



FAST RECOVERY RECTIFIER

FR151 THRU FR157

**VOLTAGE RANGE
CURRENT**

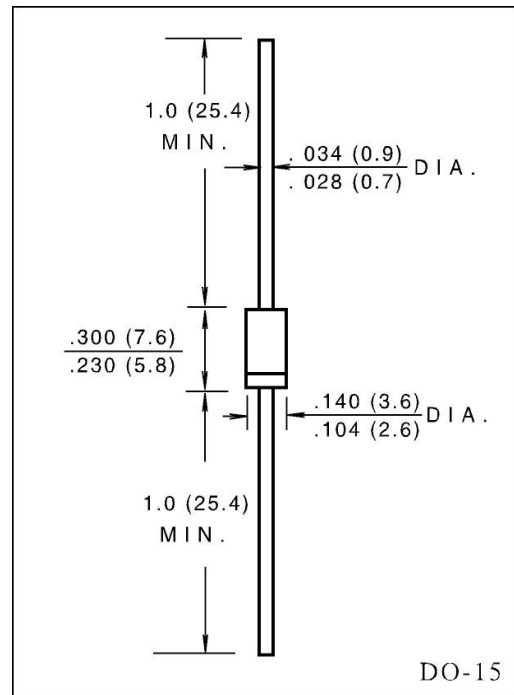
**50 to 1000 Volts
1.5 Ampere**

FEATURES

- Low cost construction.
- Fast switching for high efficiency.
- Low reverse leakage
- High forward surge current capability.
- 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 208C
- Mounting position: Any
- Weight: 0.014 ounce, 0.39grams



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25°C ambient temperature unless otherwise specified
- Single phase, half wave, 60Hz, resistive or inductive load.
- For capacitive load derate current by 20%

	SYMBOLS	FR151	FR152	FR153	FR154	FR155	FR156	FR157	UNIT
Maximum Repetitive 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, 0.375" (9.5mm) lead length at $T_A=75^\circ\text{C}$	$I_{(AV)}$	1.5							Amp
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 at rated DC blocking voltage	I_R	5.0							μA
		200							
Maximum Reverse Recovery Time (Note 3) $T_j = 25^\circ\text{C}$	t_{rr}	150			250		500		nS
Typical Junction Capacitance (Note 1)	C_J	25							pF
Typical Thermal Resistance (Note2)	$R_{\theta JA}$	50							$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J	(-65 to +150)							$^\circ\text{C}$
Storage Temperature Range	T_{STG}	(-65 to +150)							$^\circ\text{C}$

NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.
2. Thermal Resistance from Junction to Ambient at 0.375" (9.5mm) lead length, P.C. board mounted.
3. Reverse Recovery Test Condition: $I_F=0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$

RATINGS AND CHARACTERISTIC CURVES FR151 THRU FR157

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

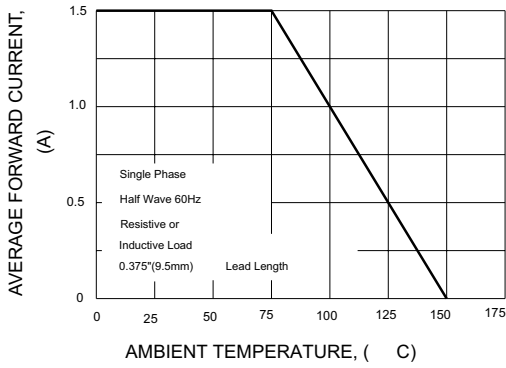


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

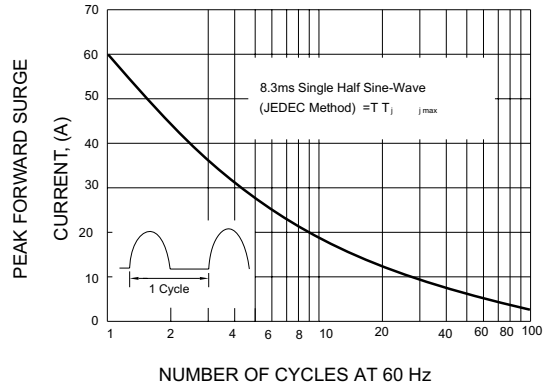


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

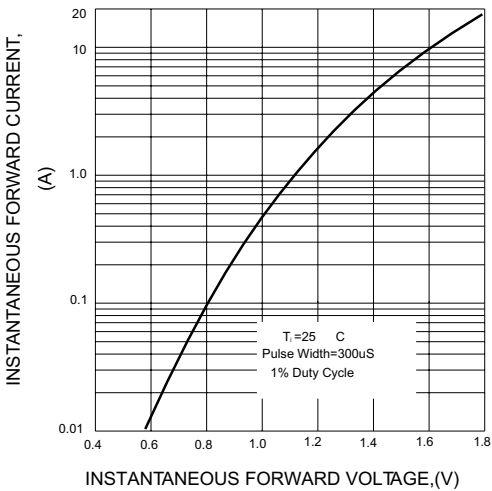


FIG.4-TYPICAL REVERSE CHARACTERISTICS

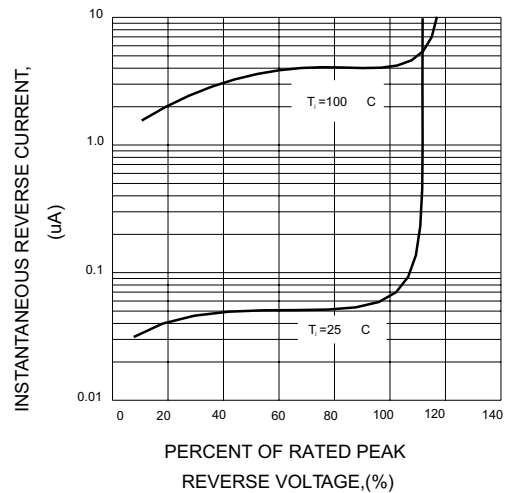


FIG.5-TYPICAL JUNCTION CAPACITANCE

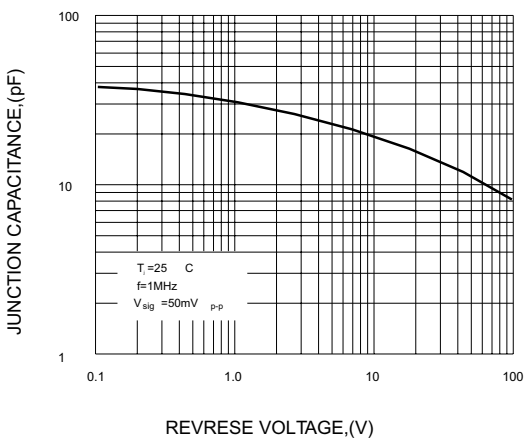
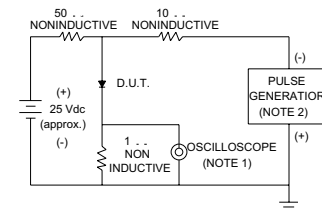


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

