

FR301 – FR307

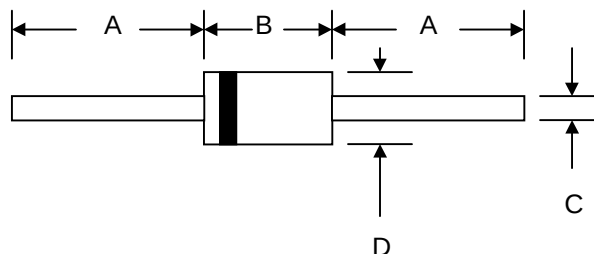
3.0A FAST RECOVERY RECTIFIER

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: 1.2 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- Epoxy: UL 94V-O rate flame retardant



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		

Maximum Ratings and Electrical Characteristics @T_A=25°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 Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	V _{R(RMS)}	35	70	140	280	420	560	700	V
Average Rectified Output Current (Note 1) @T _A = 55°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 = 3.0A	V _{FM}	1.2							V
Peak Reverse Current @T _A = 25°C At Rated DC Blocking Voltage @T _A = 100°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							°C
Storage Temperature Range	T _{STG}	-65 to +150							°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 = 0.5A, I_R = 1.0A, I_{RR} = 0.25A. See figure 5.

3. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

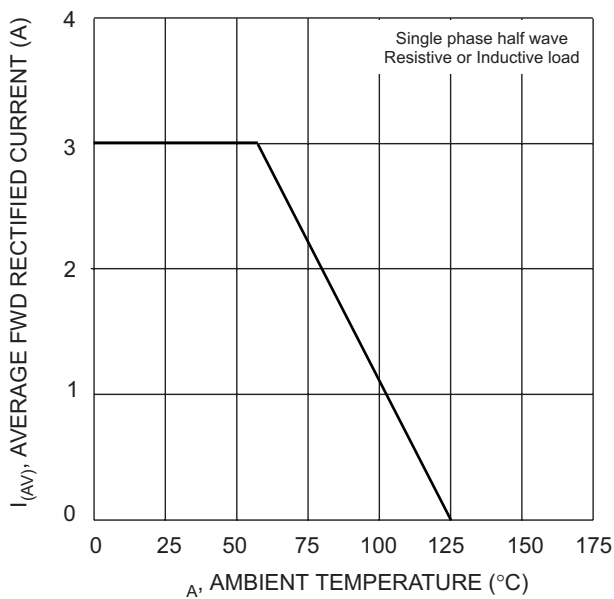


Fig. 1 Forward Derating Curve

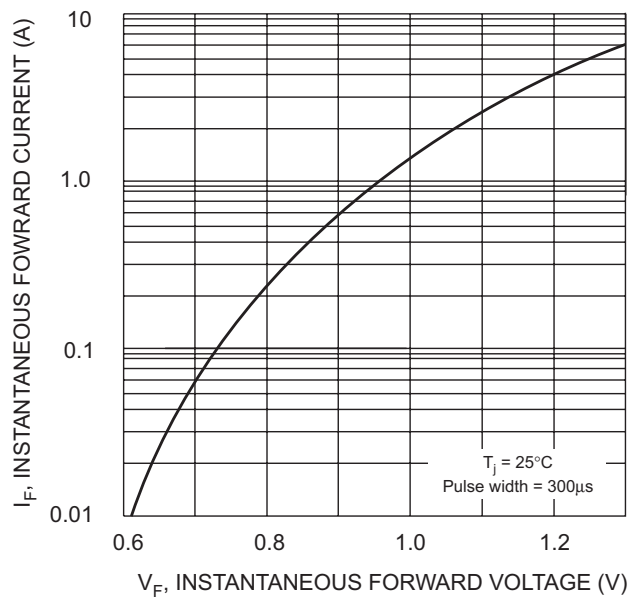


Fig. 2 Typical Forward Characteristics

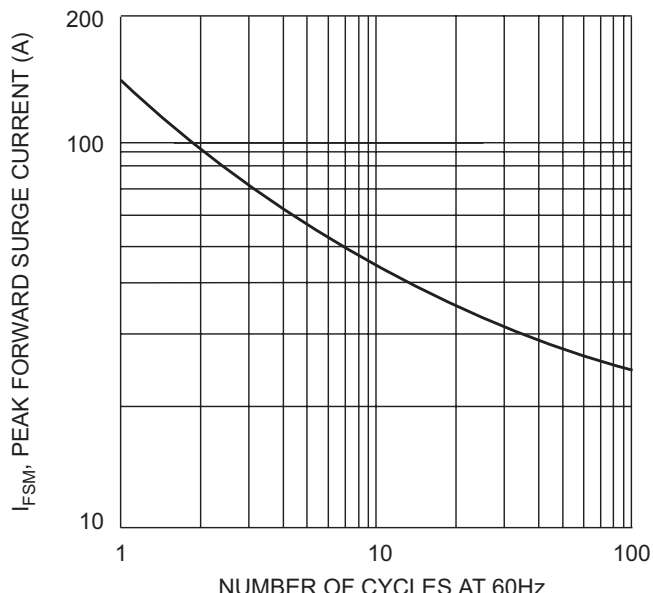


Fig. 3 Peak Forward Surge Current

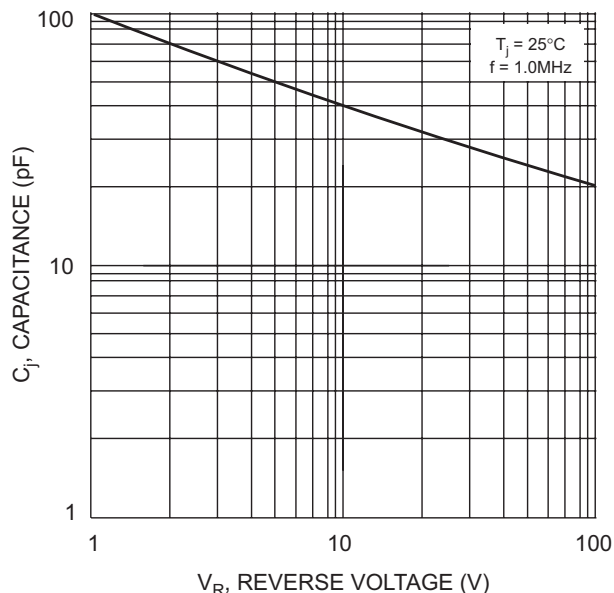
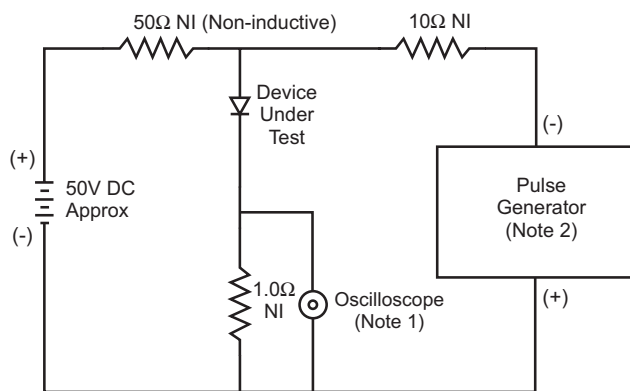


Fig. 4 Typical Junction Capacitance



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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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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