

VOLTAGE RANGE: 100 - 800V

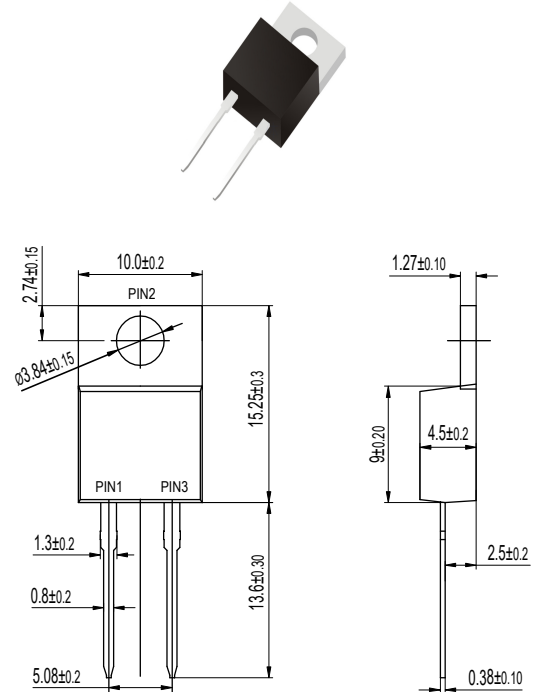
CURRENT: 8.0A

Features

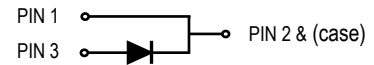
- Glass passivated chip junctions
- Super fast recovery time for switching mode application
- High Forward Surge Capability
- Low Reverse Current
- Lead free in compliance with EU RoHS 2011/65/EU directive

Mechanical Data

- Circuit figure: Single positive
- Leads: Solderable per mil-std-202, Method 208
- Polarity: as marked
- Mounting torque: 5 in-lbs maximum
- Terminals: Puretin plated
- Weight: TO-220AC 1.80 grams



TO-220AC



Maximum Ratings And Electrical Characteristics $T_A = 25^\circ\text{C}$

| RATINGS | SYMBOL | SF 802 | SF 803 | SF 804 | SF 805 | SF 806 | SF 808 | UNIT |
|--|-----------------|-------------|--------|--------|--------|--------|--------|---------------------------|
| Maximum repetitive reverse voltage | V_{RRM} | 200 | 300 | 400 | 500 | 600 | 800 | V |
| Maximum RMS voltage | V_{RMS} | 140 | 210 | 280 | 350 | 420 | 560 | V |
| Maximum DC blocking voltage | VDC | 200 | 300 | 400 | 500 | 600 | 800 | V |
| Maximum average forward current | I_{AV} | 8 | | | | | | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 125 | | | | | | A |
| Typical thermal resistance per diode (Note 1) | $R_{\theta-JC}$ | 2.5 | | | | | | $^\circ\text{C}/\text{W}$ |
| Operating junction temperature range | T_J | -55 to +150 | | | | | | $^\circ\text{C}$ |
| Storage temperature range | T_{STG} | -55 to +150 | | | | | | $^\circ\text{C}$ |
| Typical forward voltage per leg at 8A | V_F | 1.00 | 1.30 | 1.70 | | 2.80 | | V |
| Maximum average reverse current at rated DC blocking voltage $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$ | I_R | 5 250 | | | | | | μA |
| Typical reverse recovery time (Note 2) | T_{RR} | 35 | | | | | | nS |

Notes: 1. Thermal resistance from junction to case.
2. Test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$.

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

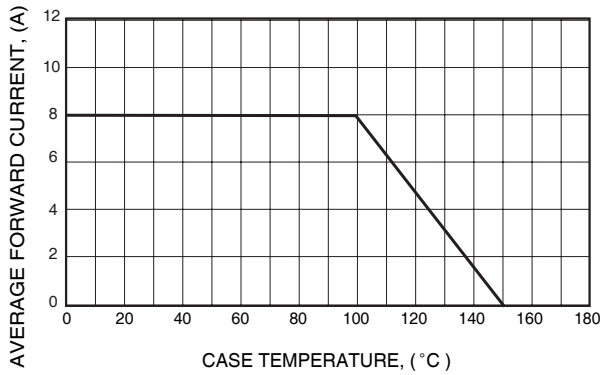


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

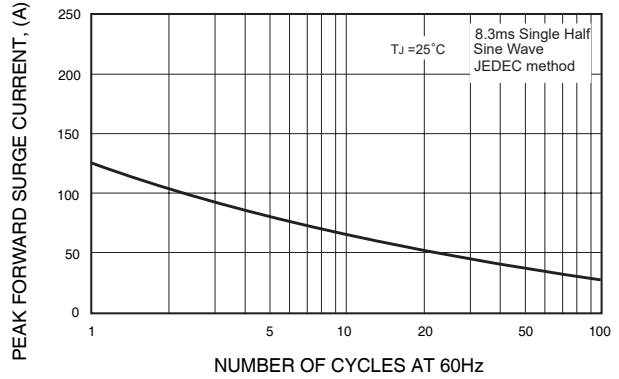


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

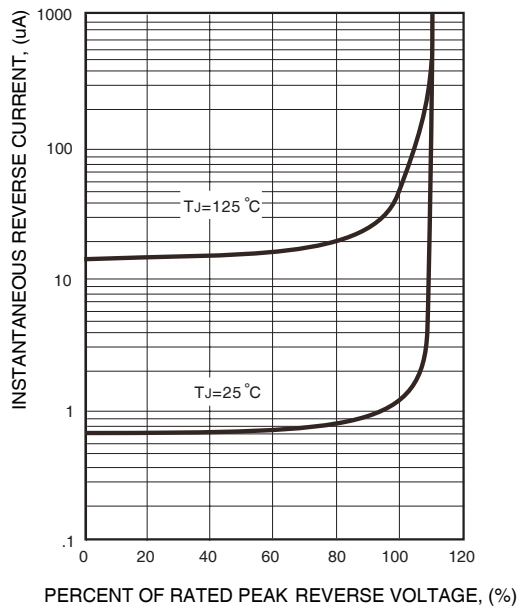


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

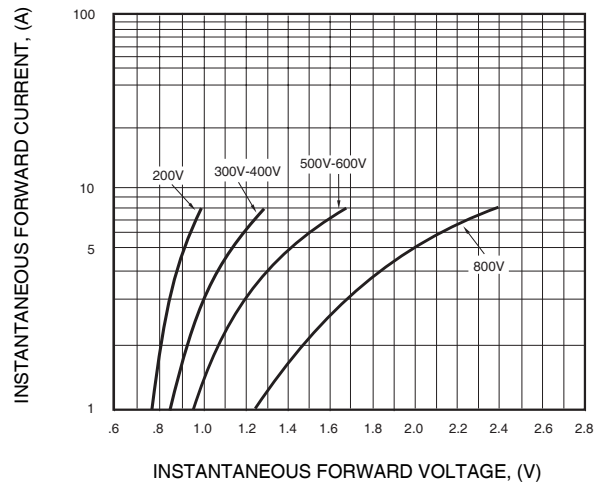
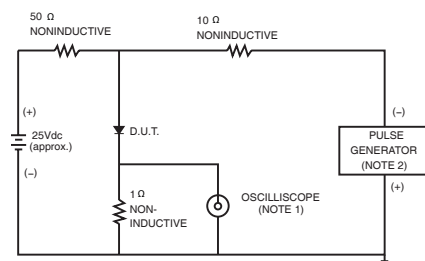


FIG.6- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm, 22pF.
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

