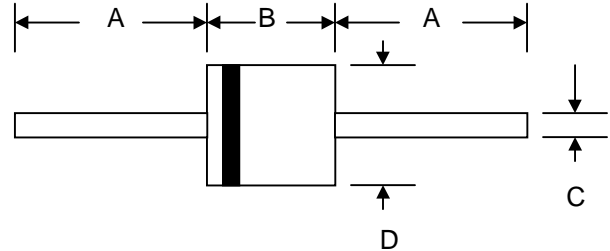


### Features

- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability



### Mechanical Data

- Case: R-6, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 2.1 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 4**

R-6		
Dim	Min	Max
A	25.4	—
B	8.60	9.10
C	1.20	1.30
D	8.60	9.10
All Dimensions in mm		

### Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

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

Characteristic	Symbol	FR601	FR602	FR603	FR604	FR605	FR606	FR607	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	$V_{RWM}$								
DC Blocking Voltage	$V_R$								
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current (Note 1)	$I_O$	6.0							A
		@ $T_A = 55^\circ\text{C}$							
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	200							A
Forward Voltage	$V_{FM}$	1.2							V
		@ $I_F = 6.0\text{A}$							
Peak Reverse Current	$I_{RM}$	10							$\mu\text{A}$
		@ $T_A = 25^\circ\text{C}$							
At Rated DC Blocking Voltage	$I_{RM}$	200							$\mu\text{A}$
		@ $T_A = 100^\circ\text{C}$							
Reverse Recovery Time (Note 2)	$t_{rr}$	150				250	500		nS
Typical Junction Capacitance (Note 3)	$C_j$	100							pF
Operating Temperature Range	$T_j$	-65 to +125							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +150							$^\circ\text{C}$

Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case  
2. Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $IRR = 0.25\text{A}$ . See figure 5.  
3. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

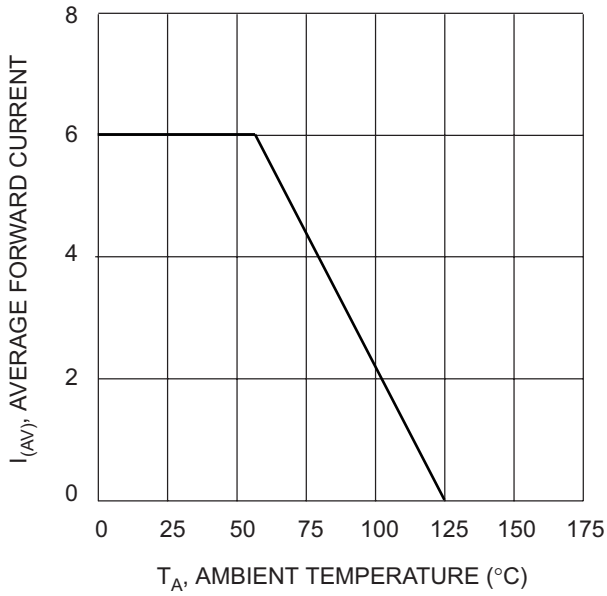


Fig. 1, Typical Forward Current Derating Curve

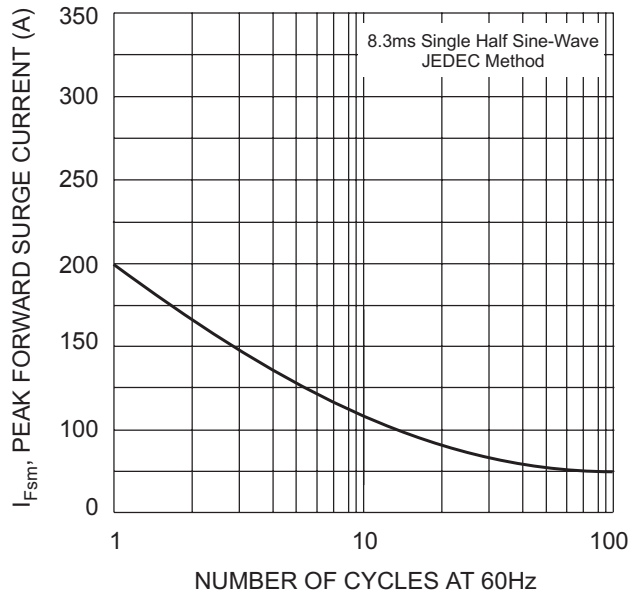


Fig. 2 Max Non-Repetitive Peak Surge Current

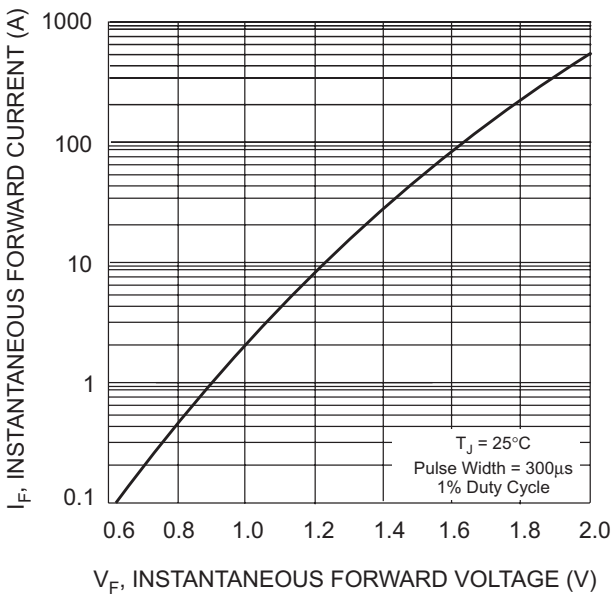


Fig. 3, Typical Instantaneous Forward Characteristics

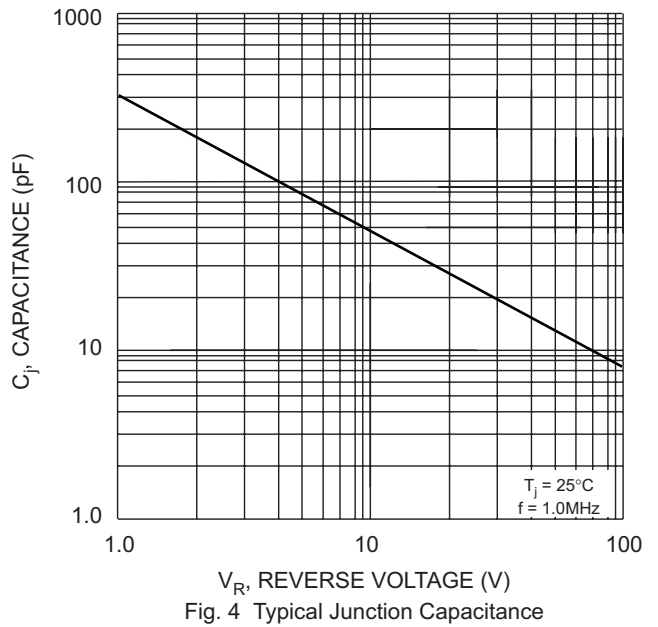
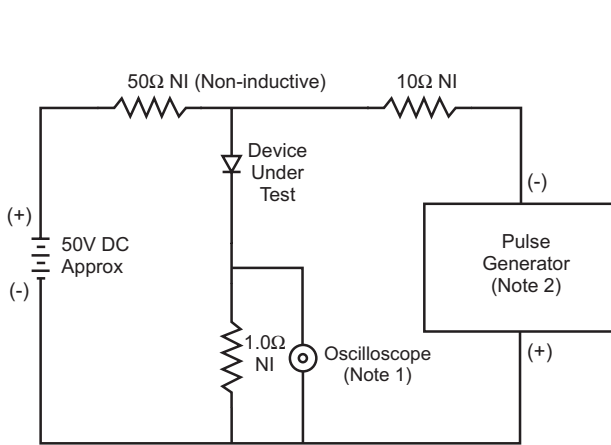


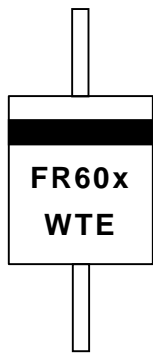
Fig. 4 Typical Junction Capacitance



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
  2. Rise Time = 10ns max. Input Impedance = 50Ω.

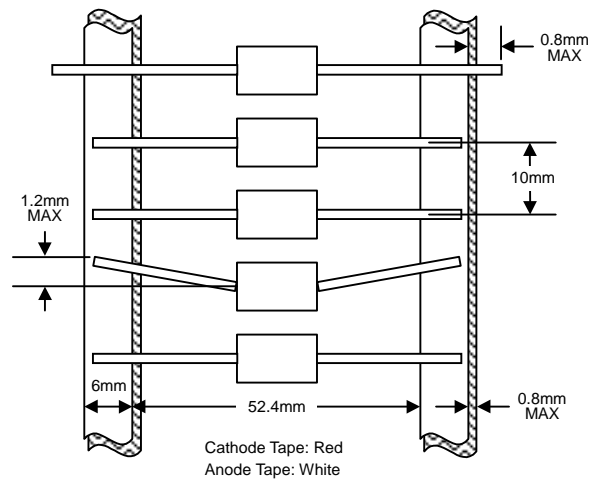
Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

## MARKING INFORMATION



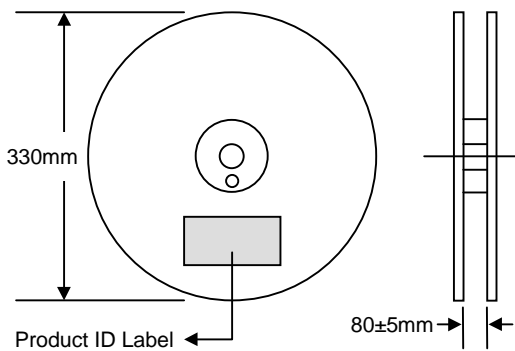
Cathode = Polarity Band  
 FR60x = Device Number  
 x = 1, 2, 3, 4, 5, 6 or 7  
 WTE = Manufacturer's Logo

## TAPING SPECIFICATIONS

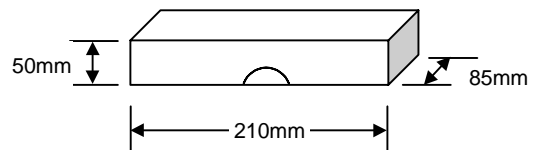


## PACKAGING INFORMATION

### TAPE & REEL



### BULK



Packaging	Reel Diameter / Box Size (mm)	Quantity (PCS)	Carton Size (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
<b>TAPE &amp; REEL</b>	330	800	370 x 370 x 420	4,000	12.0
<b>BULK</b>	210 x 85 x 50	250	500 x 255 x 275	7,000	17.0

**Note:** 1. Paper reel, white or gray color. Core material: plastic or metal.  
 2. Components are packed in accordance with EIA standard RS-296-E.

## ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
<b>FR601-T3</b>	R-6	800/Tape & Reel
FR601	R-6	250 Units/Box
<b>FR602-T3</b>	R-6	800/Tape & Reel
FR602	R-6	250 Units/Box
<b>FR603-T3</b>	R-6	800/Tape & Reel
FR603	R-6	250 Units/Box
<b>FR604-T3</b>	R-6	800/Tape & Reel
FR604	R-6	250 Units/Box
<b>FR605-T3</b>	R-6	800/Tape & Reel
FR605	R-6	250 Units/Box
<b>FR606-T3</b>	R-6	800/Tape & Reel
FR606	R-6	250 Units/Box
<b>FR607-T3</b>	R-6	800/Tape & Reel
FR607	R-6	250 Units/Box

1. Products listed in **bold** are WTE **Preferred** devices.
2. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
3. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, FR601-T3-LF.**

Won-Top Electronics Co., Ltd (WTE) has checked all information carefully and believes it to be correct and accurate. However, WTE cannot assume any responsibility for inaccuracies. Furthermore, this information does not give the purchaser of semiconductor devices any license under patent rights to manufacturer. WTE reserves the right to change any or all information herein without further notice.

**WARNING: DO NOT USE IN LIFE SUPPORT EQUIPMENT.** WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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