

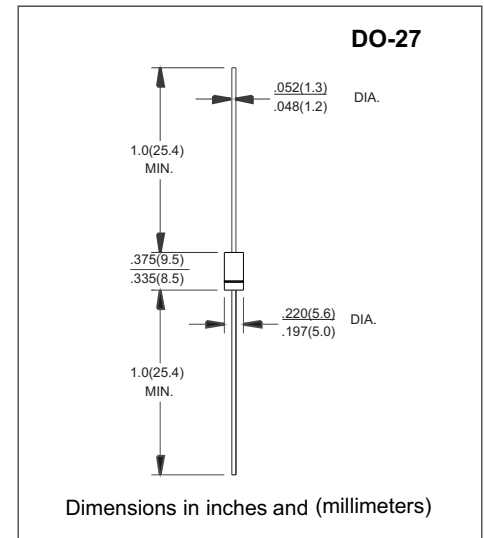
FAST RECOVERY RECTIFIER

FEATURES

- Low cost construction
- Fast switching for high efficiency.
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:
260°C/10 seconds/.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 $T_A=75^\circ\text{C}$	$I_{(AV)}$	3.0							Amp
Peak Forward Surge Current 8 3mS single half sine wave superimposed on rated load (JEDEC method)	I_{FSM}	125							Amps
Maximum Instantaneous Forward Voltage @ 3.0A	V_F	1.3							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	$T_A = 25^\circ\text{C}$	10							μA
	$T_A = 100^\circ\text{C}$	500							
Maximum Reverse Recovery Time (Note 3) $T_J=25^\circ\text{C}$	t_{rr}	150				250	500		ns
Typical Junction Capacitance (Note 1)	C_J	60							pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	20							$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	T_J	(-55 to +150)							$^\circ\text{C}$
Storage Temperature Range	T_{STG}	(-55 to +150)							$^\circ\text{C}$

Notes:

1. Measured at 1.0MHz and Applied Reverse Voltage of 4.0Volts.
2. Thermal Resistance from junction to Ambient at .375"(9.5mm)lead length, P.C.board mounted.
3. Reverse Recovery Test Conditions: $I_f=0.5\text{mA}$, $I_r=1.0\text{mA}$, $I_{rr}=0.25\text{A}$

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RATING AND CHARACTERISTIC CURVES FR301 - FR307

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

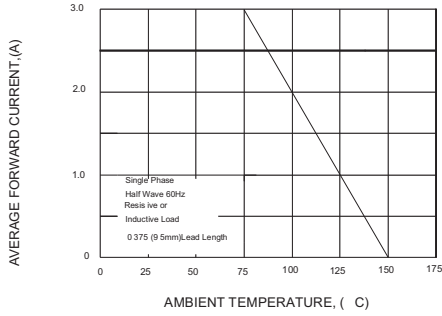


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

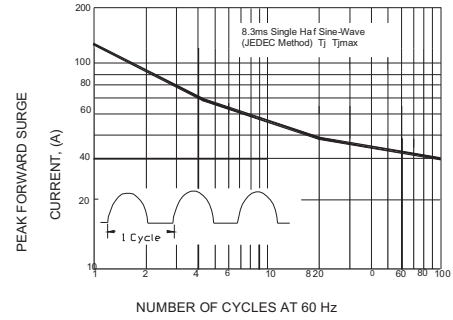


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

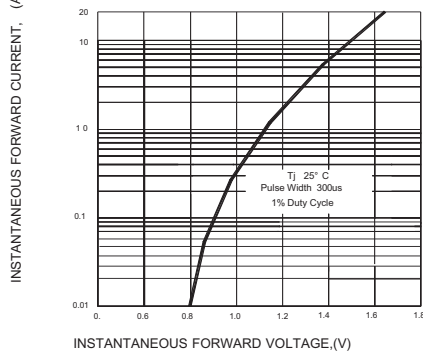


FIG.4-TYPICAL REVERSE CHARACTERISTICS

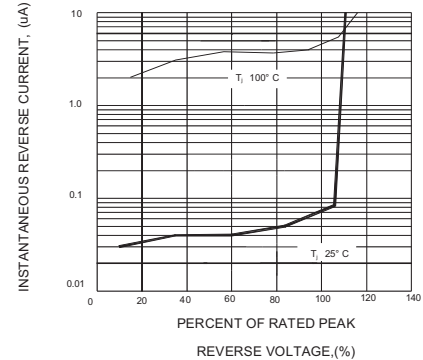


FIG.5-TYPICAL JUNCTION CAPACITANCE

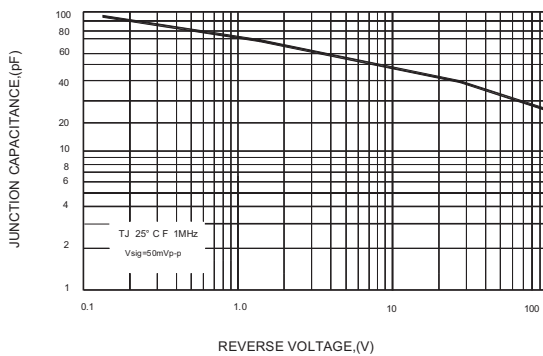
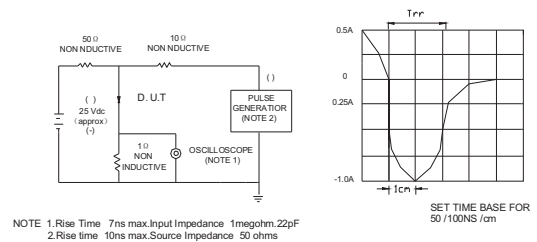


FIG.6 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



Disclaimer

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