

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							μA
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.

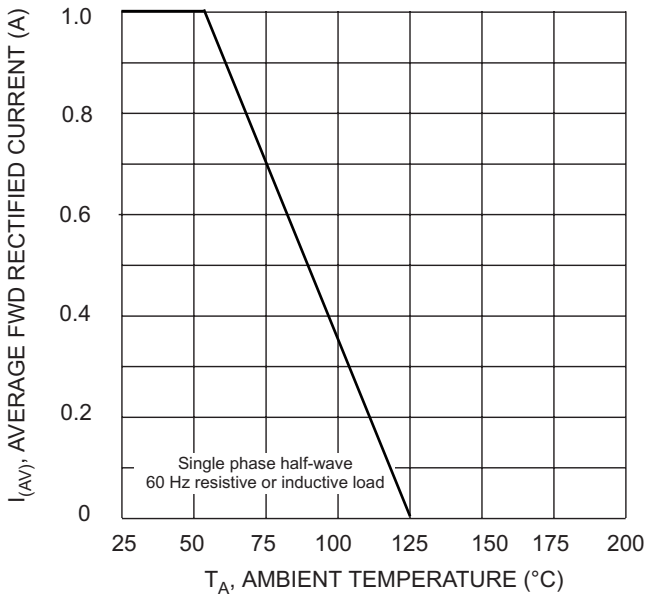


Fig. 1 Forward Derating Curve

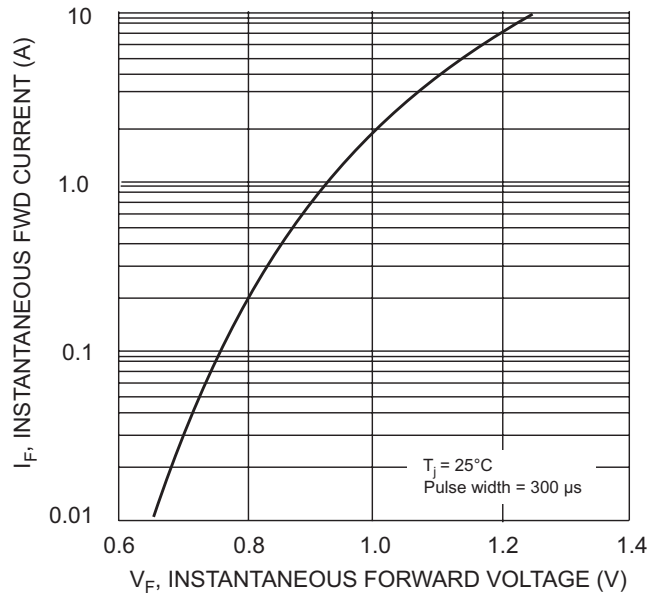


Fig. 2 Typical Forward Characteristics

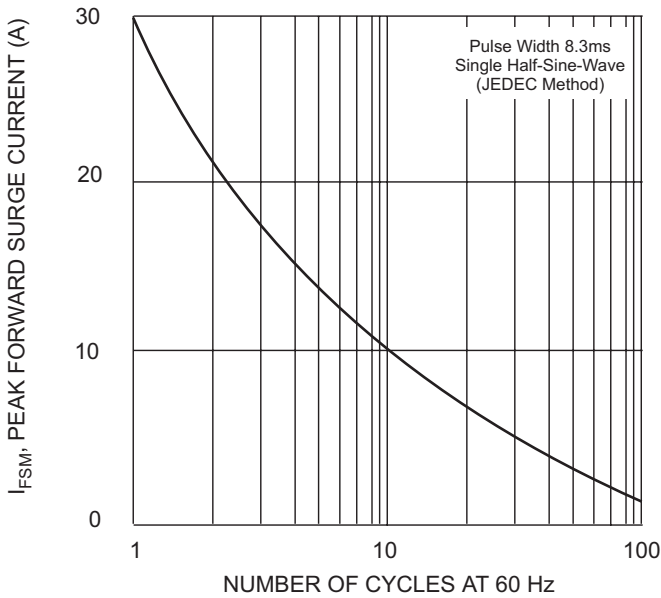


Fig. 3 Peak Forward Surge Current

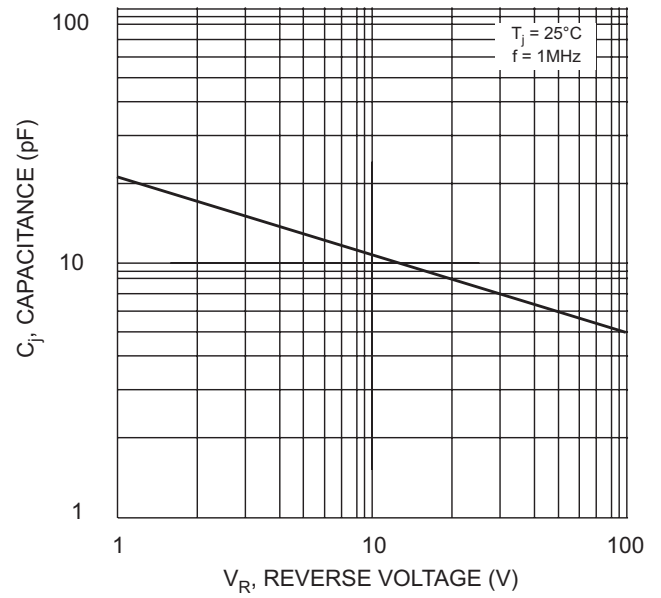
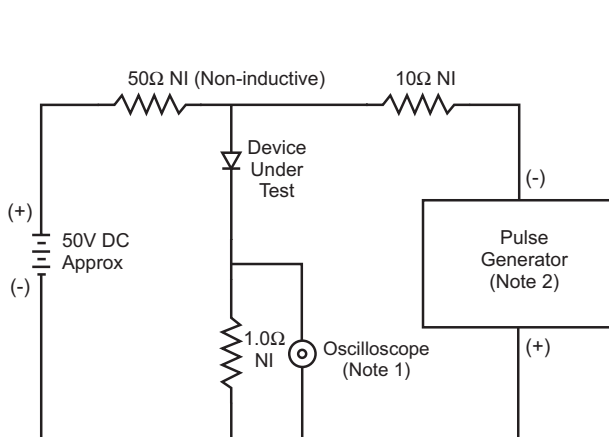
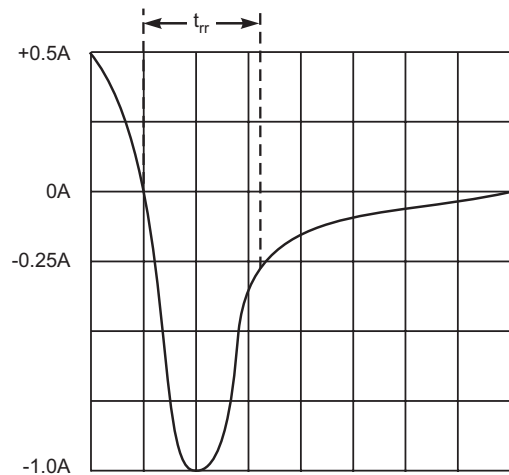


Fig. 4 Typical Junction Capacitance



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



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
FR101-TB	DO-41	5000/Tape & Box
FR101	DO-41	1000 Units/Box
FR102-T3	DO-41	5000/Tape & Reel
FR102-TB	DO-41	5000/Tape & Box
FR102	DO-41	1000 Units/Box
FR103-T3	DO-41	5000/Tape & Reel
FR103-TB	DO-41	5000/Tape & Box
FR103	DO-41	1000 Units/Box
FR104-T3	DO-41	5000/Tape & Reel
FR104-TB	DO-41	5000/Tape & Box
FR104	DO-41	1000 Units/Box
FR105-T3	DO-41	5000/Tape & Reel
FR105-TB	DO-41	5000/Tape & Box
FR105	DO-41	1000 Units/Box
FR106-T3	DO-41	5000/Tape & Reel
FR106-TB	DO-41	5000/Tape & Box
FR106	DO-41	1000 Units/Box
FR107-T3	DO-41	5000/Tape & Reel
FR107-TB	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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