

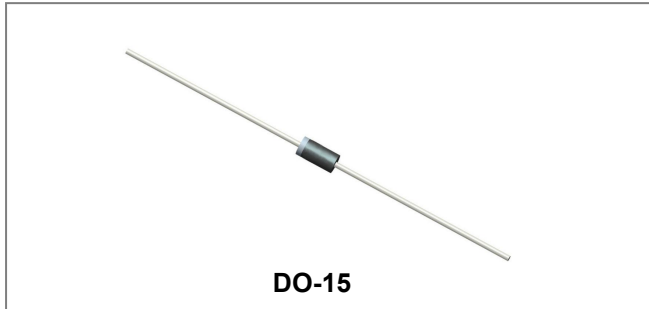


# THE DATASHEET OF FR155G



# FR151G THRU FR157G

## FAST RECOVERY RECTIFIERS



### Features

- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Mechanical Data

- Case: JEDEC DO-15 molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.014 ounce, 0.40 grams

### Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Characteristic	Symbol	FR 151G	FR 152G	FR 153G	FR 154G	FR 155G	FR 156G	FR 157G	Units
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum average forward rectified current 0.375"(9.5mm) lead length at T <sub>A</sub> =55°C	I <sub>(AV)</sub>	1.5							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	50							A
Maximum instantaneous forward voltage at 1.5A	V <sub>F</sub>	1.3							V
Maximum DC reverse current T <sub>A</sub> =25 °C at rated DC blocking voltage T <sub>A</sub> =100 °C	I <sub>R</sub>	5.0 100.0							µA
Maximum Reverse Recovery Time (Note 1)	T <sub>rr</sub>	150				250	500		ns
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	25							pF
Typical Thermal Resistance (Note 3)	R <sub>θJA</sub>	50.0							°C/W
Junction Temperature	T <sub>J</sub>	-65 to +150							°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +150							°C

**\*Glass passivated forms are available upon request**

- Note: 1. Reverse recovery condition I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>rr</sub>=0.25A  
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 3. Thermal resistance from junction to ambient at 0.375"(9.5mm)lead length, P.C.B. mounted

**Ratings and Characteristics Curves**

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

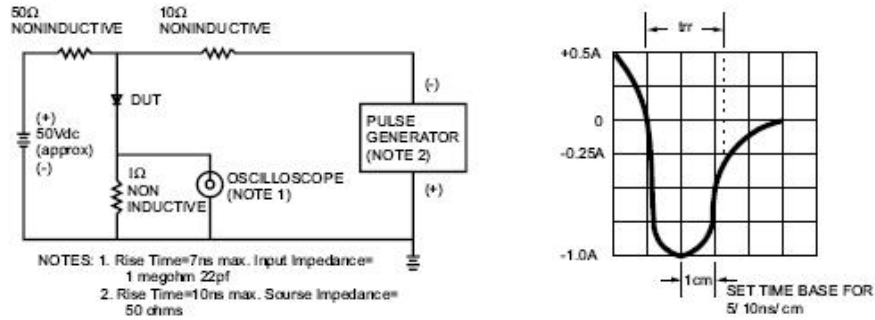


FIG.3- TYPICAL FORWARD CHARACTERISTICS

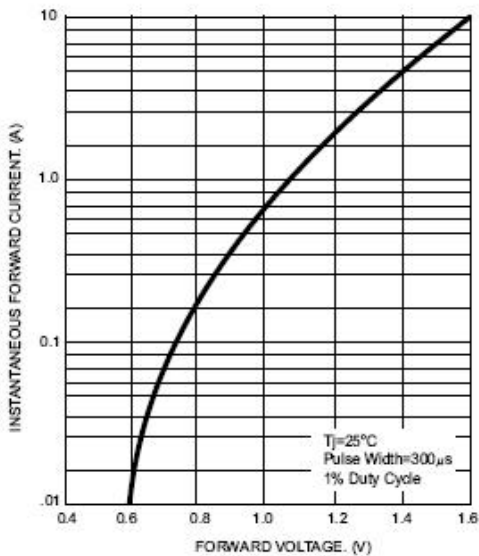


FIG.2- TYPICAL JUNCTION CAPACITANCE

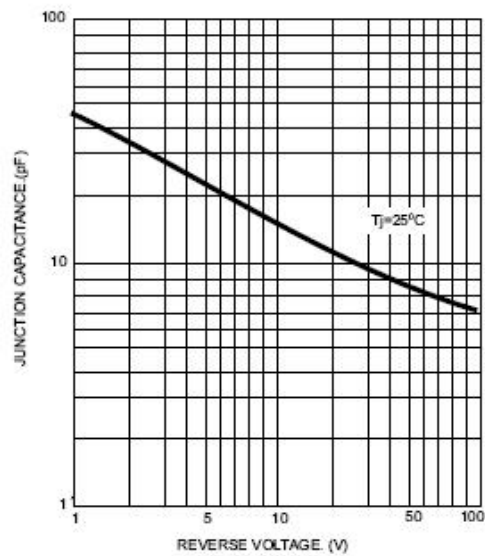


FIG.5- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

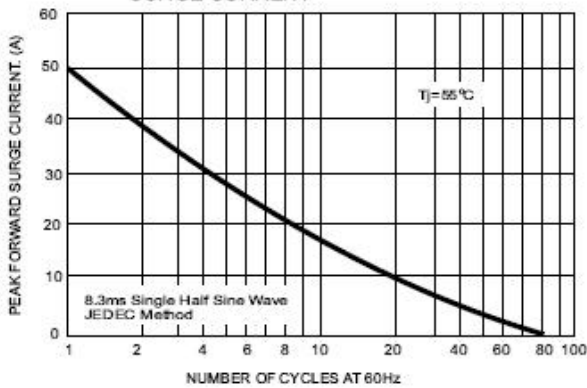
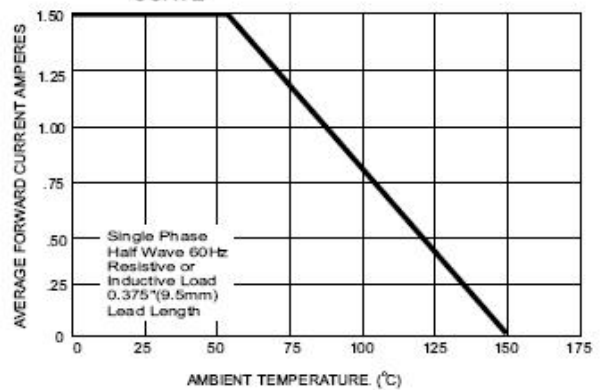
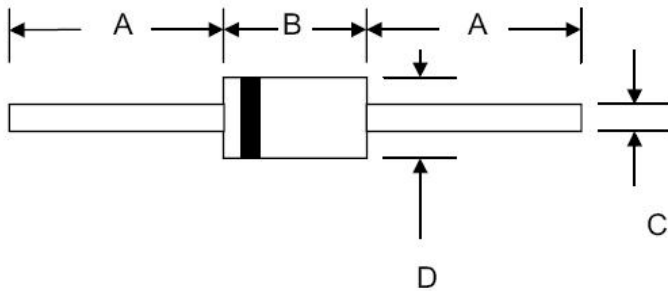


FIG.4- MAXIMUM FORWARD CURRENT DERATING CURVE



**Mechanical Dimensions DO-15**



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.4	-	1.000	-
B	5.5	7.62	0.217	0.300
C	0.7	0.9	0.028	0.034
D	2.6	3.6	0.104	0.140

**Ordering Information**

Device	Package	Shipping
FR151G-FR157G	DO-15 (Pb-Free)	3000pcs /tape

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**

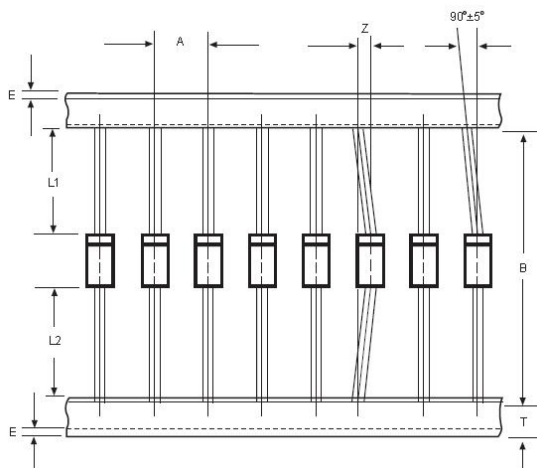


Where XXXXX is YYWWL

FR151G = Part Name  
SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number

Cautions: Molding resin  
Epoxy resin UL:94V-0

**Carrier Tape Specification DO-15**



SYMBOL	Millimeters	
	Min.	Max.
A	4.50	5.50
B	50.9	53.9
Z	-	1.20
T	5.60	6.40
E	-	0.80
IL1-L2I	-	1.0

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