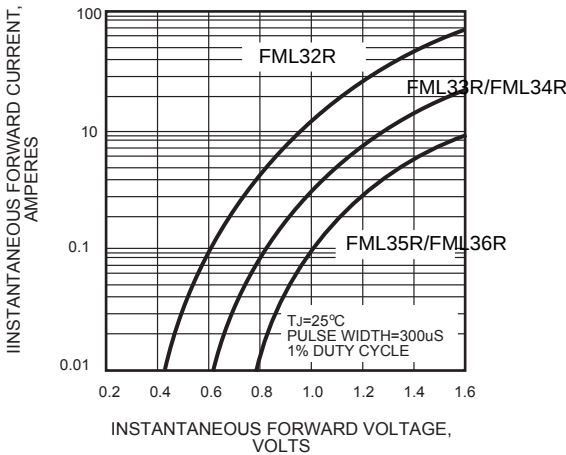


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

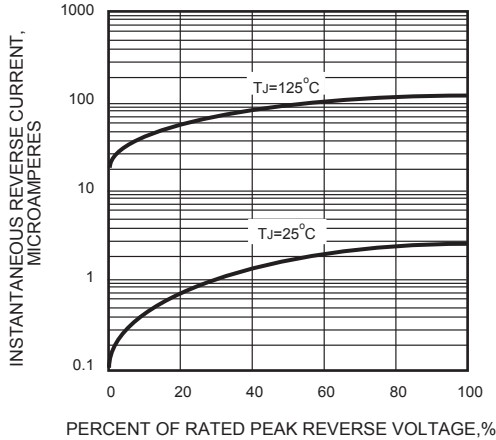
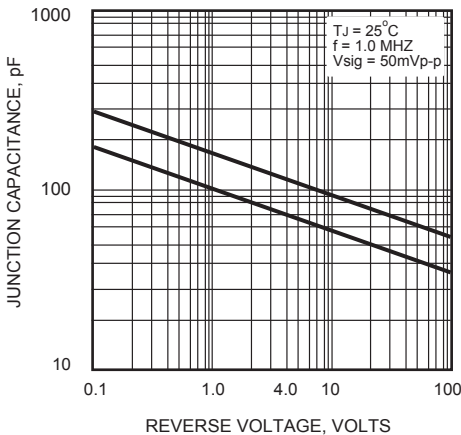
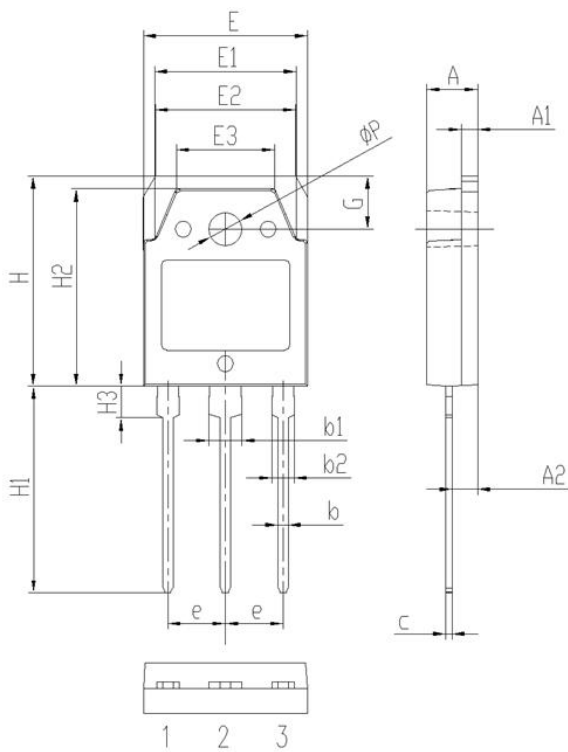


FIG.5 - TYPICAL JUNCTION CAPACITANCE



Package Information

TO-3PN Package Outline



| Symbol | Dimensions(millimeters) |      |
|--------|-------------------------|------|
|        | Min.                    | Max. |
| A      | 4.60                    | 5.00 |
| A1     | 1.50                    | 2.00 |
| A2     | 2.20                    | 2.60 |
| b      | 0.80                    | 1.20 |
| b1     | 2.90                    | 3.30 |
| b2     | 1.90                    | 2.30 |
| c      | 0.40                    | 0.80 |
| e      | 5.25                    | 5.65 |
| E      | 15.3                    | 15.7 |
| E1     | 13.2                    | 13.6 |
| E2     | 13.1                    | 13.5 |
| E3     | 9.10                    | 9.50 |
| H      | 19.7                    | 20.1 |
| H1     | 19.1                    | 20.1 |
| H2     | 18.3                    | 18.7 |
| H3     | 2.80                    | 3.20 |
| G      | 4.80                    | 5.20 |
| ΦP     | 3.00                    | 3.40 |