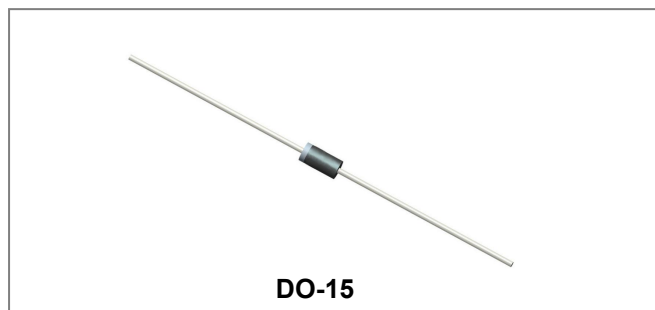


## FR151G THRU FR157G FAST RECOVERY RECTIFIERS



### 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<br>0.375"(9.5mm) lead length at T <sub>A</sub> =55℃         | 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 ℃<br>at rated DC blocking voltage T <sub>A</sub> =100 ℃ | I <sub>R</sub>    | 5.0<br>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         |         |         |         |         |         |         | ℃/W   |
| Junction Temperature                                                                                  | T <sub>J</sub>    | -65 to +150  |         |         |         |         |         |         | ℃     |
| Storage Temperature Range                                                                             | T <sub>STG</sub>  | -65 to +150  |         |         |         |         |         |         | ℃     |

\*Glass passivated forms are available upon request

Note: 1. Reverse recovery condition IF=0.5A, IR=1.0A, Irr=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

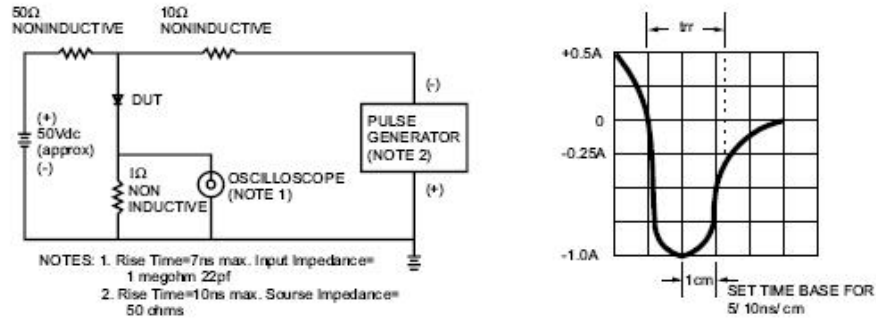


FIG.3- TYPICAL FORWARD CHARACTERISTICS

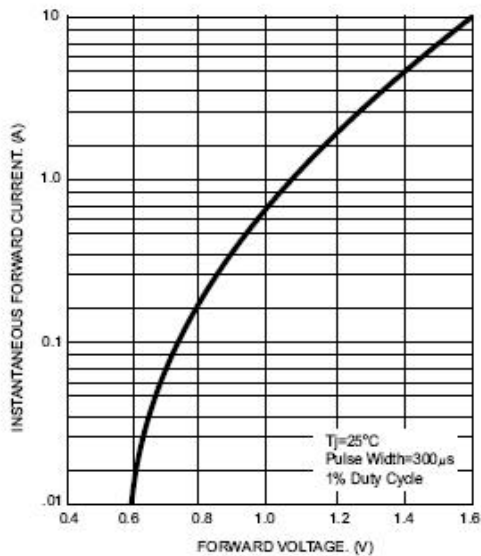


FIG.2- TYPICAL JUNCTION CAPACITANCE

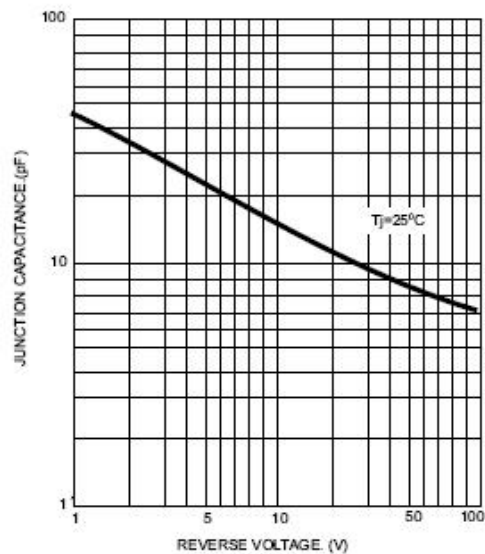


FIG.5- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

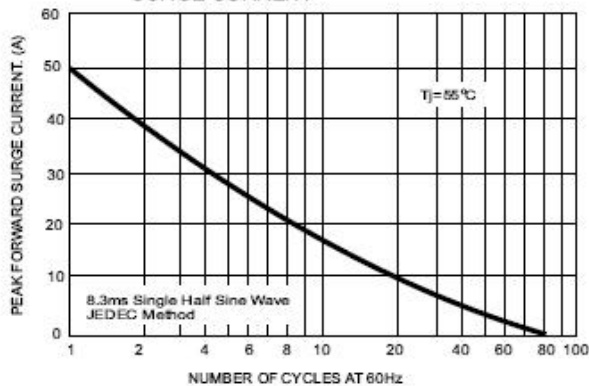
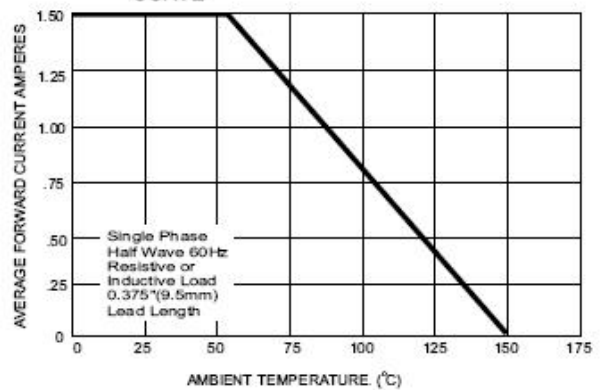
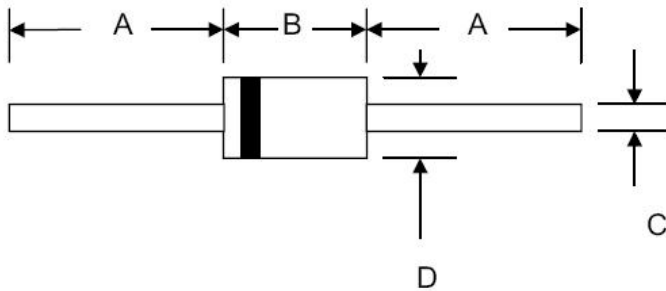


FIG.4- MAXIMUM FORWARD CURRENT DERATING CURVE



## 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<br>(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

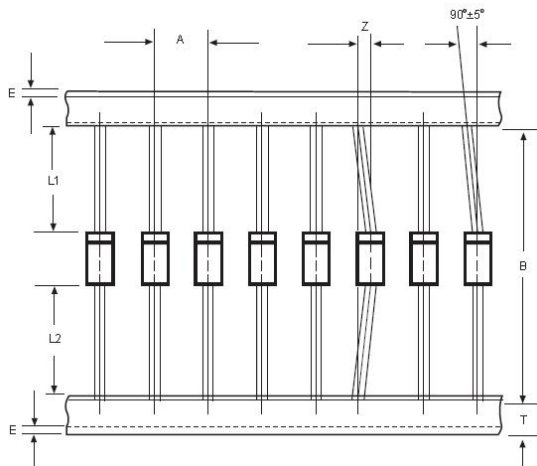


Where XXXXX is YYWWL

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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