

# FR151 THRU FR157

## FAST RECOVERY RECTIFIER

REVERSE VOLTAGE 50 to 1000 Volts FORWARD CURRENT 1.5 Ampere

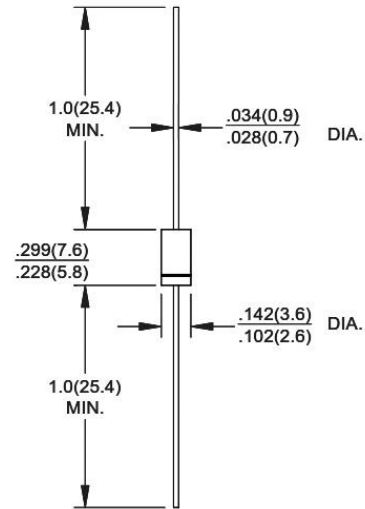
### FEATURES

- ◆ Low forward voltage drop
- ◆ Low leakage current
- ◆ High forward surge capability
- ◆ High reliability
- ◆ High temperature soldering guaranteed:  
260°C/10 seconds, 0.375" (9.5mm) lead length at  
5 lbs(2.3kg) tension

### Mechanical Data

- ◆ Case: Transfer molded plastic
- ◆ Epoxy: UL94V-0 rate flame retardant
- ◆ Polarity: Color band denotes cathode end
- ◆ Lead: Plated axial lead, solderable per  
MIL-STD-202E method 208°C
- ◆ Mounting position: Any

### 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, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%

	SYMBOL	FR151	FR152	FR153	FR154	FR155	FR156	FR157	UNIT
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at $T_A=55^\circ\text{C}$	$I_{(AV)}$	1.5							Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	60							Amps
Maximum Instantaneous Forward Voltage at 1.5A	$V_F$	1.3							Volts
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							$\mu\text{A}$
Maximum Reverse Recovery Time(NOTE1)	$T_{RR}$	150			250		500		nS
Typical Junction Capacitance (NOTE 2)	$C_J$	25							pF
Typical Thermal Resistance (NOTE 3)	$R_{\theta JA}$	50							$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

Note: Reverse Recovery Test Conditions:  $I_f=0.5\text{A}, I_r=1.0\text{A}, I_{rr}=0.25\text{A}$ .

Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.

Thermal Resistance from Junction to Ambient at .375"(9.5mm) lead length, P.C. board mounted.

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### RATING AND CHARACTERISTIC CURVES FR151 THRU FR157

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

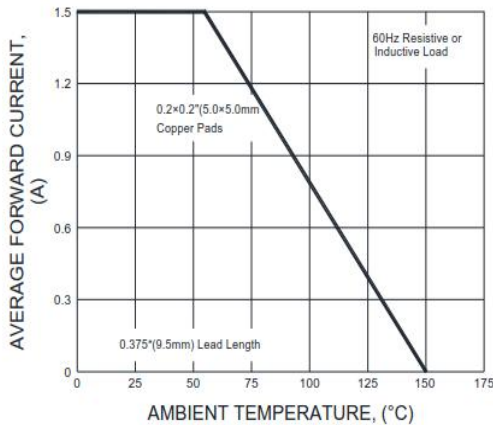


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

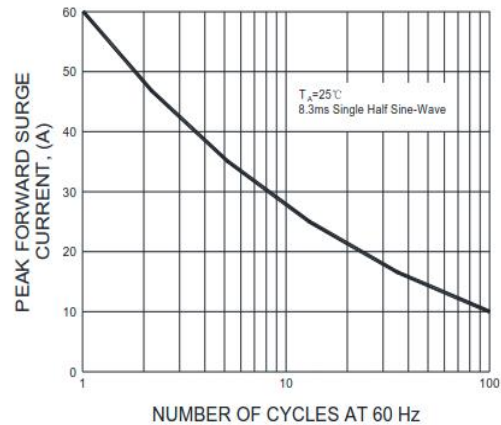


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

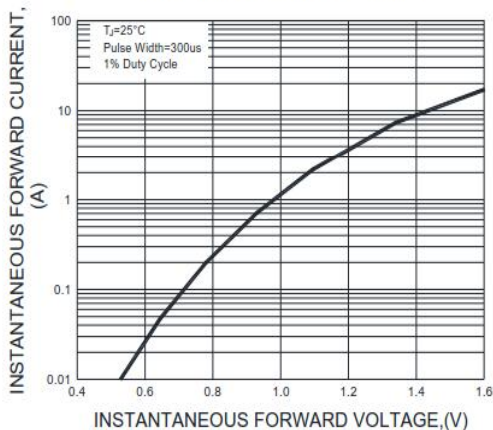


FIG.4-TYPICAL JUNCTION CAPACITANCE

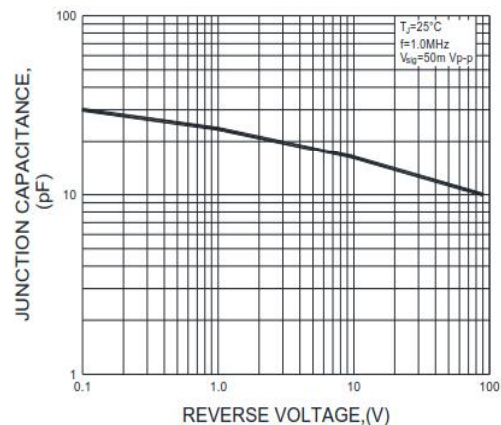
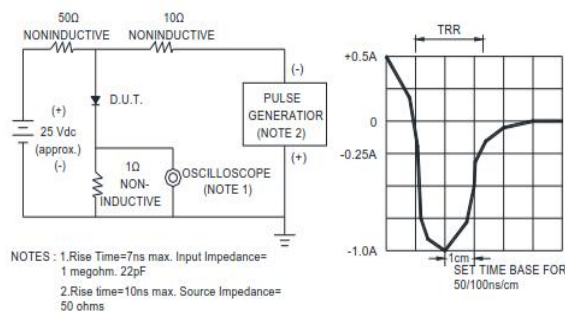


FIG.5-TEST CIRCUIT DIAGRAM AND FORWARD SURGE CURRENT



Note: Specifications are subject to change without notice. For more detail and update, please visit our website.