



SYNSEMI SEMICONDUCTOR

# FR151G thru FR157G

1.5 Amps. Glass Passivated Fast Recovery Rectifiers  
Voltage Range 50 to 1000 Volts Forward Current 1.5 Amperes

## Features

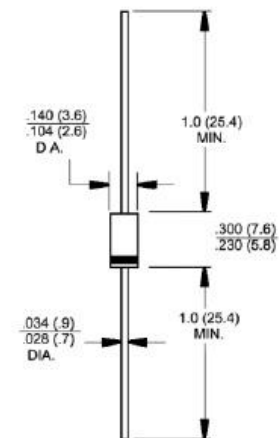
- ◆ Low forward voltage drop
- ◆ High current capability
- ◆ High reliability
- ◆ High surge current capability



DO-204AC (DO-15)

## Mechanical Data

- ◆ Case: Molded plastic DO-204AC (DO-15)
- ◆ Epoxy: UL 94V-O rate flame retardant
- ◆ Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- ◆ Polarity: Color band denotes cathode end
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds .375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ◆ Weight: 0.014 ounce, 0.395 gram



Dimensions in inches and (millimeters)

## 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%

Parameter	Symbols	FR151G	FR152G	FR153G	FR154G	FR155G	FR156G	FR157G	Units
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 $T_a=55^\circ\text{C}$	$I_{(AV)}$	1.5							Amps
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	50.0							Amps
Maximum instantaneous forward voltage @ 1.5A DC	$V_F$	1.3							Volts
Maximum DC reverse current at rated DC blocking voltage @ $T_a=25^\circ\text{C}$ @ $T_a=125^\circ\text{C}$	$I_R$	5.0 100							$\mu\text{A}$
Maximum reverse recovery time (Note 1)	$t_{rr}$	150				250	500		nS
Typical junction capacitance (Note 2)	$C_j$	25							pF
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 V D.C.

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## RATINGS AND CHARACTERISTIC CURVES

FIG.1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

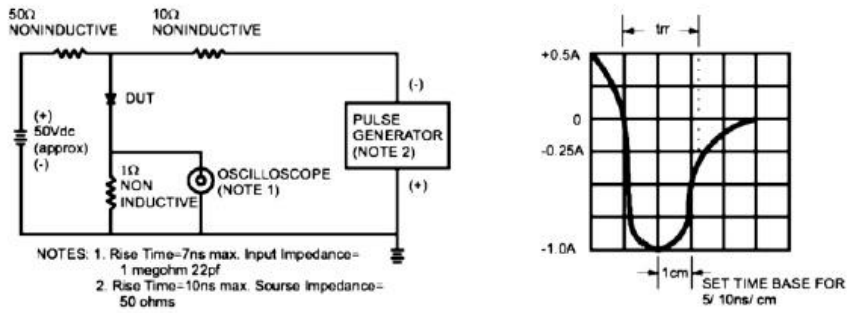


FIG.3- TYPICAL FORWARD CHARACTERISTICS

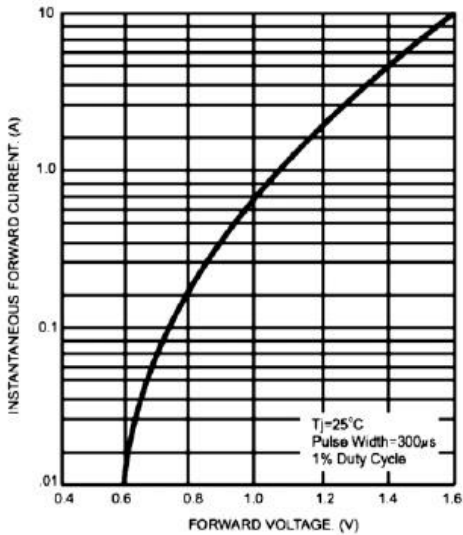


FIG.2- TYPICAL JUNCTION CAPACITANCE

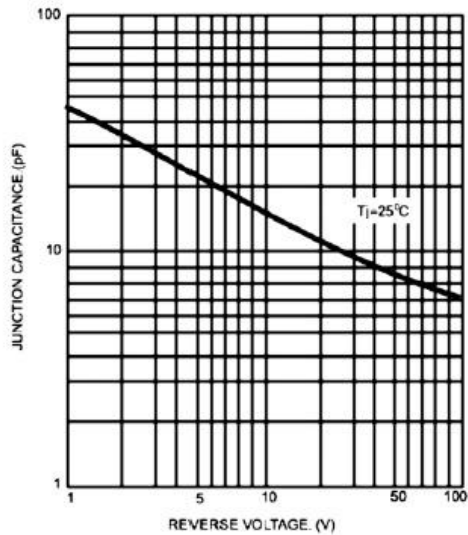


FIG.5- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

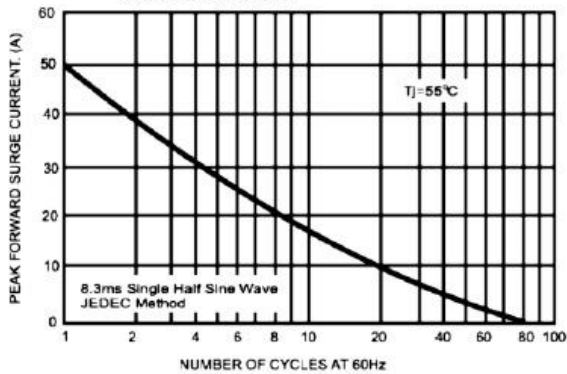


FIG.4- MAXIMUM FORWARD CURRENT DERATING CURVE

