

# FR101 – FR107

## 1.0A FAST RECOVERY RECTIFIER

### Features

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

### Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.34 grams (approx.)
- Mounting Position: Any
- Marking: Type Number



DO-41		
Dim	Min	Max
A	25.4	—
B	4.06	5.21
C	0.71	0.864
D	2.00	2.72
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	FR101	FR102	FR103	FR104	FR105	FR106	FR107	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$								V
Working Peak Reverse Voltage	$V_{RWM}$	50	100	200	400	600	800	1000	
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)	$I_O$	1.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30							A
Forward Voltage @ $I_F = 1.0\text{A}$	$V_{FM}$	1.2							V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	$I_{RM}$	5.0 100							$\mu\text{A}$
Reverse Recovery Time (Note 2)	$t_{rr}$	150				250	500		nS
Typical Junction Capacitance (Note 3)	$C_j$	15							pF
Operating Temperature Range	$T_j$	-65 to +125							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +150							$^\circ\text{C}$

**\*Glass passivated forms are available upon request**

- 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.

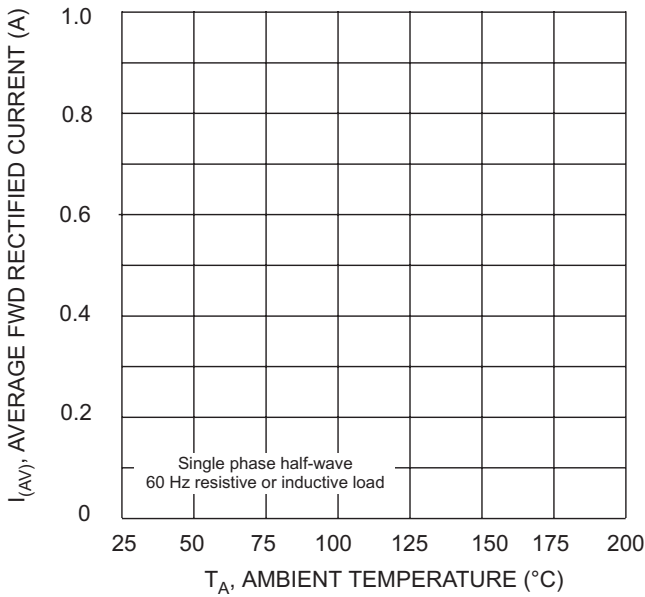


Fig. 1 Forward Derating Curve

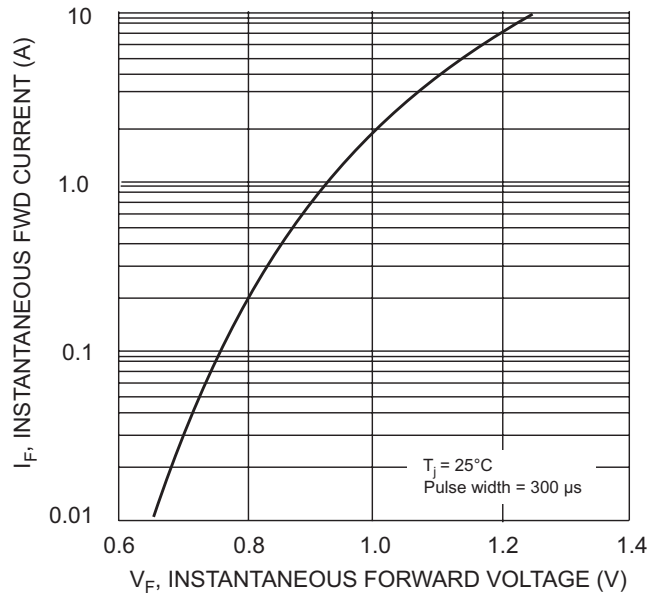


Fig. 2 Typical Forward Characteristics

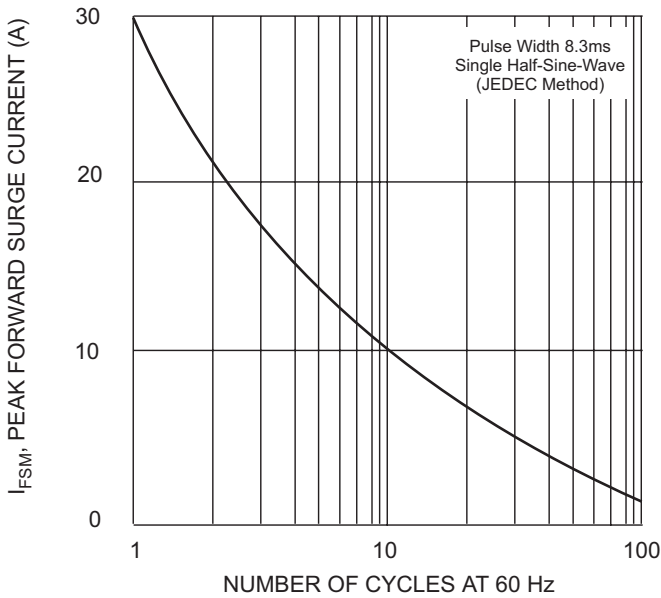


Fig. 3 Peak Forward Surge Current

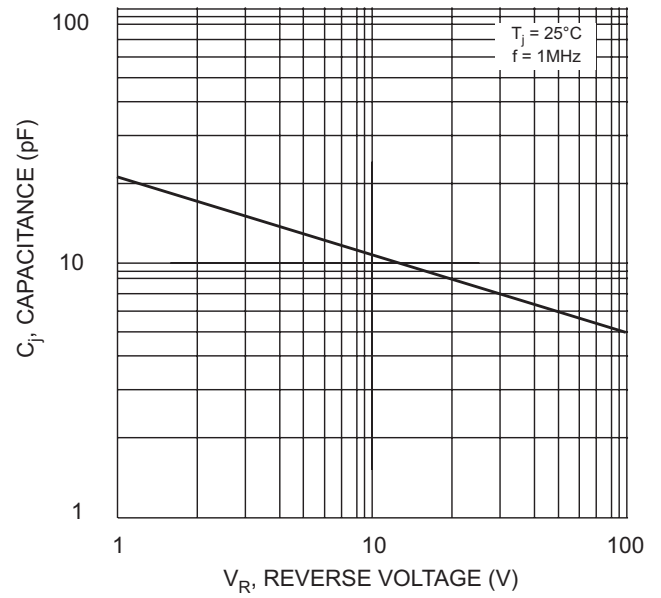
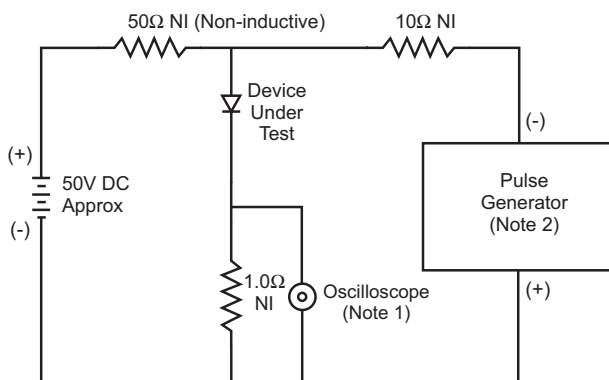
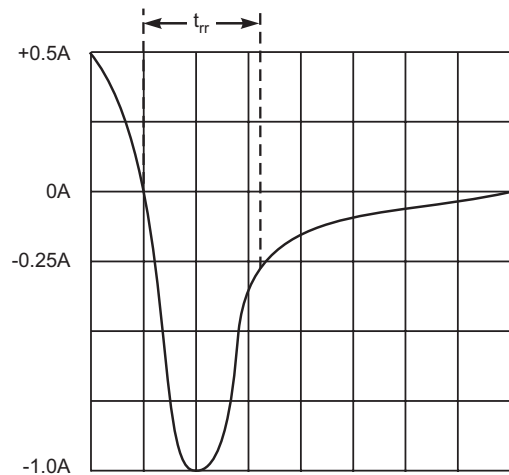


Fig. 4 Typical Junction Capacitance



- Notes:  
 1. Rise Time = 7.0ns max. Input Impedance = 1.0M $\Omega$ , 22pF.  
 2. Rise Time = 10ns max. Input Impedance = 50 $\Omega$ .



Set time base for 5/10ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

## ORDERING INFORMATION

Product No.◆	Package Type	Shipping Quantity
FR101-T3	DO-41	5000/Tape & Reel
<b>FR101-TB</b>	DO-41	5000/Tape & Box
FR101	DO-41	1000 Units/Box
FR102-T3	DO-41	5000/Tape & Reel
<b>FR102-TB</b>	DO-41	5000/Tape & Box
FR102	DO-41	1000 Units/Box
FR103-T3	DO-41	5000/Tape & Reel
<b>FR103-TB</b>	DO-41	5000/Tape & Box
FR103	DO-41	1000 Units/Box
FR104-T3	DO-41	5000/Tape & Reel
<b>FR104-TB</b>	DO-41	5000/Tape & Box
FR104	DO-41	1000 Units/Box
FR105-T3	DO-41	5000/Tape & Reel
<b>FR105-TB</b>	DO-41	5000/Tape & Box
FR105	DO-41	1000 Units/Box
FR106-T3	DO-41	5000/Tape & Reel
<b>FR106-TB</b>	DO-41	5000/Tape & Box
FR106	DO-41	1000 Units/Box
FR107-T3	DO-41	5000/Tape & Reel
<b>FR107-TB</b>	DO-41	5000/Tape & Box
FR107	DO-41	1000 Units/Box

Products listed in **bold** are WTE **Preferred** devices.

◆T3 suffix refers to a 13" reel. TB suffix refers to Ammo Pack.

Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.

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**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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