



FR301 THRU FR307

3.0 AMPS. Fast Recovery Rectifiers

	Voltage Range 50 to 1000 Volts Current 3.0 Amperes
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<p>Features</p> <ul style="list-style-type: none"> ✧ Low forward voltage drop ✧ High current capability ✧ High reliability ✧ High surge current capability <p>Mechanical Data</p> <ul style="list-style-type: none"> ✧ Cases: Molded plastic ✧ Epoxy: UL 94V-0 rate flame retardant ✧ Lead: Axial leads, solderable per MIL-STD- 202, Method 208 guaranteed ✧ Polarity: Color band denotes cathode end ✧ High temperature soldering guaranteed: 260°C/10 seconds/.375",(9.5mm) lead lengths at 5 lbs.,(2.3kg) tension ✧ Weight: 1.2 grams 	<p><u>DO-201AD</u></p> <p>Dimensions in inches and (millimeters)</p>
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Maximum Ratings and Electrical Characteristics

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

Type Number	Symbol	FR 301	FR 302	FR 303	FR 304	FR 305	FR 306	FR 307	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length @ $T_A = 55^\circ C$	$I_{(AV)}$	3.0							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150							A
Maximum Instantaneous Forward Voltage @ 3.0A	V_F	1.2							V
Maximum DC Reverse Current @ $T_A=25^\circ C$ at Rated DC Blocking Voltage @ $T_A=100^\circ C$	I_R	5 100							uA uA
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							°C/W
Operating Temperature Range	T_J	-65 to +150							°C
Storage Temperature Range	T_{STG}	-65 to +150							°C

Notes:1. Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=1.0A$, $I_{RR}=0.25A$
 2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.
 3. Mount on Cu-Pad Size 16mm x 16mm on P.C.B.

RATINGS AND CHARACTERISTIC CURVES (FR301 THRU FR307)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

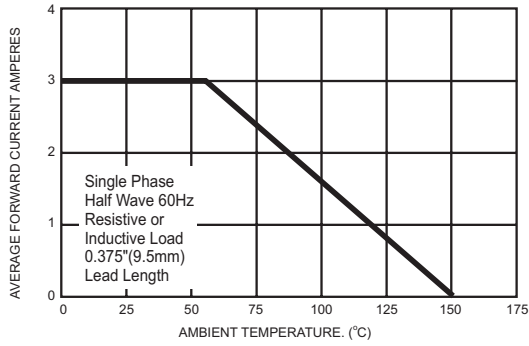


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

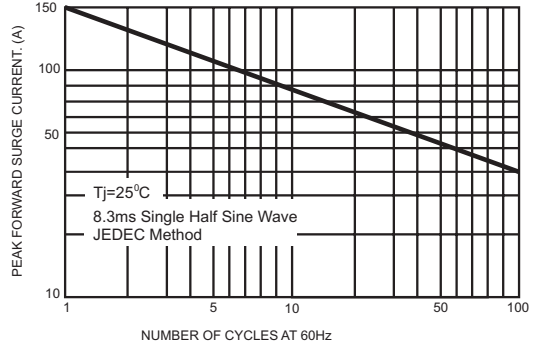


FIG.3- TYPICAL FORWARD CHARACTERISTICS

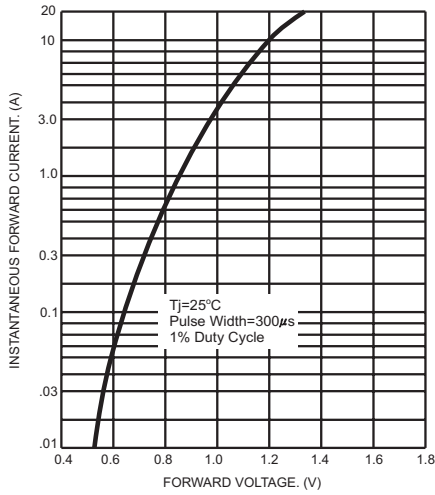


FIG.4- TYPICAL JUNCTION CAPACITANCE

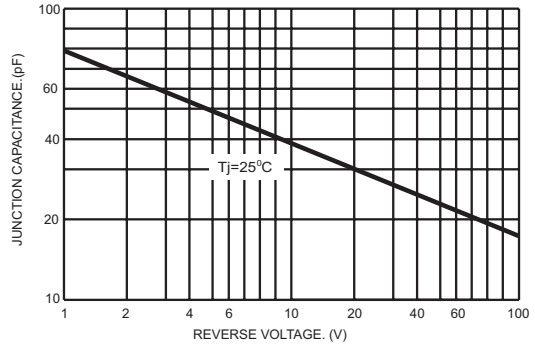
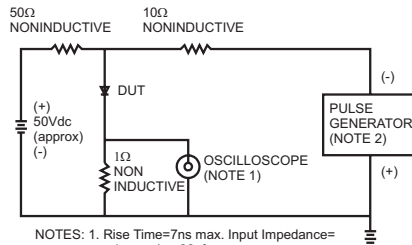


FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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

