



# FR151 THRU FR157

## 1.5 AMPS. Fast Recovery Rectifiers



Voltage Range  
50 to 1000 Volts  
Current  
1.5 Amperes

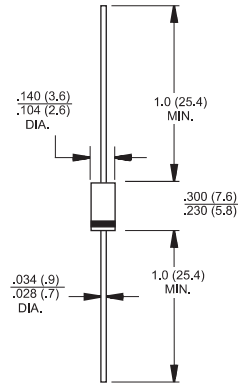
### Features

- ✧ 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: 0.40 gram

### DO-15



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 151	FR 152	FR 153	FR 154	FR 155	FR 156	FR 157	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 )	$C_j$	20							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							$^\circ C$

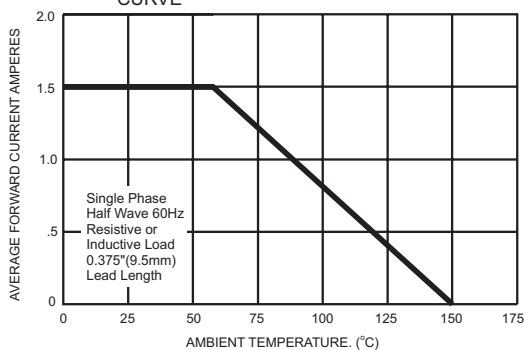
Notes: 1. Reverse Recovery Test Conditions:  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{RR} = 0.25A$

2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.

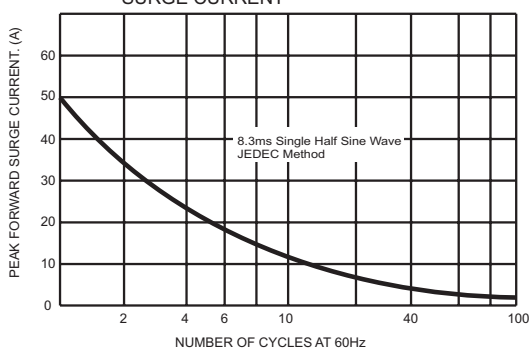
3. Mount on Cu-Pad Size 10mm x 10mm on P.C.B.

## RATINGS AND CHARACTERISTIC CURVES (FR151 THRU FR157)

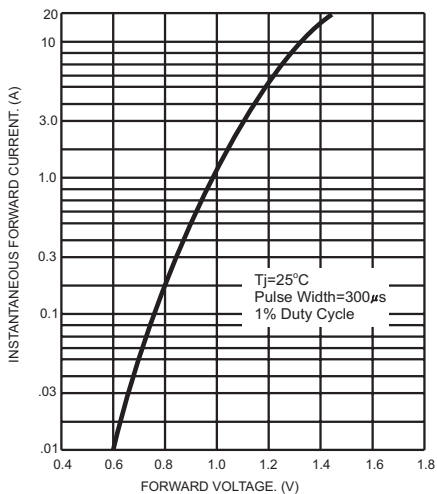
**FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE**



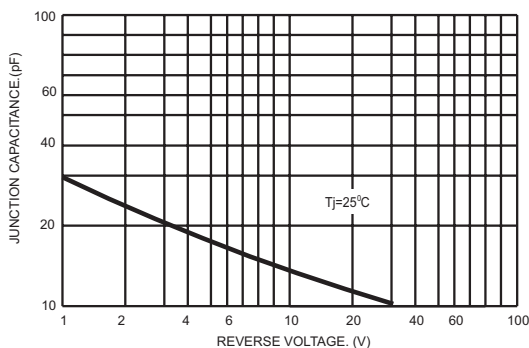
**FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



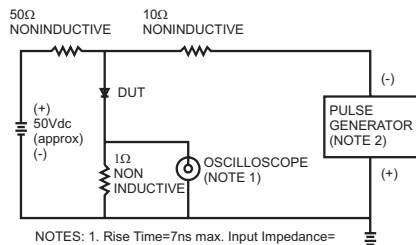
**FIG.3- TYPICAL FORWARD CHARACTERISTICS**



**FIG.4- TYPICAL JUNCTION CAPACITANCE**



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



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

