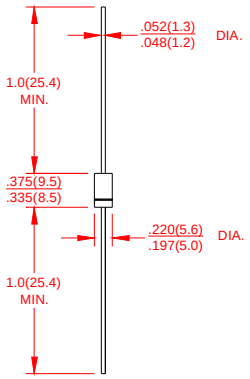
FAST RECOVER RECTIFIER

FR301 THRU FR307

VOLTAGE RANGE **50 to 1000 Volts**
CURRENT **3.0Ampere**

DO-27



Dimensions in inches and (millimeters)

FEATURES

- Low coat construction
- Fast switching for high efficency.
- 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

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℃	I_R	10							μA
Maximum DC Reverse Current at Rated DC Blocking Voltage T_A = 100℃		500							
Maximum Reverse Recovery Time (Note 3) T_J=25℃	trr	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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	CURRENT	3.0Ampere

RATING AND CHRACTERISTIC CURVES FR301 THRU FR307

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

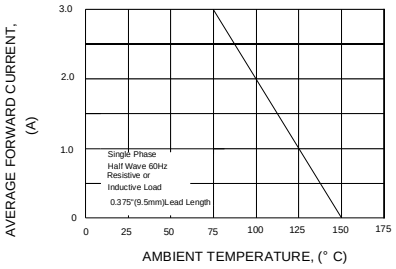


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

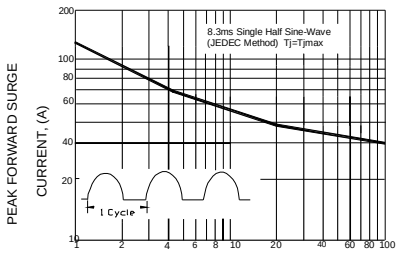


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

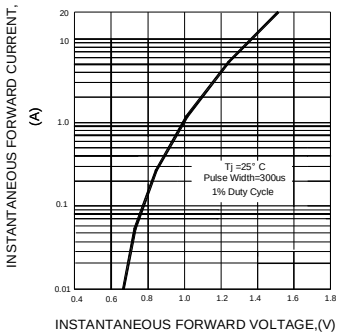


FIG.4-TYPICAL REVERSE CHARACTERISTICS

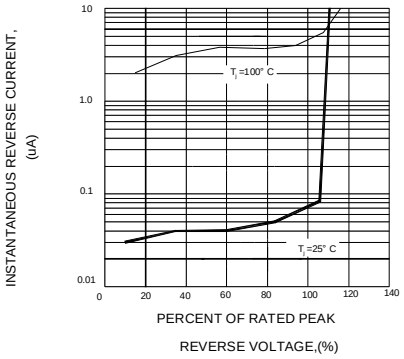


FIG.5-TYPICAL JUNCTION CAPACITANCE

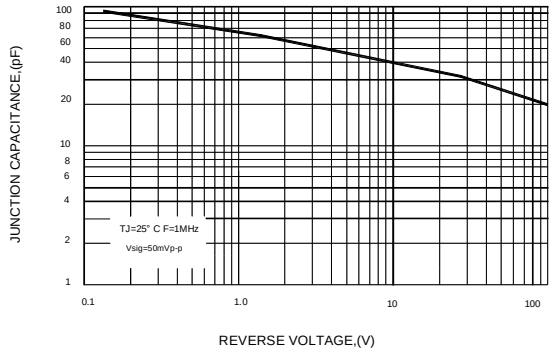
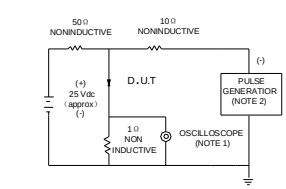
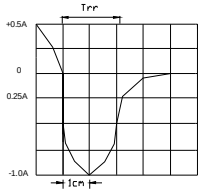


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE REXOVERY TIME CHARACTERISTIC



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



SET TIME BASE FOR
50 /100NS /cm

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