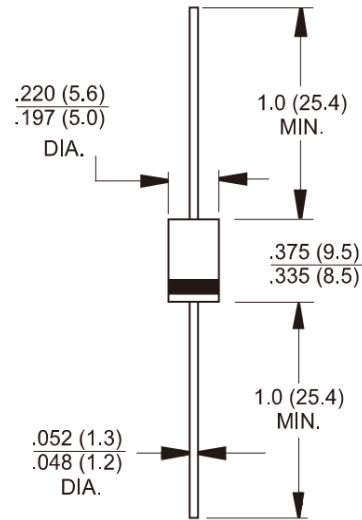


DO-201AD



Dimensions in inches and (millimeters)

Marking Diagram



- FR30XG = Specific Device Code
- G = Green Compound
- Y = Year
- WW = Work Week

Features

- ✦ Glass passivated chip junction
- ✦ 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: 1.2 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 301G	FR 302G	FR 303G	FR 304G	FR 305G	FR 306G	FR 307G	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 @ $T_A=55^\circ\text{C}$	$I_{F(AV)}$	3							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	125							A
Maximum Instantaneous Forward Voltage (Note 1) @ 3 A	V_F	1.3							V
Maximum DC Reverse Current at @ $T_A=25^\circ\text{C}$ Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$	I_R	5 100							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)	$R_{\theta JA}$	35							$^\circ\text{C/W}$
Operating Temperature Range	T_J	- 65 to + 150							$^\circ\text{C}$
Storage Temperature Range	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 16mm x 16mm on PCB

RATINGS AND CHARACTERISTIC CURVES (FR301G THRU FR307G)

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

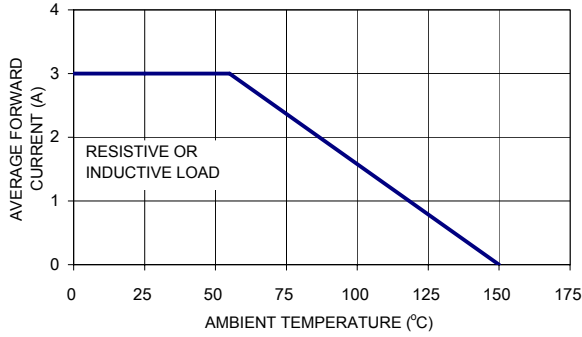


FIG. 2- TYPICAL REVERSE CHARACTERISTICS

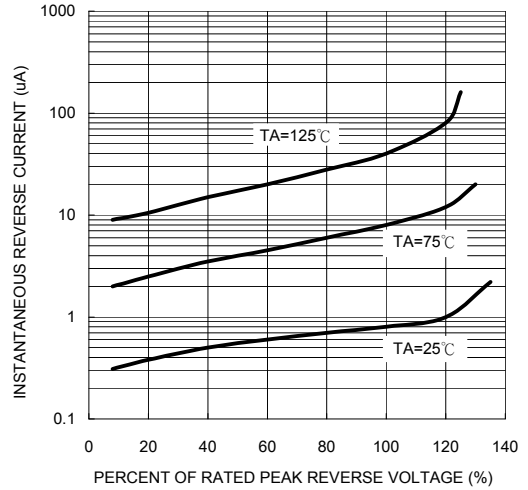


FIG. 3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

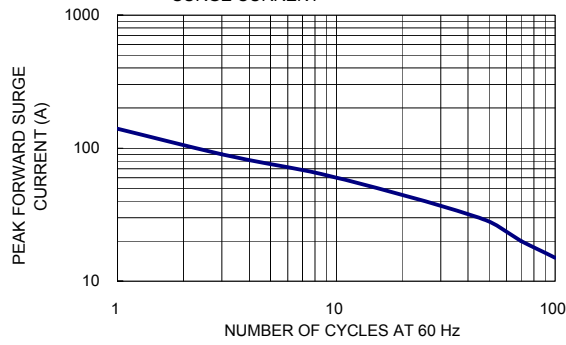


FIG. 5- TYPICAL FORWARD CHARACTERISTICS

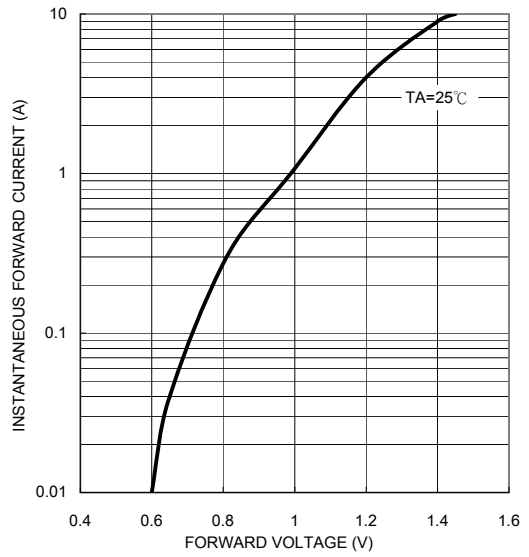


FIG. 4- TYPICAL JUNCTION CAPACITANCE

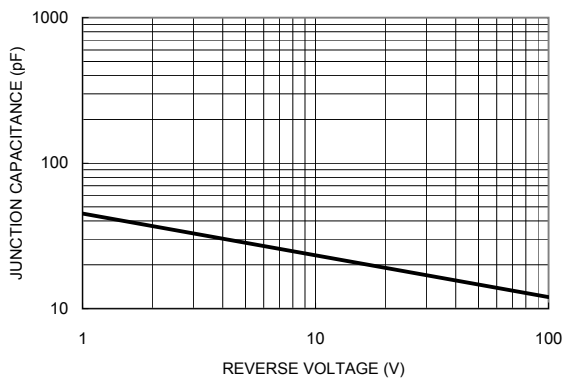


FIG. 6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

