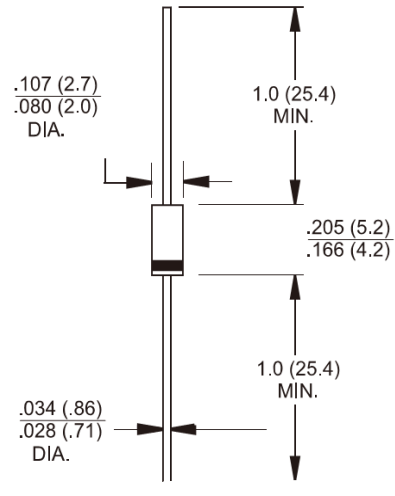


DO-41



Dimensions in inches and (millimeters)

Marking Diagram



- FR15XS = Specific Device Code
- G = Green Compound
- Y = Year
- WW = Work Week

Features

- ✧ High efficiency, Low VF
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ Low power loss
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode

Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode end
- ✧ High temperature soldering guaranteed: 260°C/10s / .375", (9.5mm) lead lengths at 5 lbs, (2.3kg) tension
- ✧ Weight: 0.32 grams

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%

Type Number	Symbol	FR 151S	FR 152S	FR 153S	FR 154S	FR 155S	FR 156S	FR 157S	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @ $T_A=55^\circ\text{C}$	$I_{F(AV)}$	1.5							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	50							A
Maximum Instantaneous Forward Voltage (Note 1) @ 1.5A	V_F	1.2							V
Maximum DC Reverse Current at @ $T_A=25^\circ\text{C}$ Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$	I_R	5 150							μA μA
Maximum Reverse Recovery Time (Note 2)	T_{rr}	150			250		500		nS
Typical Junction Capacitance (Note 3)	C_j	30							pF
Typical Thermal Resistance (Note 4)	$R_{\theta JA}$	60							$^\circ\text{C/W}$
Operating Temperature Range T_J	T_J	- 65 to + 150							$^\circ\text{C}$
Storage Temperature Range T_{STG}	T_{STG}	- 65 to + 150							$^\circ\text{C}$

- Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle
- Note 2: Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
- Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.
- Note 4: Mount on Cu-Pad Size 5mm x 5mm on PCB

RATINGS AND CHARACTERISTIC CURVES (FR151S THRU FR157S)

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

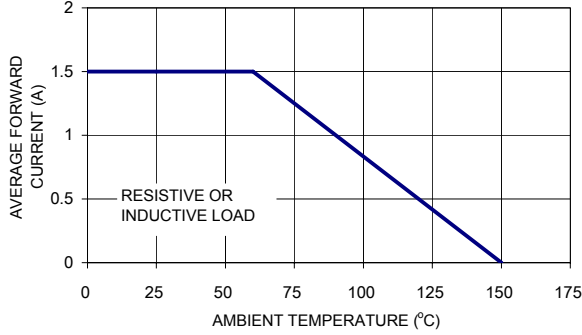


FIG. 2- TYPICAL REVERSE CHARACTERISTICS PER LEG

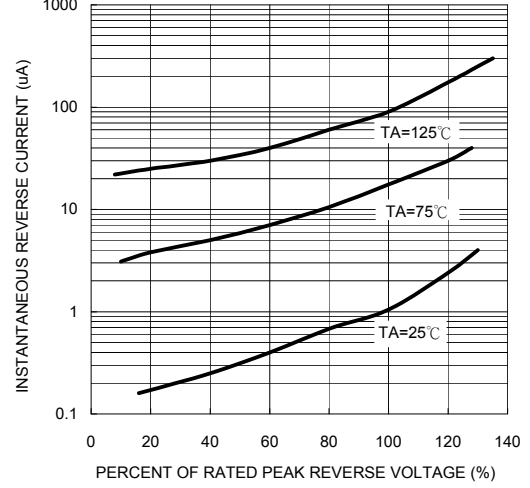


FIG. 3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

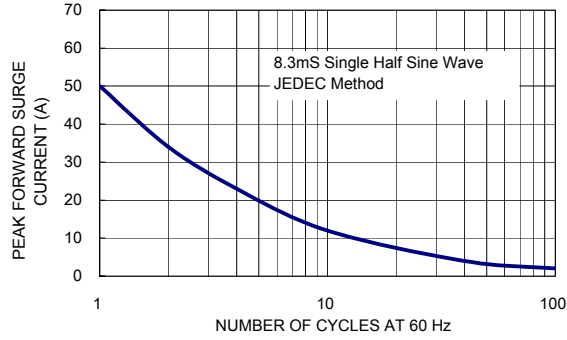


FIG. 5 TYPICAL FORWARD CHARACTERISTICS

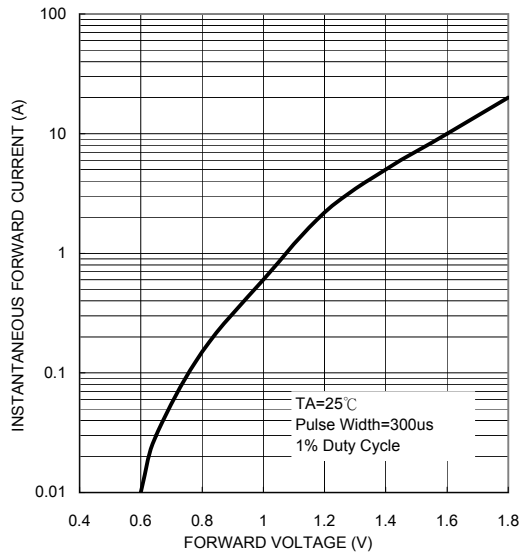


FIG. 4- TYPICAL JUNCTION CAPACITANCE

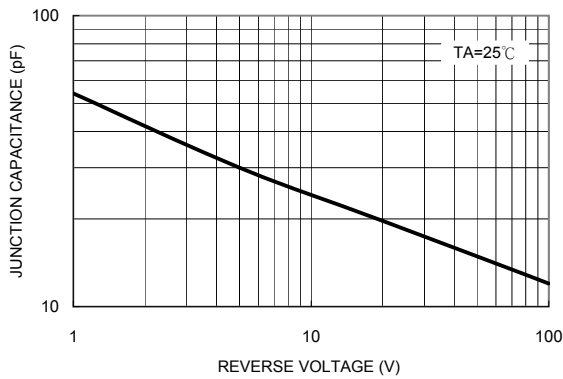


FIG. 6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

