

Pb Free Plating Product

FMG31U/FMG32U/FMG33U/FMG34U/FMG35U/FMG36U

20.0 Ampere Heatsink Dual Doubler Polarity Ultra Fast Recovery Rectifiers

Features

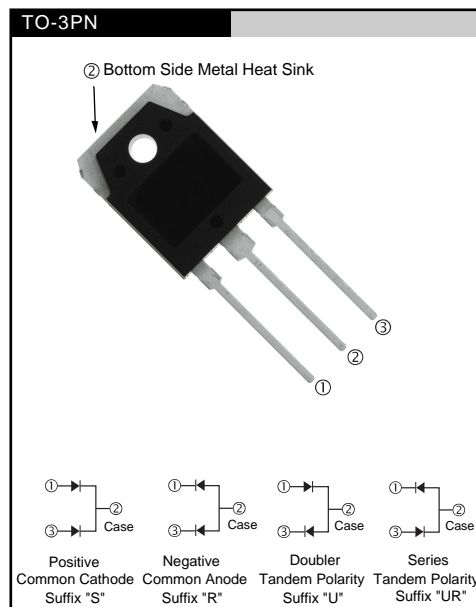
- * Fast switching for high efficiency
- * Low forward voltage drop
- * High current capability
- * Low reverse leakage current
- * High surge current capability

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



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 | FMG31U FMG32U | FMG33U FMG34U | FMG35U FMG36U | UNIT |
|---------------------------------------------------------------------------------------------------|----------|------------------|------------------|------------------|----------|
| Maximum Recurrent Peak Reverse Voltage | VRRM | 200 | 400 | 600 | V |
| Maximum RMS Voltage | VRMS | 140 | 280 | 420 | V |
| Maximum DC Blocking Voltage | VDC | 200 | 400 | 600 | V |
| Maximum Average Forward Rectified Current Tc=125 °C (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 °C At Rated DC Blocking Voltage @Tj=125 °C | IR | 5.0 100 | | | µA 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 | | | °C/W |
| Operating Junction and Storage Temperature Range | TJ, TSTG | -55 to + 150 | | | °C |

NOTES : (1) Reverse recovery test conditions IF = 0.5A, IR = 1.0A, Irr = 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

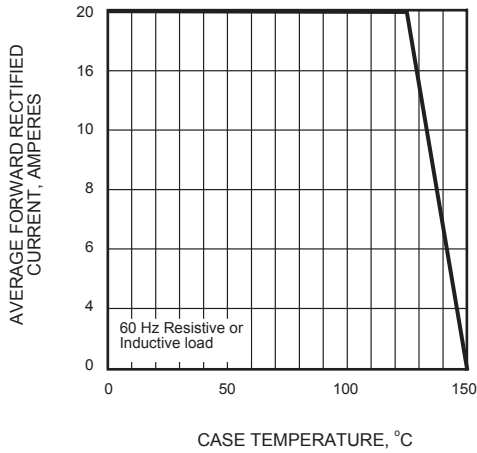


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

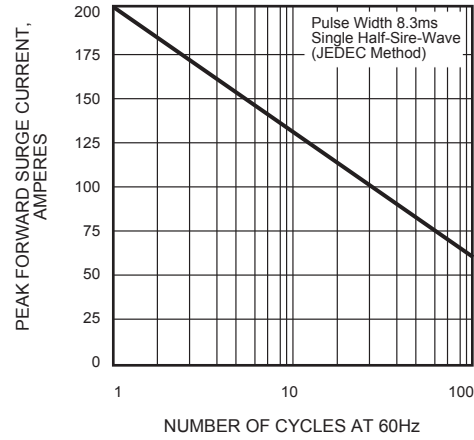


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

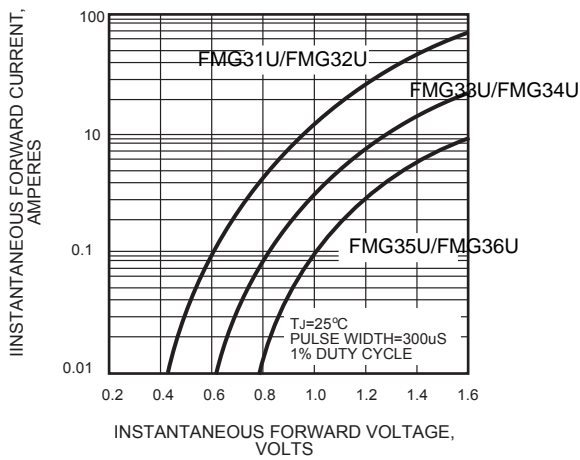


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

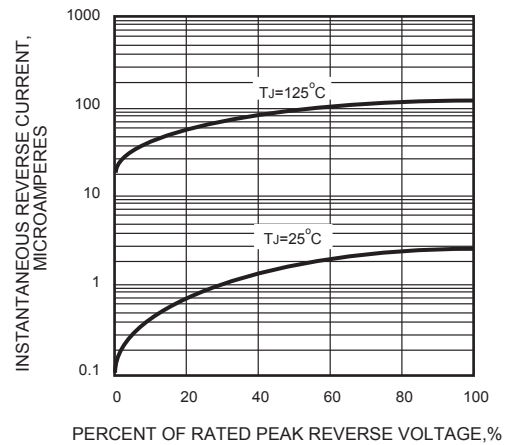
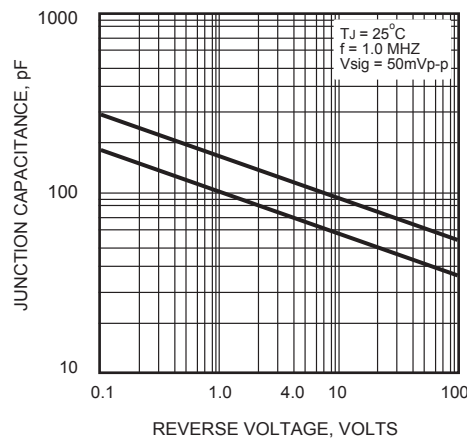
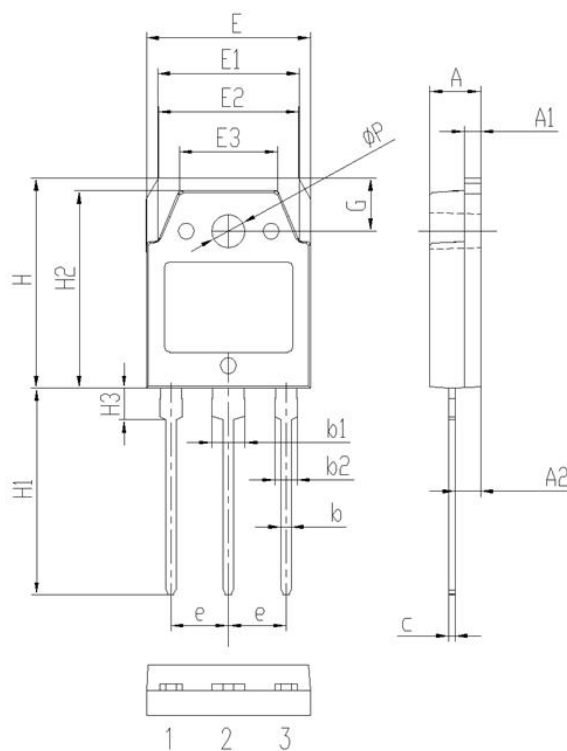


FIG.5 - TYPICAL JUNCTION CAPACITANCE



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 |