

# Fast Recovery Rectifiers

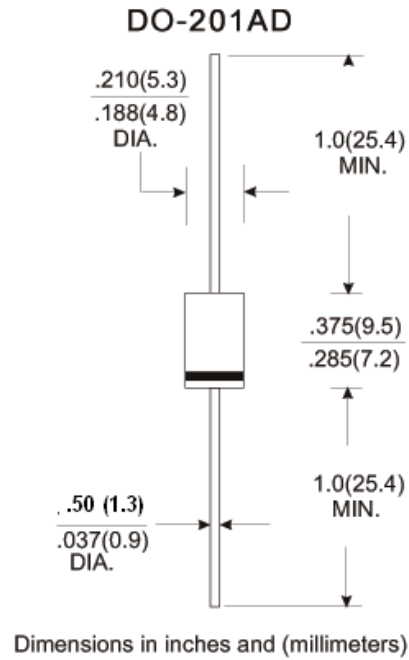
## FR301 THRU FR307 50 to 1000 V 3 A

### FEATURES

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability

### MECHANICAL DATA

- Case: Molded plastic
- Epoxy: UL 94V-O rate flame retardant
- Lead: Axial leads, solderable per MIL- STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end
- High temperature soldering guaranteed:  
250°C/10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- Mounting position: Any
- Weight: 1.2 grams



### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, Resistive or inductive load. For capacitive load, derate current by 20%

Type Number	Symbols	FR301	FR302	FR303	FR304	FR305	FR306	FR307	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current. 375" (9.5mm) Lead Length @ $T_A=55^\circ\text{C}$	$I_{(AV)}$	3.0							Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	125							Amp
Maximum instantaneous Forward Voltage at @3.0A	$V_F$	1.3							Volts
Maximum Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$	$I_R$	5.0 100							$\mu\text{Amp}$
Maximum Reverse Recovery Time (Note 1)	TRR	150				250	500		nS
Typical Junction Capacitance (Note 2)	$C_J$	60							pF
Operating and Storage Temperature Range	$T_J$ , $T_{STG}$	-55 to +150							$^\circ\text{C}$

### NOTES:

1. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$
2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.

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### RATINGS AND CHARACTERISTIC CURVES ( FR301 THRU FR307)

FIG .1 -REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

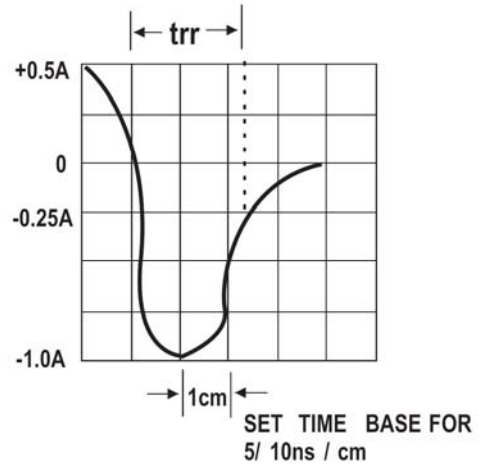
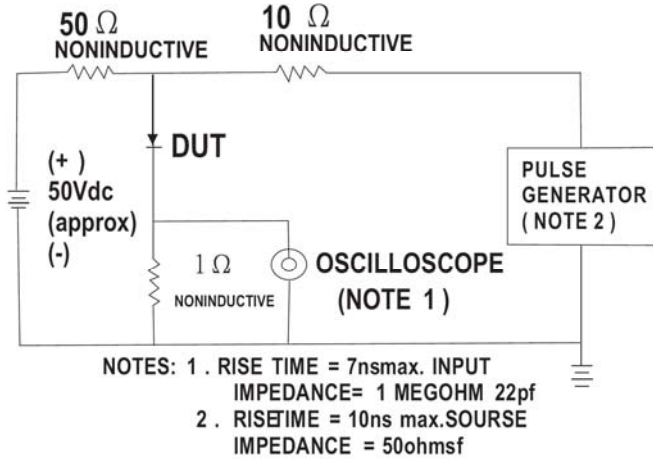


FIG .2- MAXIMUM FORWARD CURRENT DERATING CURVE

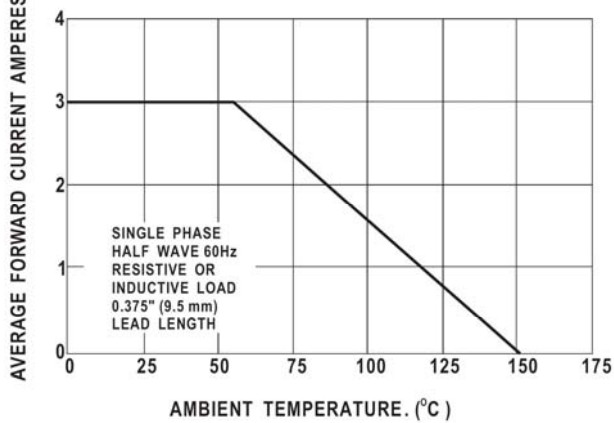


FIG .3 -MAXIMUM NON - REPETITIVE PEAK FORWARD SURGE CURRENT

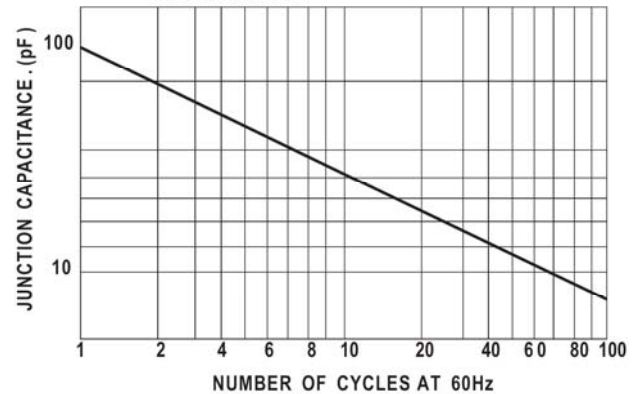


FIG .4 -TYPICAL FORWARD CHARACTERISTICS

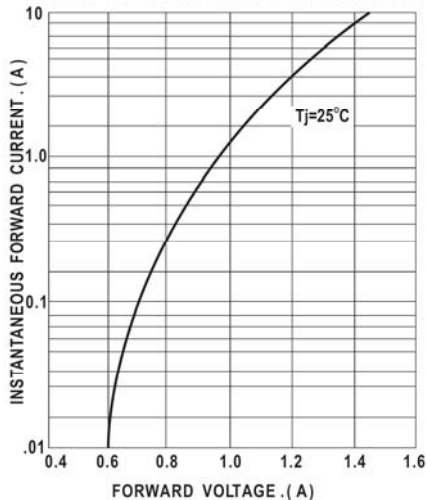


FIG .5 -TYPICAL JUNCTION CAPACITANCE

