

FR101SG - FR107SG

A-405

1.0 (25.4) MIN

1.0 (25.4) MIN

.205 (5.2) .166 (4.2)

1.0 AMP. Glass Passivated Fast Recovery Rectifiers

.107 (2.7) .080 (2.0) DIA.

.025 (.64) .021 (.53)

DIA

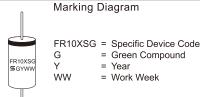
Features

- Glass passivated chip junction. High efficiency, Low VF ¢
- ∻
- Ŷ High current capability
- High reliability ♦
- High surge current capability Low power loss ¢
- Ŷ
- Green compound with suffix "G" on packing 办 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)



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	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)	1.0							V
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	IFSM	30							А
Maximum Instantaneous Forward Voltage @ 1.0A	VF	1.3							V
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$		5.0 100							uA uA
Maximum Reverse Recovery Time (Note 4)	Trr		15	50		250	50	00	nS
Typical Junction Capacitance (Note 2)	Cj	15							рF
Typical thermal Resistance (Note 3)	RθJA	75							°C/W
Operating Temperature Range	ΤJ	-65 to +150							°C
Storage Temperature Range	Tstg	-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_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Version: C10



FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE FIG.2- TYPICAL REVERSE CHARACTERISTICS PER LEG 1.50 1000 Single Phase Half Wave 60Hz Resistive or Inductive Load 0.375" (9.5mm) Lead Length FORWARD CURRENT. (A) 12 INSTANTANEOUS REVERSE CURRENT (#A) 1.00 100 0.7 -Ti=125°C AVERAGE | AVERAGE | 0.25 10 . Tj=75⁰C 0 **L** 175 150 50 100 AMBIENT TEMPERATURE. (°C) FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT Tj=25°C 50 PEAK FORWARD SURGE CURRENT. (A) 0.1 20 40 60 100 120 140 80 40 PERCENT OF RATED PEAK REVERSE VOLTAGE. (%) 30 Tj=25°C 20 FIG.5- TYPICAL FORWARD CHARACTERISTICS 10 10 8.3ms Single Half Sine Wave JEDEC Method Ш 0 60 80 100 2 4 6 8 10 20 NUMBER OF CYCLES AT 60Hz 40 INSTANTANEOUS FORWARD CURRENT. (A) FIG.4- TYPICAL JUNCTION CAPACITANCE 100 1.0 JUNCTION CAPACITANCE (pF) Tj=25°C 0. 10 Tj=25°C Pulse Width=300*µ*s 1% Duty Cycle .01 100 10 .6 .8 1.0 1.2 1.4 1.6 REVERSE VOLTAGE. (V) FORWARD VOLTAGE. (V) FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM 50Ω NONINDUCTIVE 10Ω NONINDUCTIVE trr – +0.5A (-) DUT (+) 50Vdc (approx) (-) PULSE GENERATOR (NOTE 2) 0 -0.25A 1Ω NON (+) INDUCTIVE

-1.0A

늘

NOTES: 1. Rise Time=7ns max. Input Impedance= 1 megohm 22pf 2. Rise Time=10ns max. Sourse Impedance= 50 ohms

RATINGS AND CHARACTERISTIC CURVES (FR101SG THRU FR107SG)

Version: C10