

# FR601 THRU FR607



## 6.0 AMP FAST RECOVERY RECTIFIERS



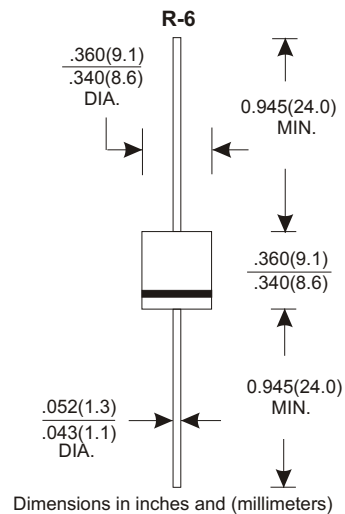
### FEATURES

- \* Low forward voltage drop
- \* High current capability
- \* High reliability
- \* High surge current capability
- \* Both normal and Pb free product are available:  
\* Normal: 80~95%Sn, 5~20%Pb
- \* Pb free: 99 Sn above can meet Rohs environment substance directive request

### MECHANICAL DATA

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 1.65 grams

**VOLTAGE RANGE**  
50 TO 1000 Volts  
**CURRENT**  
6.0 Amperes



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 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	FR601	FR602	FR603	FR604	FR605	FR606	FR607	UNITS	
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V	
Maximum RMS Voltage	35	70	140	280	420	560	700	V	
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V	
Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length at Ta=75°C								6.0	A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)								300	A
Maximum Instantaneous Forward Voltage at 6.0A								1.3	V
Maximum DC Reverse Current Ta=25°C								10.0	uA
at Rated DC Blocking Voltage Ta=100°C								200	uA
Maximum Reverse Recovery Time (Note 1)					150	250	500	nS	
Typical Junction Capacitance (Note 2)								100	pF
Operating and Storage Temperature Range Tj, TSTG								-65 — +150	°C

#### NOTES:

1. Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

# RATING AND CHARACTERISTIC CURVES (FR601 THRU FR607)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

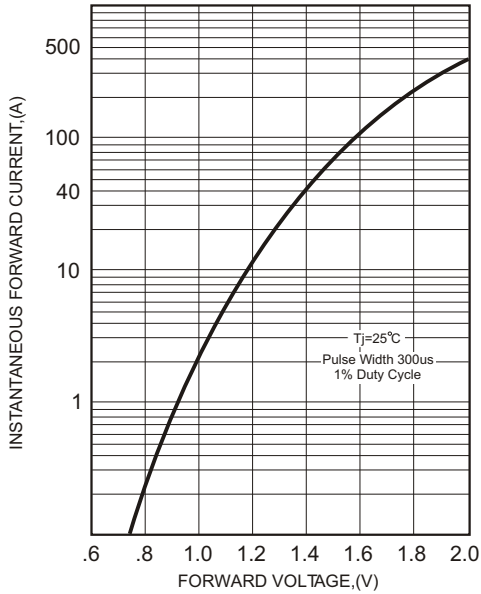


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

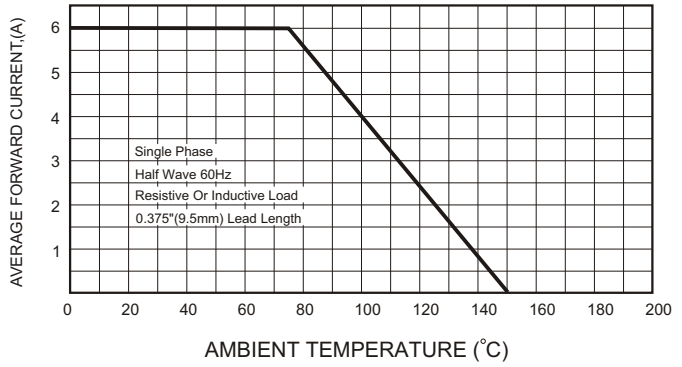
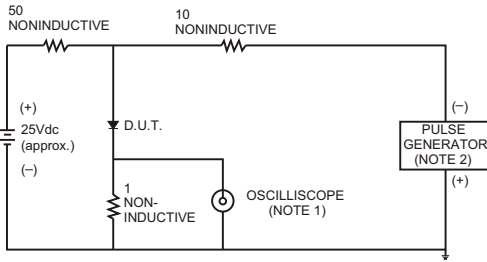


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



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

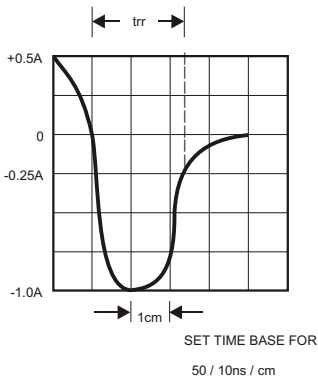


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

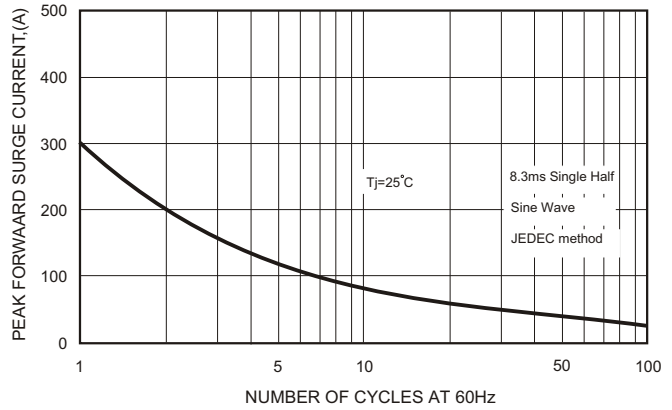


FIG.5-TYPICAL JUNCTION CAPACITANCE

