

**Voltage Range 50 to 600 V**

**Current 5.0 Ampere**

**Features**

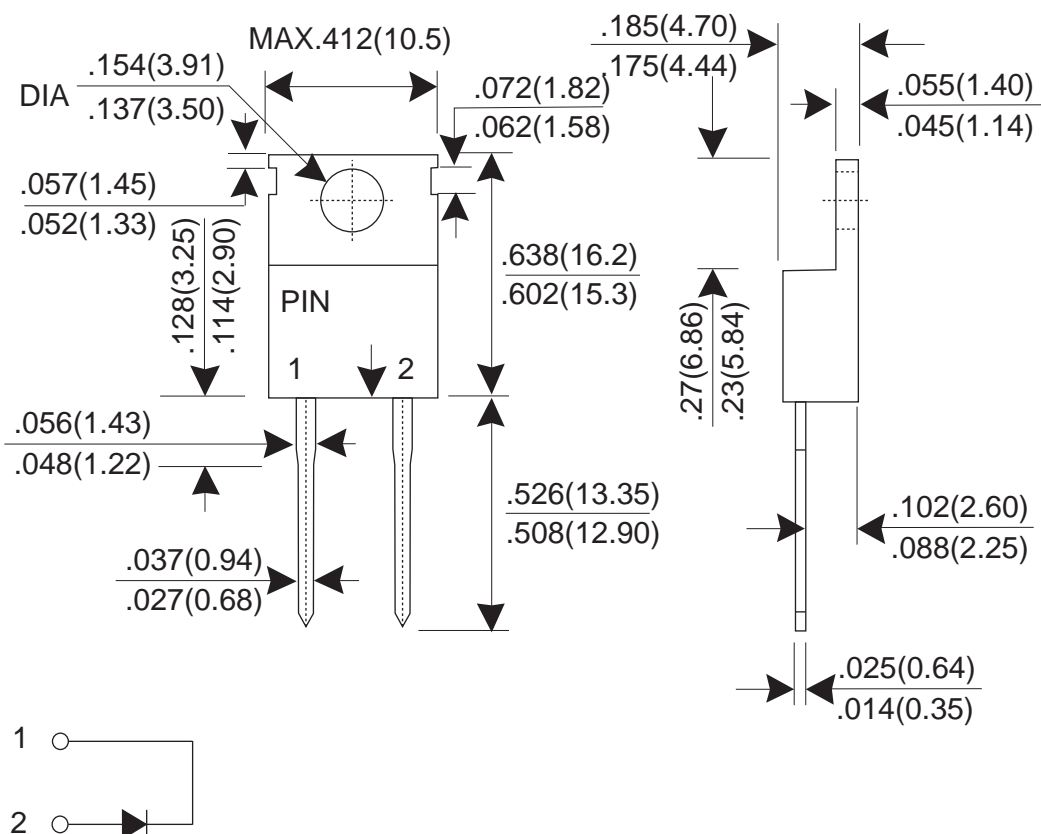
- \* Fast switching for high efficiency
- \* Low forward voltage drop
- \* High current capability
- \* Low reverse leakage current
- \* High surge current capability

**Mechanical Data**

- \* Case: Molded plastic TO-220AC
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solderable per MIL-STD-202 method 208
- \* Polarity: Color band denotes cathode
- \* Mounting position: Any
- \* Weight: 2.07 grams

**Dimensions in inches and (millimeters)**

**TO-220AC**



## 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%.

| PARAMTER                                                                                          | SYMBOL   | TSF5A01     | TSF5A02 | TSF5A03 | TSF5A04 | TSF5A05 | TSF5A06 | UNIT     |
|---------------------------------------------------------------------------------------------------|----------|-------------|---------|---------|---------|---------|---------|----------|
| Maximum Recurrent Peak Reverse Voltage                                                            | VRRM     | 50          | 100     | 200     | 300     | 400     | 600     | V        |
| Maximum RMS Voltage                                                                               | VRMS     | 35          | 70      | 140     | 210     | 280     | 420     | V        |
| Maximum DC Blocking Voltage                                                                       | VDC      | 50          | 100     | 200     | 300     | 400     | 600     | V        |
| Maximum Average Forward Rectified Current Tc=100°C                                                | IF(AV)   | 5.0         |         |         |         |         |         | A        |
| Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method) | IFSM     | 100         |         |         |         |         |         | A        |
| Maximum Instantaneous Forward Voltage @ 5.0 A                                                     | VF       | 0.95        |         |         | 1.3     |         | 1.7     | V        |
| Maximum DC Reverse Current @TJ=25°C At Rated DC Blocking Voltage @TJ=125°C                        | IR       | 10.0<br>250 |         |         |         |         |         | uA<br>uA |
| Maximum Reverse Recovery Time (Note 1)                                                            | Trr      | 35          |         |         |         |         |         | nS       |
| Typical junction Capacitance (Note 2)                                                             | CJ       | 65          |         |         |         |         |         | pF       |
| Typical Thermal Resistance (Note 3)                                                               | RθJC     | 2.2         |         |         |         |         |         | °CW      |
| 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.

RATING AND CHARACTERISTIC CURVES

FIG.1 - FORWARD CURRENT DERATING CURVE

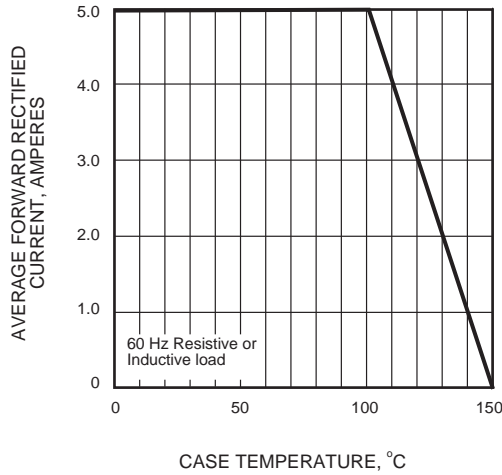


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

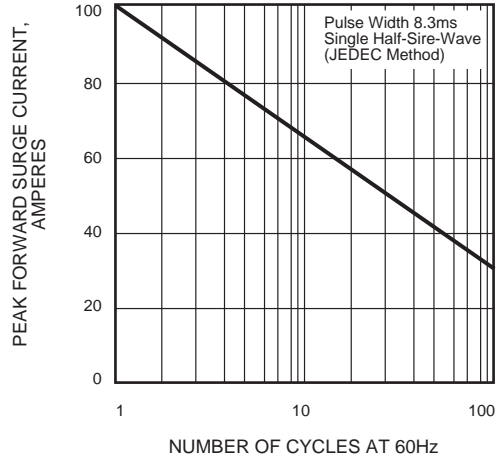


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

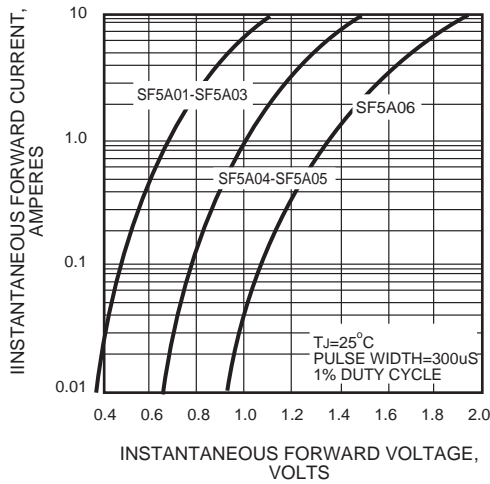


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

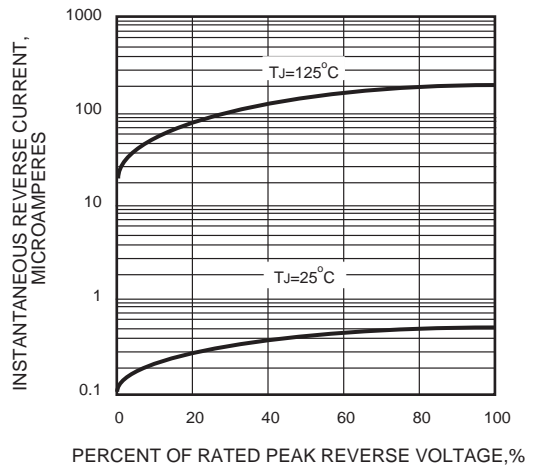


FIG.5 - TYPICAL JUNCTION CAPACITANCE

