

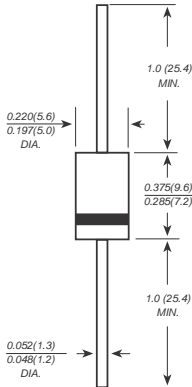


# FR301 THRU FR307

## FAST RECOVERY RECTIFIERS

Reverse Voltage - 50 to 1000 Volts Forward Current - 3.0 Amperes

### DO-201AD



Dimensions in inches and (millimeters)

### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Fast switching for high efficiency
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed:
  - ◆ 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** JEDEC DO-201AD molded plastic body  
**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Mounting Position:** Any  
**Weight:** 0.04 ounce, 1.10 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

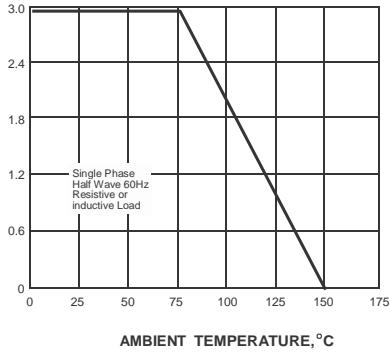
	SYMBOLS	FR 301	FR 302	FR 303	FR 304	FR 305	FR 306	FR 307	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	VOLTS
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	VOLTS
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	VOLTS
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=75$ C	$I_{(AV)}$	3.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	200.0							Amps
Maximum instantaneous forward voltage at 3.0A	$V_F$	1.3							Volts
Maximum DC reverse current $T_A=25$ C at rated DC blocking voltage $T_A=100$ C	$I_R$	5.0 100.0							$\mu A$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	150				250	500		ns
Typical junction capacitance (NOTE 2)	$C_J$	60.0							pF
Typical thermal resistance (NOTE 3)	$R_{JA}$	20.0							C/W
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +150							C

- Note:**
1. Reverse recovery condition  $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$
  2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
  3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

# RATINGS AND CHARACTERISTIC CURVES FR301 THRU FR307

AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT,  
AMPERES

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

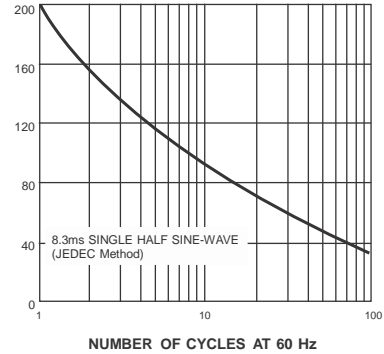


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

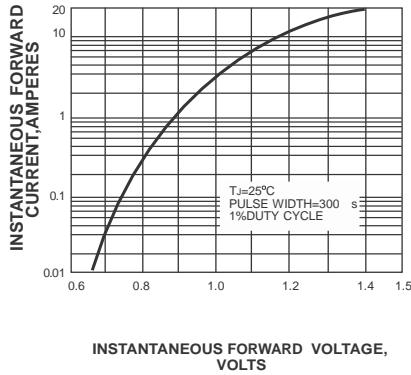


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

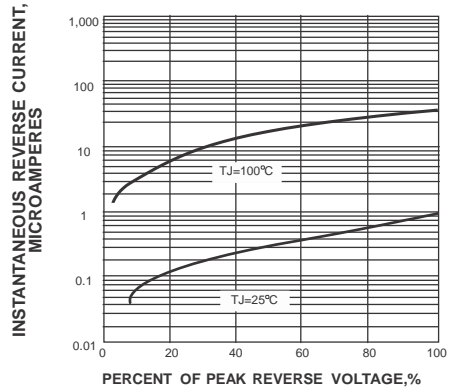


FIG. 5-TYPICAL JUNCTION CAPACITANCE

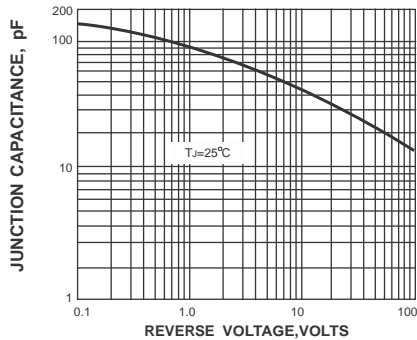


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

