

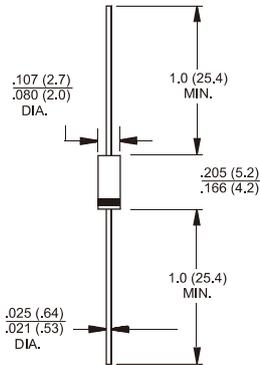


**A-405**



**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 5lbs., (2.3kg) tension
- ✧ Mounting position: Any
- ✧ Weight: 0.22grams

Dimensions in inches and (millimeters)

Marking Diagram



- FR10XSG = Specific Device Code
- G = Green Compound
- Y = Year
- WW = Work Week

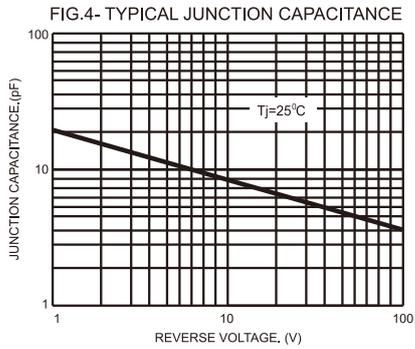
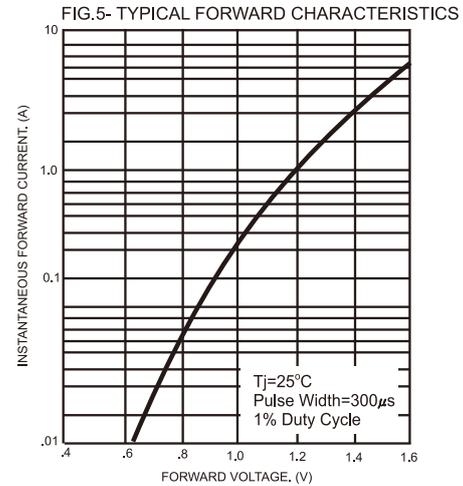
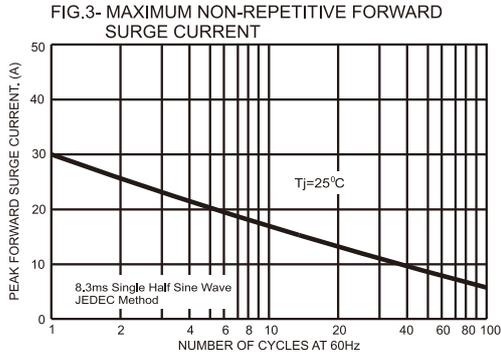
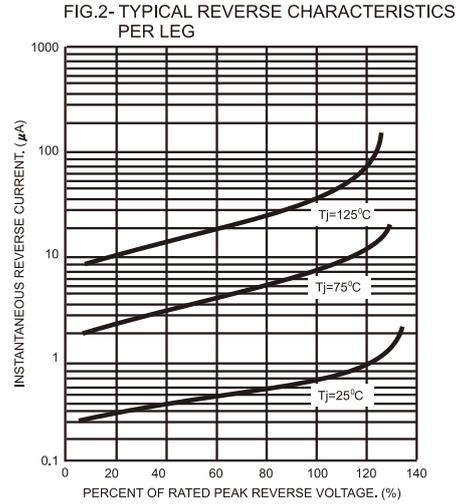
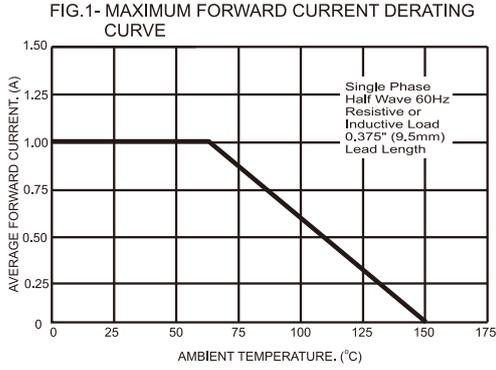
**Maximum Ratings and Electrical Characteristics**

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 101SG	FR 102SG	FR 103SG	FR 104SG	FR 105SG	FR 106SG	FR 107SG	Units
		Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	
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 <sub>A</sub> = 55 °C	I <sub>F(AV)</sub>	1.0							V
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	I <sub>FSM</sub>	30							A
Maximum Instantaneous Forward Voltage @ 1.0A	V <sub>F</sub>	1.3							V
Maximum DC Reverse Current at @ T <sub>A</sub> =25 °C	I <sub>R</sub>	5.0							uA
Rated DC Blocking Voltage ( Note 1 ) @ T <sub>A</sub> =125 °C		100							uA
Maximum Reverse Recovery Time ( Note 4 )	T <sub>rr</sub>	150			250	500		nS	
Typical Junction Capacitance ( Note 2 )	C <sub>j</sub>	15							pF
Typical thermal Resistance (Note 3)	R <sub>θJA</sub>	75							°C/W
Operating Temperature Range	T <sub>J</sub>	-65 to +150							°C
Storage Temperature Range	T <sub>STG</sub>	-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 5mm x 5mm on P.C.B.  
 4. Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A

RATINGS AND CHARACTERISTIC CURVES (FR101SG THRU FR107SG)



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

