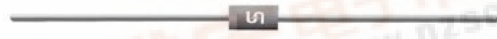




FR151S THRU FR157S

1.5 AMPS. Fast Recovery Rectifiers



Voltage Range
50 to 1000 Volts
Current
1.5 Amperes

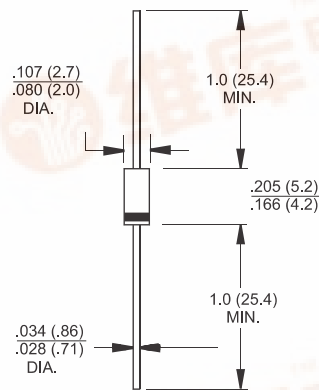
Features

- ◇ 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: 0.32 gram

DO-41



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 | FR 151S | FR 152S | FR 153S | FR 154S | FR 155S | FR 156S | FR 157S | 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 @ $T_A = 55^\circ C$ | $I_{(AV)}$ | 1.5 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 50 | | | | | | | A |
| Maximum Instantaneous Forward Voltage @ 1.5A | V_F | 1.2 | | | | | | | V |
| Maximum DC Reverse Current @ $T_A = 25^\circ C$ at Rated DC Blocking Voltage @ $T_A = 100^\circ C$ | I_R | 5.0 100 | | | | | | | uA uA |
| Maximum Reverse Recovery Time (Note 1) | T_{rr} | 150 | | | | 250 | 500 | | nS |
| Typical Junction Capacitance (Note 2) | C_j | 30 | | | | | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta JA}$ | 60 | | | | | | | $^\circ C/W$ |
| Operating Temperature Range | T_J | -65 to +150 | | | | | | | $^\circ C$ |
| Storage Temperature Range | T_{STG} | -65 to +150 | | | | | | | $^\circ C$ |

- Notes: 1. Reverse Recovery Test Conditions: $I_F = 0.5A$, $I_R = 1.0A$, $I_{RR} = 0.25A$
 2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.
 3. Mount on Cu-Pad Size 10mm x 10mm on P.C.B.



RATINGS AND CHARACTERISTIC CURVES (FR151S THRU FR157S)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

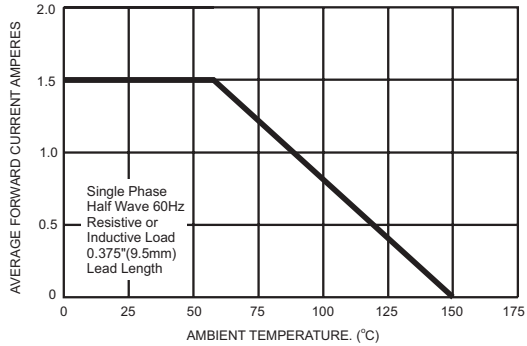


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

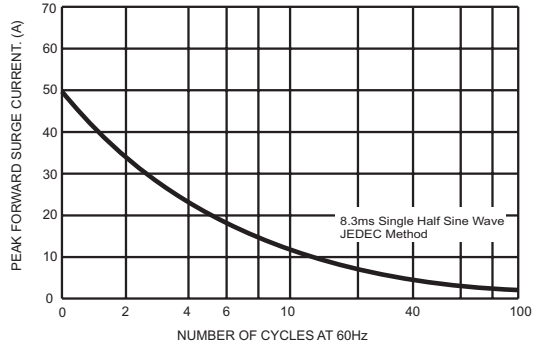


FIG.3- TYPICAL FORWARD CHARACTERISTICS

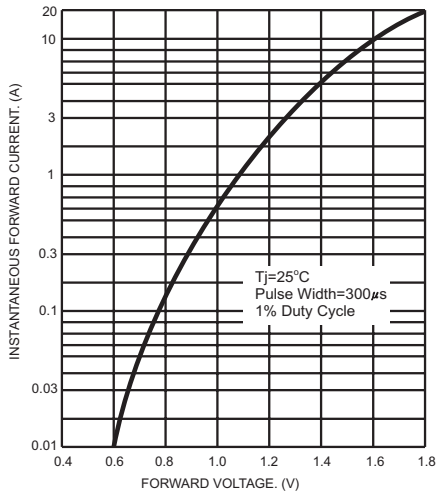


FIG.4- TYPICAL JUNCTION CAPACITANCE

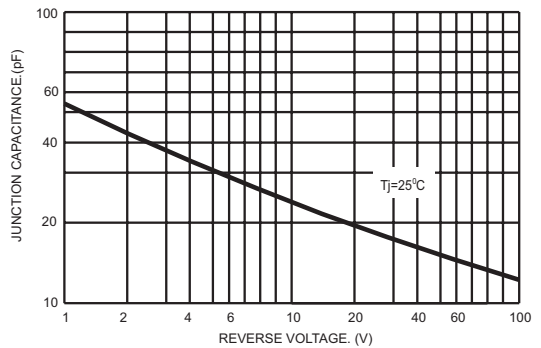


FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

