

FR301 THRU FR308

FAST RECOVERY RECTIFIER

REVERSE VOLTAGE 50 to 1000 Volts FORWARD CURRENT 3.0 Ampere

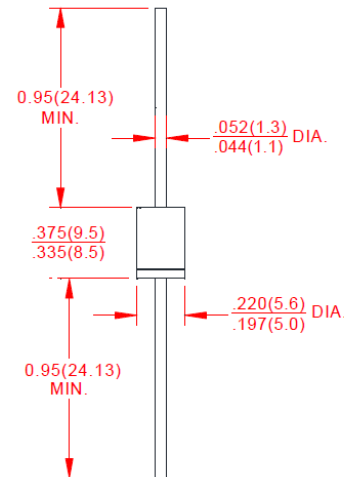
FEATURES

- ◆ Fast speed switching
- ◆ Low forward voltage drop
- ◆ Low leakage current
- ◆ High forward surge capability
- ◆ High reliability
- ◆ High temperature soldering guaranteed:
260°C/10 seconds, 0.375" (9.5mm) lead length at
5 lbs(2.3kg) tension

Mechanical Data

- ◆ Case: Transfer molded plastic
- ◆ Epoxy: UL94V-0 rate flame retardant
- ◆ Polarity: Color band denotes cathode end
- ◆ Lead: Plated axial lead, solderable per
MIL-STD-202E method 208°C
- ◆ Mounting position: Any

DO-201AD(DO-27)



Dimensions in inches and (millimeters)

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%

	SYMBOL	FR301	FR302	FR303	FR304	FR305	FR306	FR308	UNIT
Maximum Recurrent 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 at $T_A=55^\circ\text{C}$	$I_{(AV)}$	3.0							Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC method)	I_{FSM}	150							Amps
Maximum Instantaneous Forward Voltage at 3.0A	V_F	1.2							Volts
Maximum DC Reverse Current $T_A=25^\circ\text{C}$ at rated DC Blocking voltage $T_A=100^\circ\text{C}$	I_R	5.0 100							μA
Maximum Reverse Recovery Time (NOTE 1)	T_{RR}	150			250		500		nS
Typical Junction Capacitance (NOTE 2)	C_J	60							pF
Typical Thermal Resistance (NOTE 3)	$R_{\theta JA}$	40							$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150							$^\circ\text{C}$

Note: 1.Reverse Recovery Test Conditions: $I_f=0.5\text{A}$, $I_r=1.0\text{A}$, $I_{rr}=0.25\text{A}$.

2.Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.

3.Thermal Resistance From Junction to Ambient at. 375"(9.5mm)lead length, P.C. board mounted.

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RATING AND CHARACTERISTIC CURVES FR301 THRU FR308

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

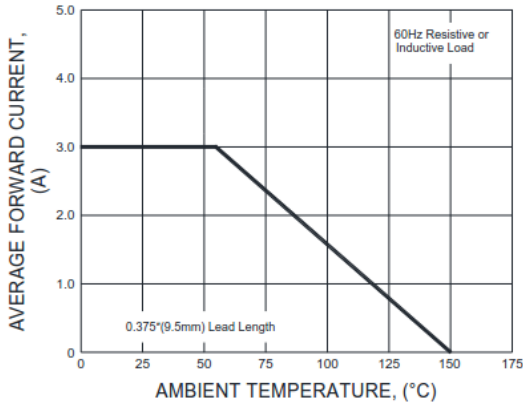


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

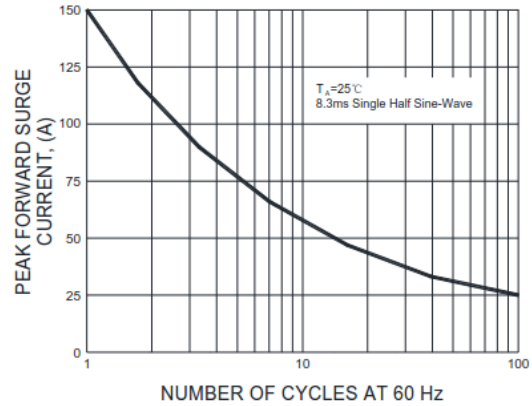


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

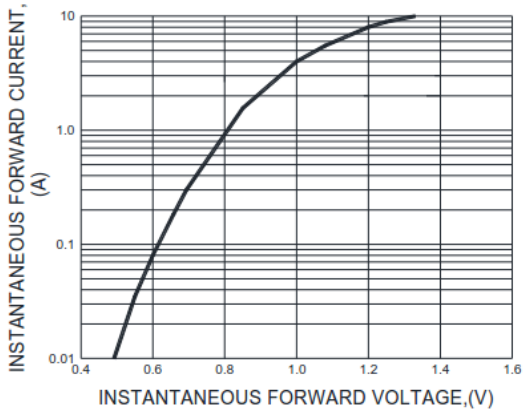


FIG.3-TYPICAL REVERSE CHARACTERISTICS

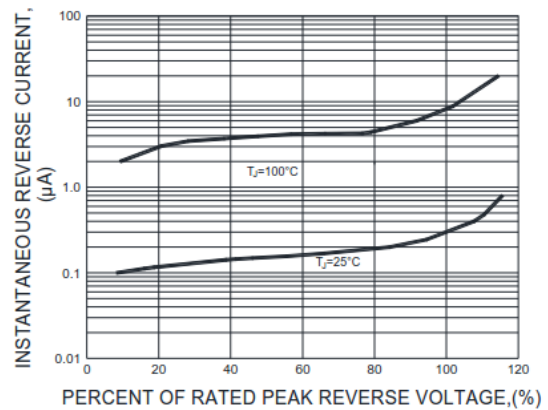


FIG.5-TYPICAL JUNCTION CAPACITANCE

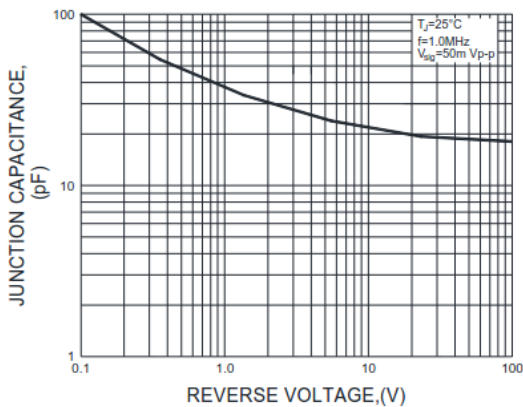
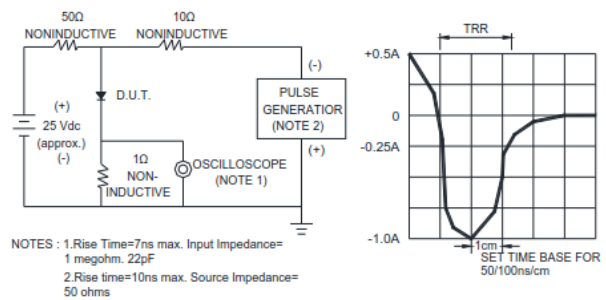


FIG.6-TEST CIRCUIT DIAGRAM AND FORWARD SURGE CURRENT



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

Note: Specifications are subject to change without notice. For more detail and update, please visit our website.