

CURRENT 3.0 Ampere  
 VOLTAGE RANG 50 to 1000 Volts

FR301 THRU FR307

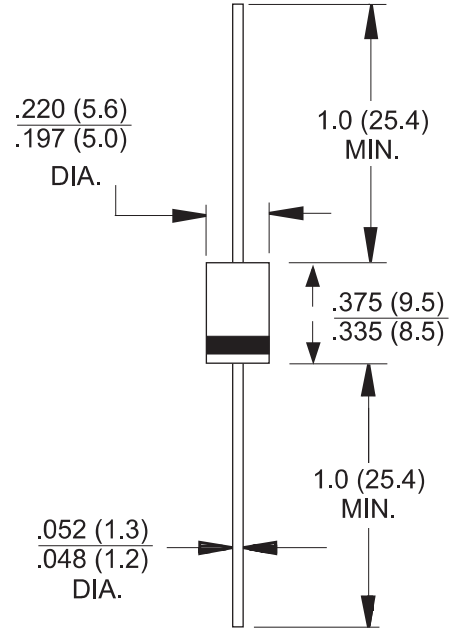
**DO-27 / DO-201AD**

**FEATURES**

- Low coat construction
- Fast switching for high efficiency.
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:  
 260 /10 secods/.375 (9.5mm)lead length at 5 lbs(2.3kg) tension

**MECHANICAL DATA**

- Case: Transfer molded plastic
- Epoxy: UL94V-O rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.042ounce, 1.19 grams



Dimensions in inches and (millimeters)

**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 derate current 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 $T_A=75$	$I_{(AV)}$	3.0							Amp
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	125							Amps
Maximum Instantaneous Forward Voltage @ 3.0A	$V_F$	1.3							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	$T_A = 25$	10							$\mu A$
	$T_A = 100$	500							
Maximum Reverse Recovery Time (Note 3) $T_J=25$	$t_{rr}$	150			250	500		ns	
Typical Junction Capacitance (Note 1)	$C_J$	60							pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	20							/W
Operating Junction Temperature Range	$T_J$	(-55 to +150)							
Storage Temperature Range	$T_{STG}$	(-55 to +150)							

**Notes:**

- 1.Measured at 1.0MHz and Applied Reverse Voltage of 4.0Volits.
- 2 Thermal Resistance from junction to Ambient at .375 (9.5mm)lead length, P.C.board mounted.
- 3.Reverse Recovery Test Conditions:If=0.5mA,Ir=1.0mA,Irr=0.25A

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**RATING AND CHARACTERISTIC CURVES FR301 Thru FR307**

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

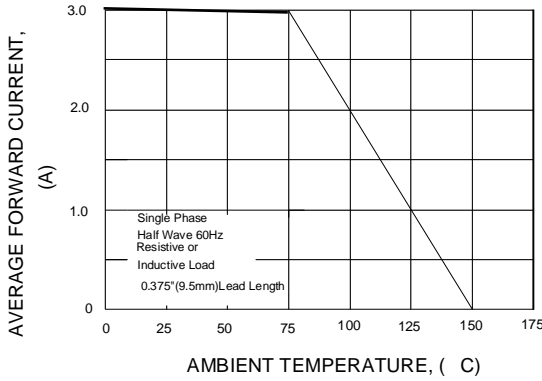


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

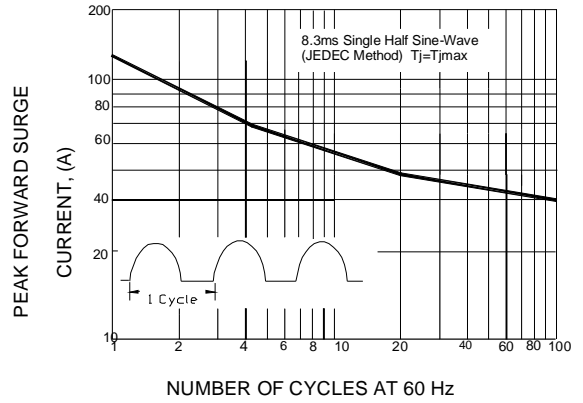


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

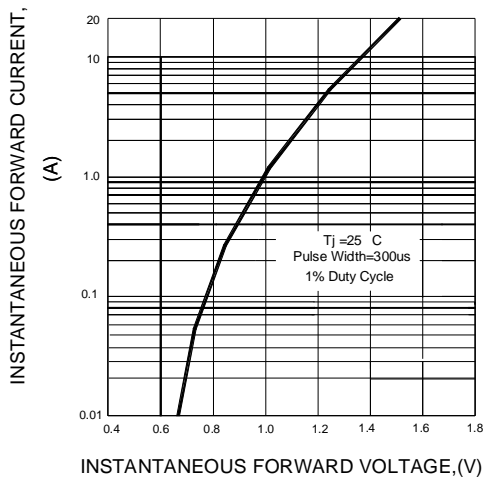


FIG.5-TYPICAL JUNCTION CAPACITANCE

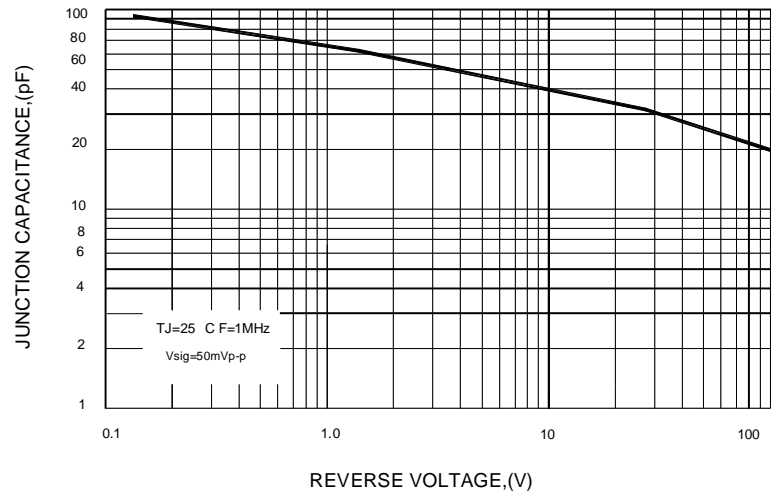


FIG.4-TYPICAL REVERSE CHARACTERISTICS

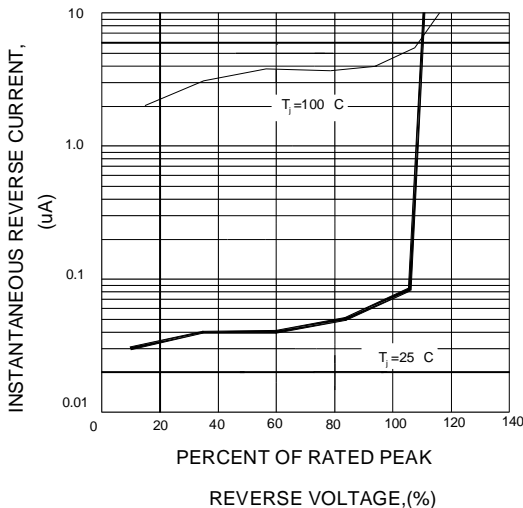
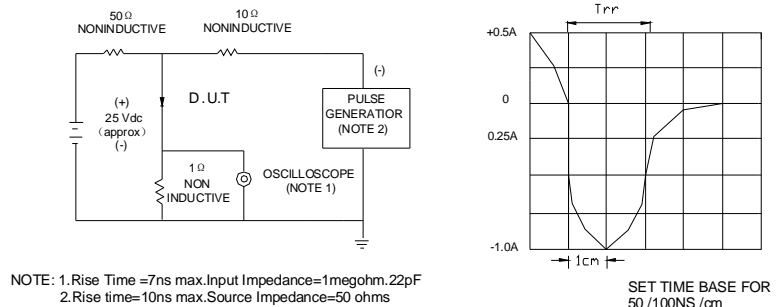


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTE: 1. Rise Time =7ns max. Input Impedance=1 megohm. 22pF  
 2. Rise time=10ns max. Source Impedance=50 ohms

SET TIME BASE FOR 50 /100NS /cm