

FR301G - FR307G

3.0 AMPS. Glass Passivated Fast Recovery Rectifiers

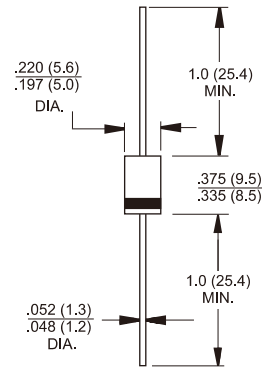
DO-201AD

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 /10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Mounting position: Any
- ✧ Weight: 1.2 grams



Dimensions in inches and (millimeters)

Marking Diagram



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

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	VRRM	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	VRMS	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	VDC	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length @ T _A = 55 °C	I _F (AV)	3.0							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 @ 3.0A	V _F	1.3							V
Maximum DC Reverse Current at @ T _A =25°C	I _R	5.0							uA
Rated DC Blocking Voltage(Note 1) @ T _A =125°C		100							uA
Maximum Reverse Recovery Time (Note 4)	T _{rr}	150				250	500		nS
Typical Junction Capacitance (Note 2)	C _j	30							pF
Typical Thermal Resistance(Note 3)	R _{θJA}	35							°C/W
Operating Temperature Range	T _J	-65 to +150							°C
Storage Temperature Range	T _{STG}	-65 to +150							°C

Notes: 1. Pulse Test with PW=300 usec, 1% Duty Cycle

2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.

3. Mount on Cu-Pad Size 16mm x 16mm on P.C.B.

4. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Version: C10

RATINGS AND CHARACTERISTIC CURVES (FR301G THRU FR307G)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

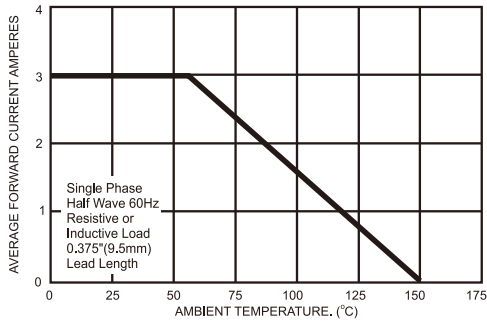


FIG.2- TYPICAL REVERSE CHARACTERISTICS PER LEG

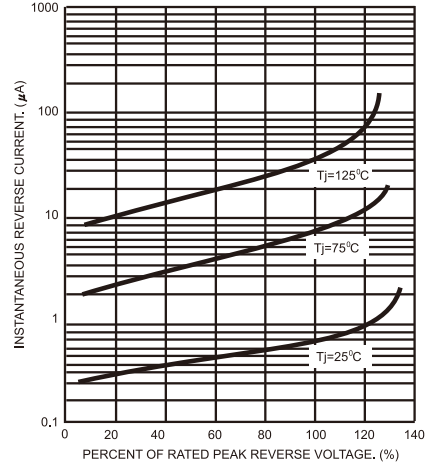


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

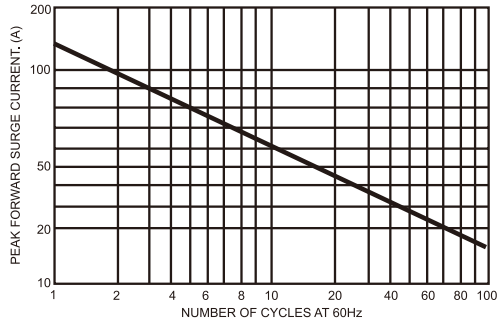


FIG.5- TYPICAL FORWARD CHARACTERISTICS

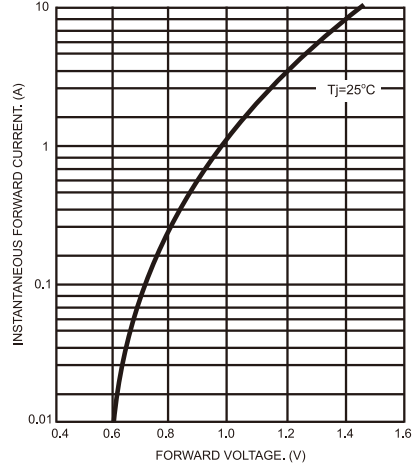


FIG.4- TYPICAL JUNCTION CAPACITANCE

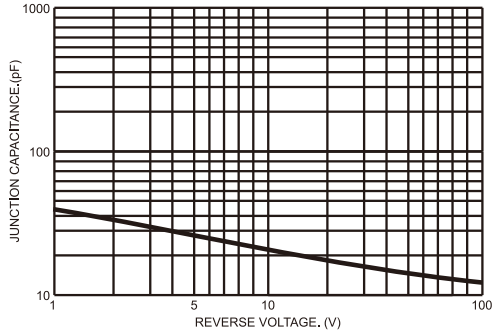


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

