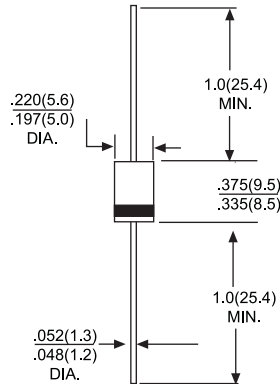


# FR301 THRU FR307

## 3.0 AMPS. FAST RECOVERY RECTIFIERS

**Voltage Range**  
50 to 1000 Volts  
**Current**  
3.0 Amperes

### DO-201AD



Dimensions in inches and (millimeters)

#### Features

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

#### Mechanical Data

- Cases: Molded plastic
- Epoxy: UL 94V-0 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
- Weight: 1.2 grams

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

Type Number		FR301	FR302	FR302	FR304	FR305	FR306	FR307	UNITS
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	v
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	v
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	v
Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length @T <sub>A</sub> = 55°C	I <sub>F(AV)</sub>	3.0							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I <sub>FSM</sub>	150							A
Maximum Instantaneous Forward Voltage @3.0A	V <sub>F</sub>	1.2							v
Maximum DC Reverse Current @ T <sub>A</sub> = 25°C at Rated DC Blocking Voltage @ T <sub>A</sub> = 100°C	I <sub>R</sub>	10 150							uA uA
Maximum Reverse Recovery Time (Note 1)	T <sub>RR</sub>	150				250	500		nS
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	60							pF
Operating Temperature Range	T <sub>J</sub>	-55 to +125							°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150							°C

NOTES: 1. Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A  
2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.

# RATING AND CHARACTERISTIC CURVES FR301 THRU FR307

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

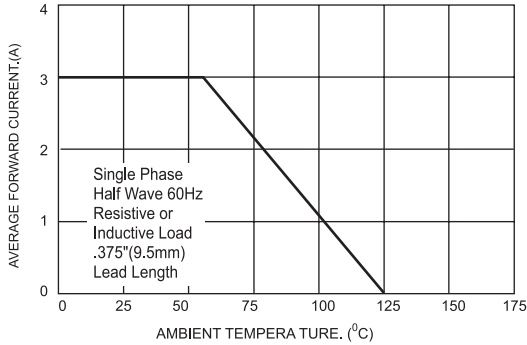


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

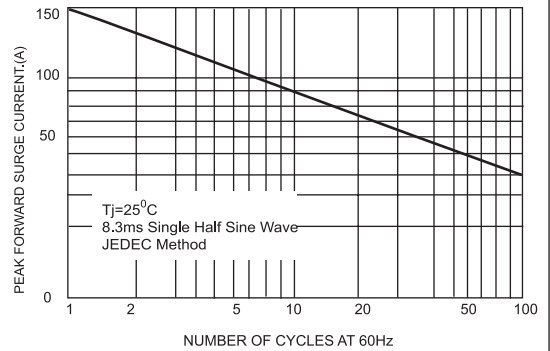


FIG.3-TYPICAL FORWARD CHARACTERISTICS

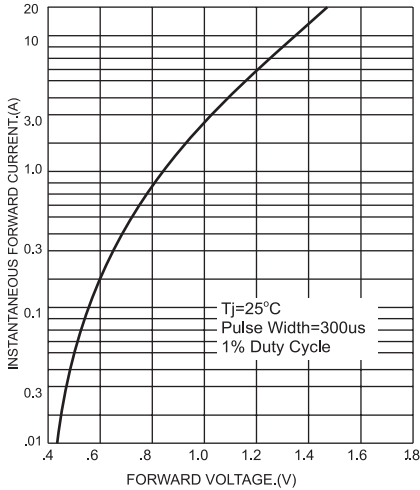


FIG.4- TYPICAL JUNCTION CAPACITANCE

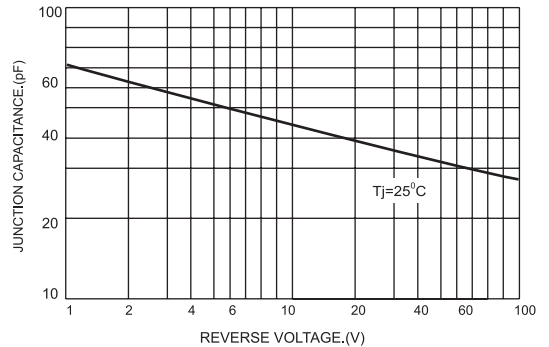
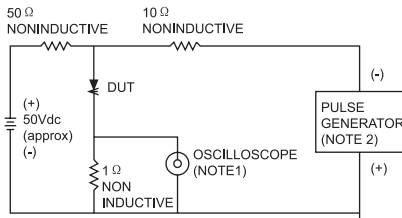


FIG.5- REVERSE RECOVER TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES:1. Rise Time=7ns max. Input Impedance=1 megohm 22pf  
2. Rise Time=10ns max. Source Impedance=50 ohms

