

## FR103GR THRU FR107GR

### 1.0AMP . GLASS PASSIVATED FAST RECOVERY RECTIFIERS

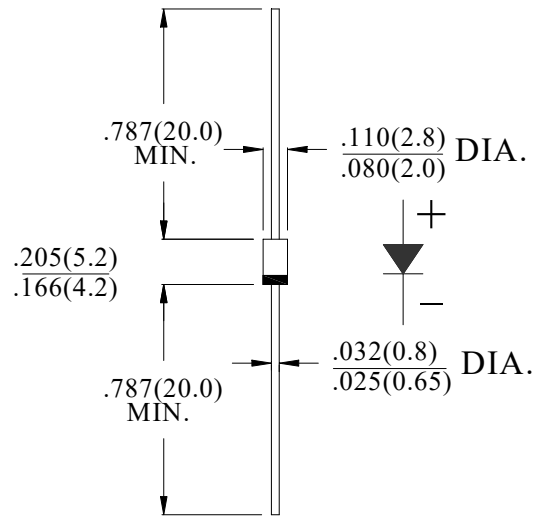
#### FEATURE

- . Fast switching
- . High current capability
- . Low forward voltage drop
- . Low power loss, high efficiency
- . High surge capability
- . High temperature soldering guaranteed  
260°C /10sec/ 0.375" lead length at 5 lbs tension

#### MECHANICAL DATA

- . Terminal: Plated axial leads solderable per MIL-STD 202E, method 208C
- . Case: Molded with UL-94 Class V-0 recognized Flame Retardant Epoxy
- . Polarity: color band denotes cathode
- . Mounting position: any

#### DO-41



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%

Type Number	SYM BOL	FR103GR	FR104GR	FR105GR	FR107GR	units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	200	400	600	1000	V
Maximum RMS Voltage	$V_{RMS}$	140	280	420	700	V
Maximum DC blocking Voltage	$V_{DC}$	200	400	600	1000	V
Maximum Average Forward Rectified Current .375"(9.5mm) lead length	$I_{F(AV)}$	1.0				A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30.0				A
Maximum forward Voltage at 1.0A DC	$V_F$	1.3				V
Maximum DC Reverse Current @ $T_J=25^\circ\text{C}$ at rated DC blocking voltage @ $T_J=125^\circ\text{C}$	$I_R$	5.0 100.0				$\mu\text{A}$
Maximum Reverse Recovery Time (Note 1)	$t_{rr}$	150		250	500	nS
Typical Junction Capacitance (Note 2)	$C_J$	8				pF
Typical Thermal Resistance (Note 3)	$R_{(JA)}$	75				$^\circ\text{C/W}$
	$R_{(JC)}$	25				
Storage Temperature	$T_{STG}$	-55 to +150				$^\circ\text{C}$
Operation Junction Temperature	$T_J$	-55 to +150				$^\circ\text{C}$

#### Note:

1. Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Thermal Resistance from Junction to Ambient at 0.375" (9.5mm) lead length, vertical P.C.Board Mounted.

**RATING AND CHARACTERISTIC CURVES**

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

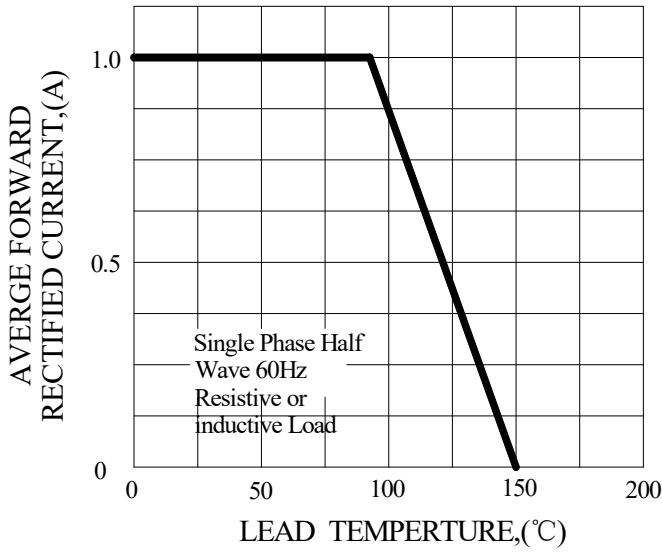


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

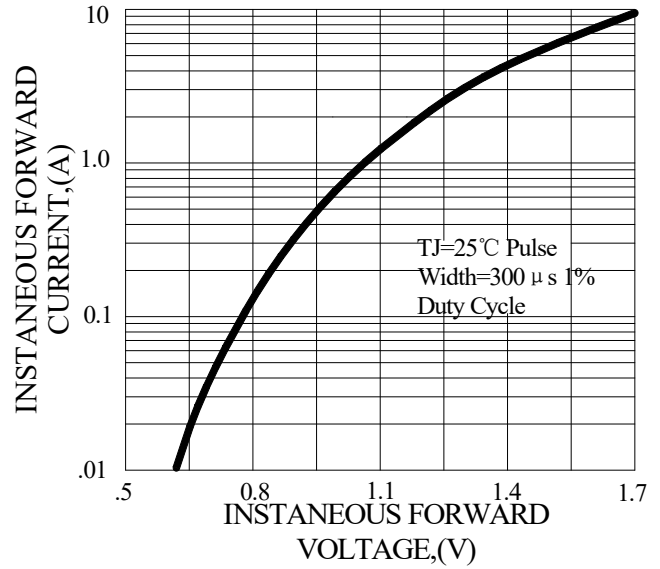


FIG.3-MAXIMUN NON-REPETITIVE FORWARD SURGE CURRENT

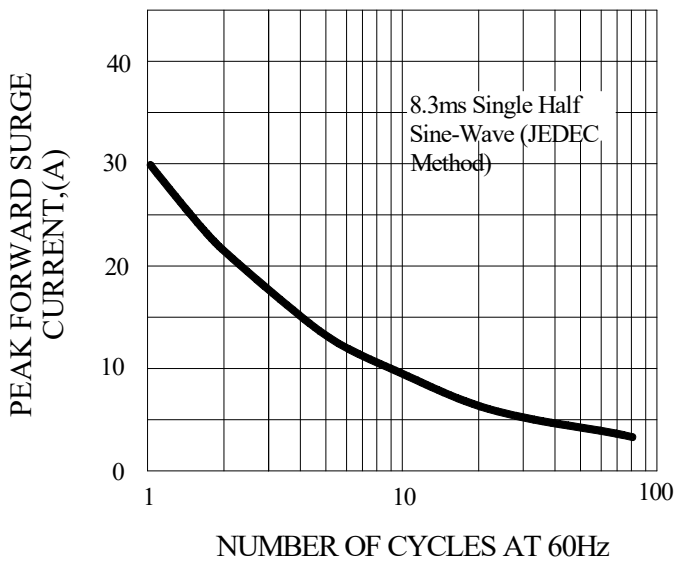


FIG.4-TYPICAL REVERSE CHARACTERISTICS

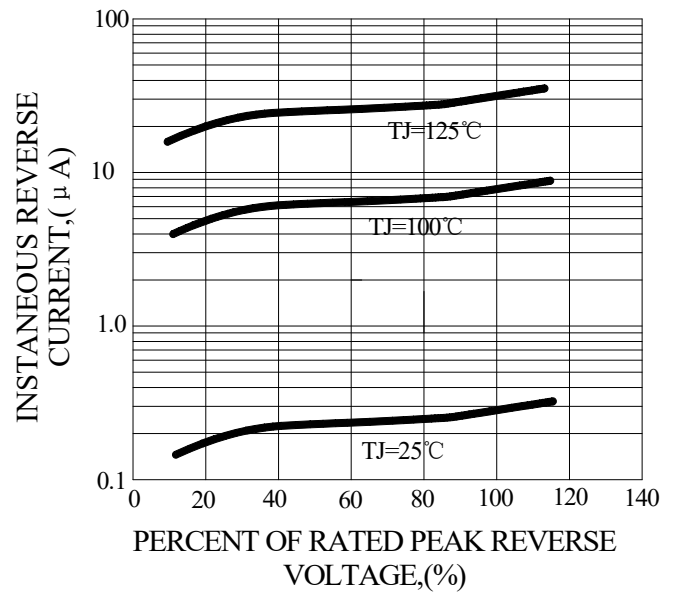
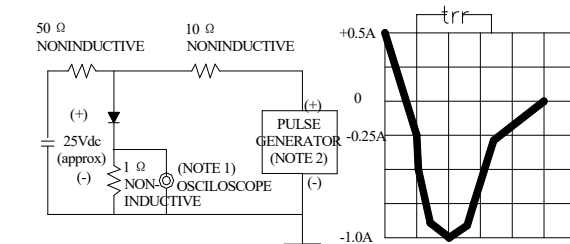


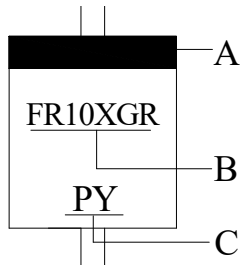
FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES:1. Rise Time=7ns max, Input Impedance= 1 megohm.22pF.  
2. Rise Time=10ns max, Source Impedance= 50 ohms.

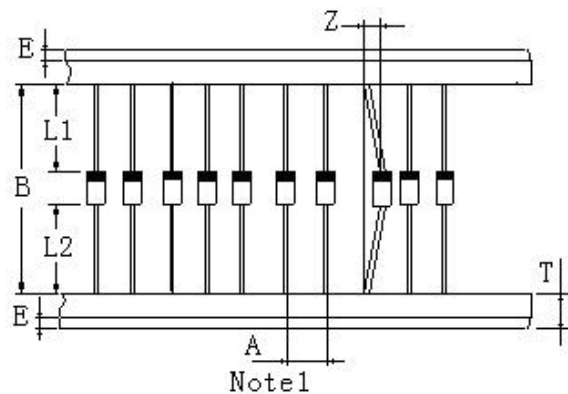
## Marking and packaging illustration

### 1、Marking



SYMBOL	Explanation
A	Color Band Denotes Cathode
B	Product Name
C	Trademark

### 2、Packaging



ITEM	SYMBOL	SPECIFICATIONS	
		(mm)	(inch)
Component alignment	Z	1.2max	0.048max
Tape width	T	6.0±0.4	0.236±0.016
Exposed adhesive	E	0.8max	0.032max
Body eccentricity	L1-L2	1.0max	0.040max
Component	A	5.0±0.5	0.2±0.02
Inner tap	B	52.0~53.5	2.05~2.11
NOTE: Each component lead shall be sandwiched between tapes for a minimum of 2.5mm (0.1inch)			