

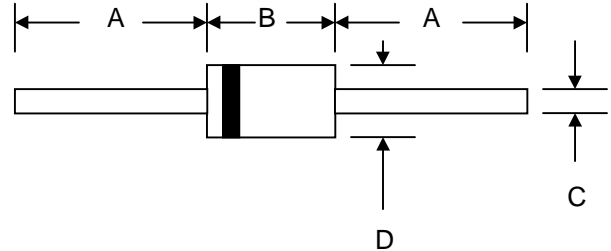


FR301 – FR307

3.0A FAST RECOVERY RECTIFIER

Features

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



DO-201AD		
Dim	Min	Max
A	25.4	—
B	8.50	9.50
C	1.20	1.30
D	5.0	5.60
All Dimensions in mm		

Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 1.2 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- Epoxy: UL 94V-O rate flame retardant

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	FR301	FR302	FR303	FR304	FR305	FR306	FR307	Unit
Peak Repetitive Reverse Voltage	V_{RRM}								
Working Peak Reverse Voltage	V_{RWM}	50	100	200	400	600	800	1000	V
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) @ $T_A = 55^\circ\text{C}$	I_o	3.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150							A
Forward Voltage @ $I_F = 3.0\text{A}$	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}	10 150							μA
Reverse Recovery Time (Note 2)	t_{rr}	150			250	500			nS
Typical Junction Capacitance (Note 3)	C_j	60							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.

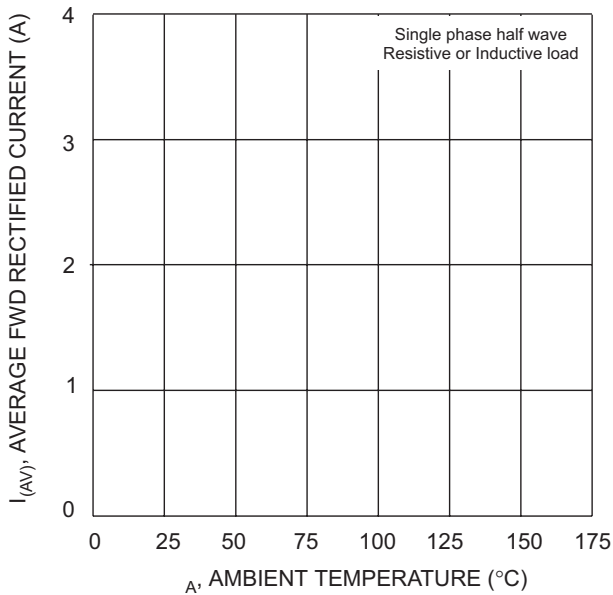


Fig. 1 Forward Derating Curve

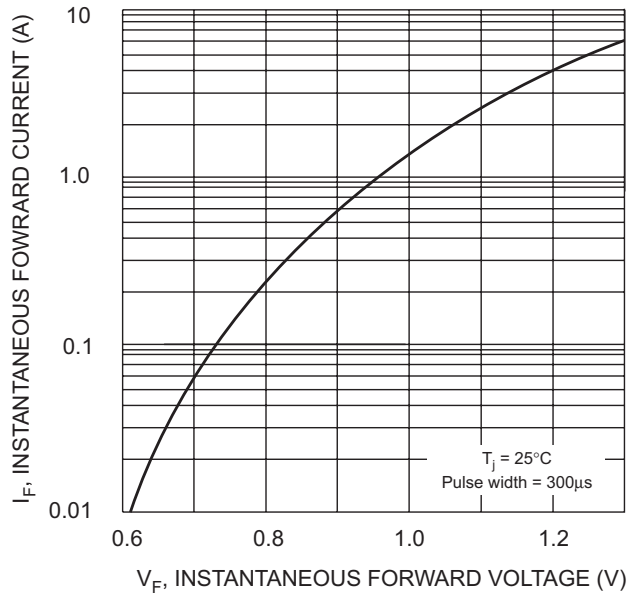


Fig. 2 Typical Forward Characteristics

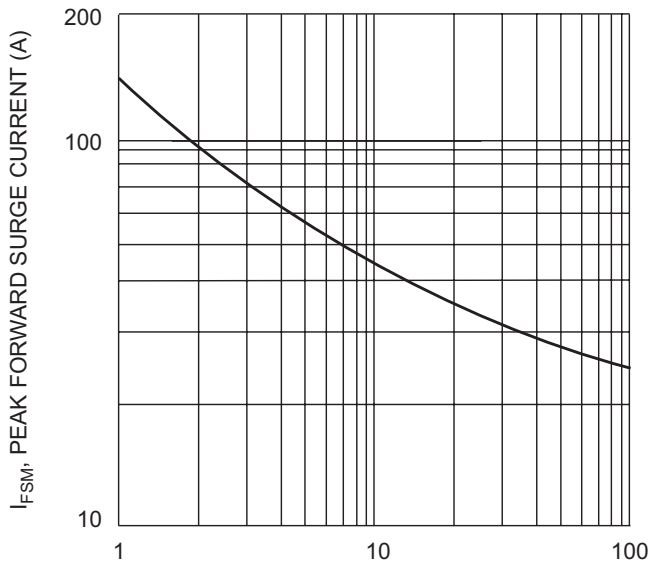


Fig. 3 Peak Forward Surge Current

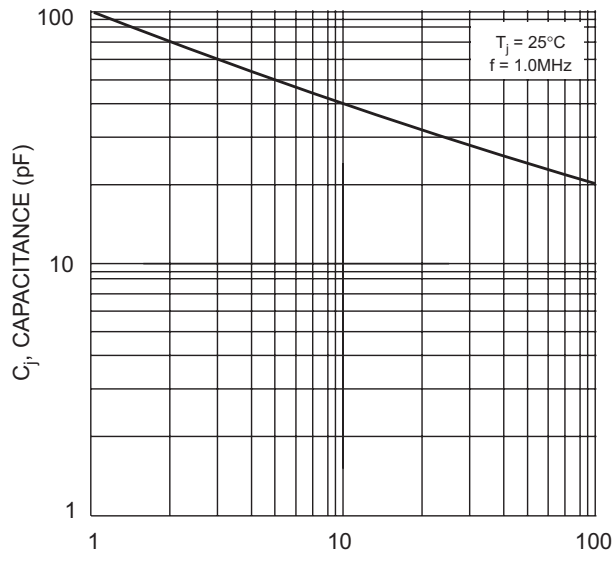
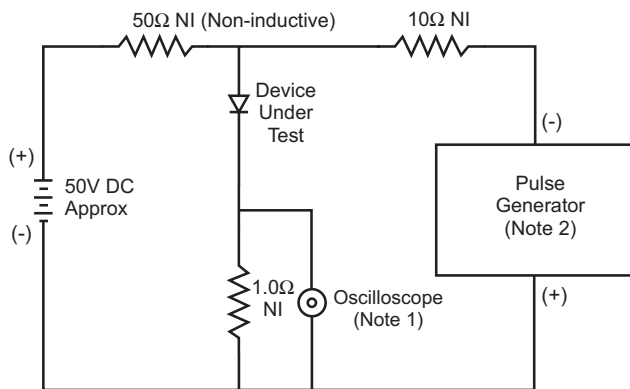
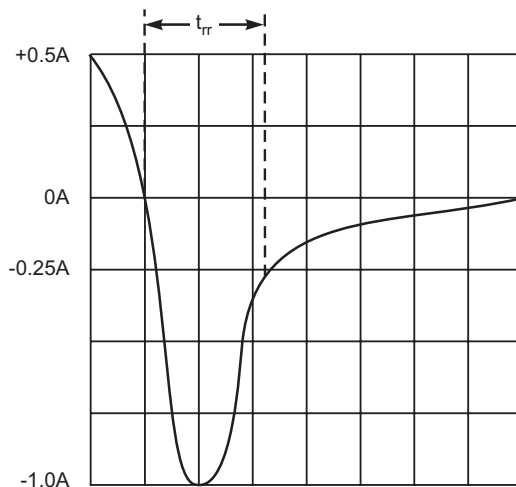


Fig. 4 Typical Junction Capacitance



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
FR301-T3	DO-201AD	1200/Tape & Reel
FR301-TB	DO-201AD	1200/Tape & Box
FR301	DO-201AD	500 Units/Box
FR302-T3	DO-201AD	1200/Tape & Reel
FR302-TB	DO-201AD	1200/Tape & Box
FR302	DO-201AD	500 Units/Box
FR303-T3	DO-201AD	1200/Tape & Reel
FR303-TB	DO-201AD	1200/Tape & Box
FR303	DO-201AD	500 Units/Box
FR304-T3	DO-201AD	1200/Tape & Reel
FR304-TB	DO-201AD	1200/Tape & Box
FR304	DO-201AD	500 Units/Box
FR305-T3	DO-201AD	1200/Tape & Reel
FR305-TB	DO-201AD	1200/Tape & Box
FR305	DO-201AD	500 Units/Box
FR306-T3	DO-201AD	1200/Tape & Reel
FR306-TB	DO-201AD	1200/Tape & Box
FR306	DO-201AD	500 Units/Box
FR307-T3	DO-201AD	1200/Tape & Reel
FR307-TB	DO-201AD	1200/Tape & Box
FR307	DO-201AD	500 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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