



Certificate Number: Q10561

Certificate Number: E17276

# FR151G - FR157G-STR

# GLASS PASSIVATED JUNCTION FAST RECOVERY RECTIFIERS

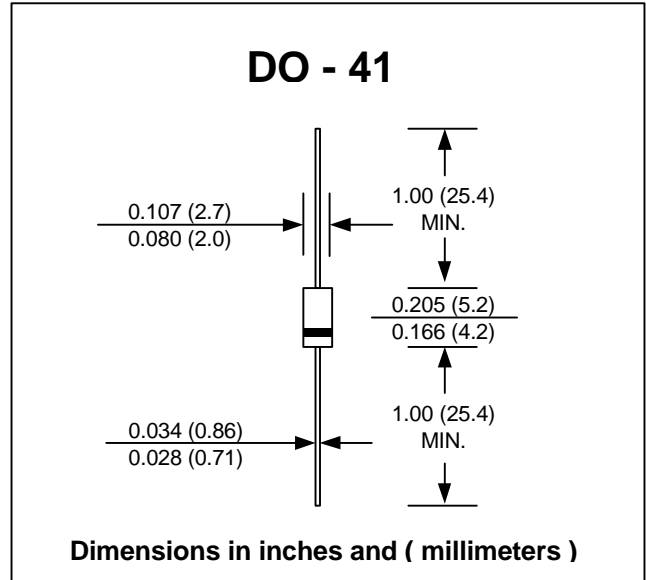
**PRV : 50 - 1000 Volts**  
**I<sub>o</sub> : 1.5 Amperes**

### FEATURES :

- \* Glass passivated chip
- \* High current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Fast switching for high efficiency

### MECHANICAL DATA :

- \* Case : DO-41 Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.339 gram



### 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%.

RATING	SYMBOL	FR151G	FR152G	FR153G	FR154G	FR155G	FR156G	FR157G	FR157G-STR	UNIT
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	1000	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	700	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	1000	Volts
Maximum Average Forward Current 0.375"(9.5mm) Lead Length      Ta = 55 °C	I <sub>F(AV)</sub>	1.5								Amps.
Peak Forward Surge Current, 8.3ms Single half sine wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	60								Amps.
Maximum Peak Forward Voltage at I <sub>F</sub> = 1.5 Amps.	V <sub>F</sub>	1.4								Volts
Maximum DC Reverse Current      Ta = 25 °C at Rated DC Blocking Voltage      Ta = 100 °C	I <sub>R</sub>	5.0								µA
	I <sub>R(H)</sub>	50								µA
Maximum Reverse Recovery Time ( Note 1 )	T <sub>rr</sub>	150			250	500	250			ns
Typical Junction Capacitance ( Note 2 )	C <sub>J</sub>	25								pf
Junction Temperature Range	T <sub>J</sub>	- 65 to + 150								°C
Storage Temperature Range	T <sub>STG</sub>	- 65 to + 150								°C

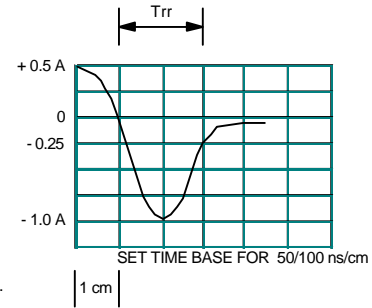
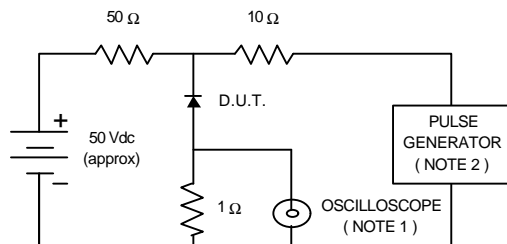
### Notes :

- ( 1 ) Reverse Recovery Test Conditions : I<sub>F</sub> = 0.5 A, I<sub>R</sub> = 1.0 A, I<sub>rr</sub> = 0.25 A.
- ( 2 ) Measured at 1.0 MHz and applied reverse voltage of 4.0 Vdc

**UPDATE : APRIL 23, 1998**

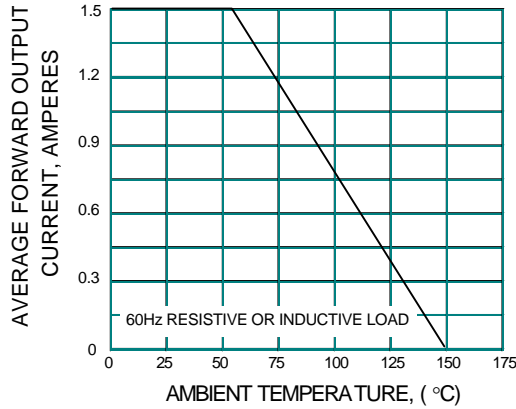
## RATING AND CHARACTERISTIC CURVES ( FR151G - FR157G )

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

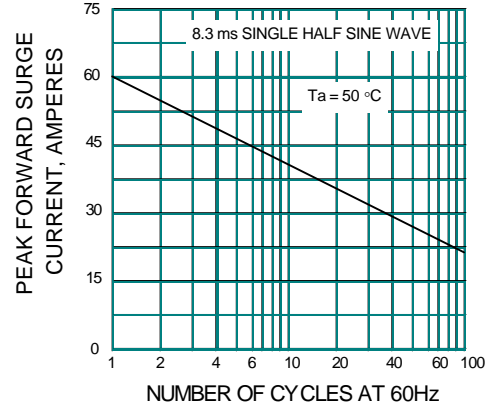


- NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.  
 2. Rise time = 10 ns max., Source Impedance = 50 ohms.  
 3. All Resistors = Non-inductive Types.

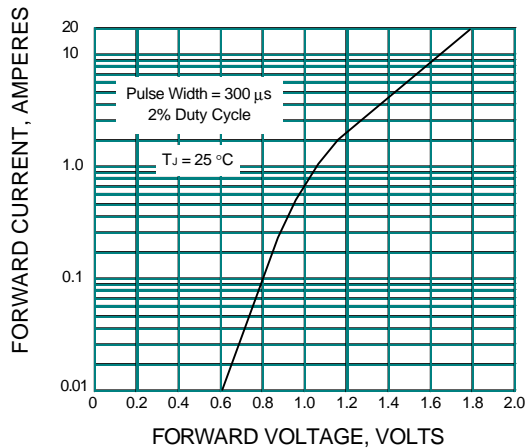
**FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



**FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.4 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.5 - TYPICAL REVERSE CHARACTERISTICS**

