



F1T1 THRU F1T7

1.0 AMP. Fast Recovery Rectifiers



Voltage Range
50 to 1000 Volts
Current
1.0 Ampere

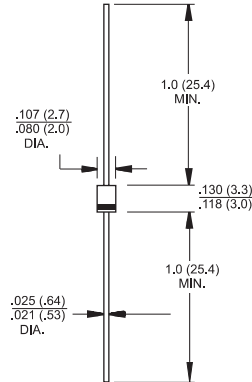
Features

- ✧ Low forward voltage drop
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability

Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode end
- ✧ High temperature soldering guaranteed: 260°C/10 seconds/.375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Weight: 0.20 gram

TS-1



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%

| Type Number | Symbol | F1T1 | F1T2 | F1T3 | F1T4 | F1T5 | F1T6 | F1T7 | Units |
|---|-----------------|-------------|------|------|------|------|------|------|--------------------------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current .375" (9.5mm) Lead Length @ $T_A = 55^\circ\text{C}$ | $I_{(AV)}$ | 1.0 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 30 | | | | | | | A |
| Maximum Instantaneous Forward Voltage @ 1.0A | V_F | 1.2 | | | | | | | V |
| Maximum DC Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$ | I_R | 5.0 100 | | | | | | | μA μA |
| Maximum Reverse Recovery Time (Note 1) | T_{rr} | 150 | | | | 250 | 500 | | nS |
| Typical Junction Capacitance (Note 2) | C_j | 10 | | | | | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta JA}$ | 100 | | | | | | | $^\circ\text{C/W}$ |
| Operating Temperature Range | T_J | -65 to +150 | | | | | | | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -65 to +150 | | | | | | | $^\circ\text{C}$ |

Notes: 1. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$
 2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.
 3. Mount on Cu-Pad Size 5mm x 5mm on P.C.B.

RATINGS AND CHARACTERISTIC CURVES (F1T1 THRU F1T7)

FIG.1- MAXIMUM TYPICAL FORWARD CURRENT DERATING CURVE

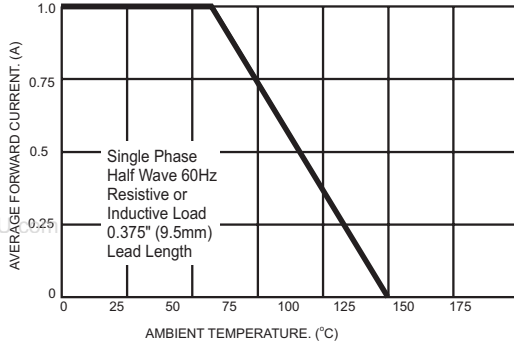


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

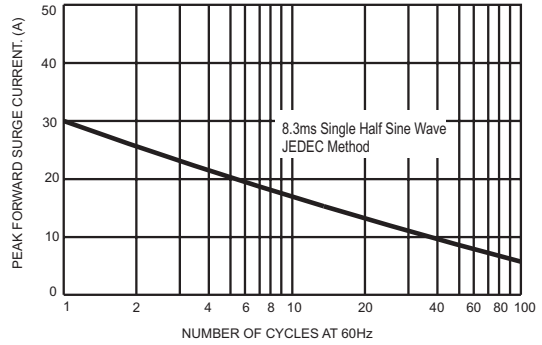


FIG.3- TYPICAL FORWARD CHARACTERISTICS

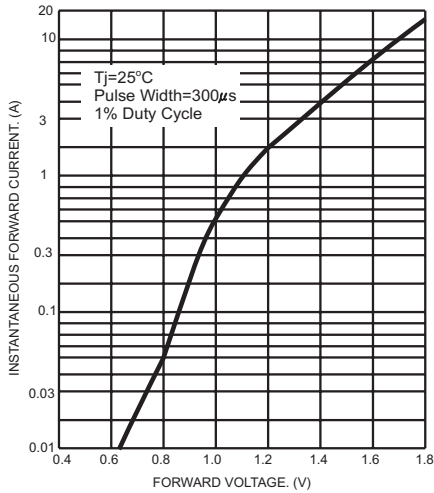


FIG.4- TYPICAL JUNCTION CAPACITANCE

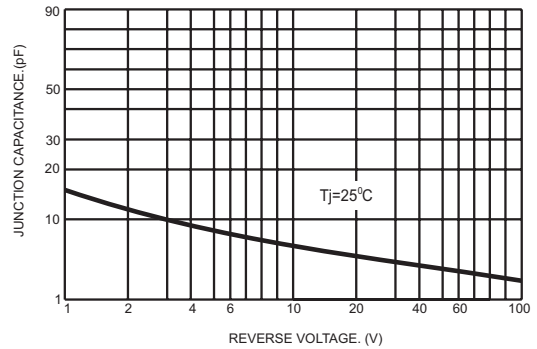
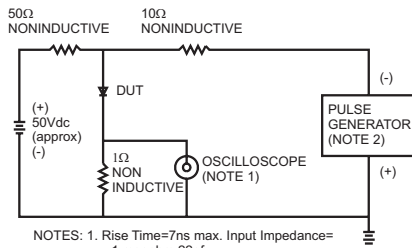


FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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

