

FR301 THRU FR307

FAST RECOVERY RECTIFIER



REVERSE VOLTAGE: 50 to 1000 VOLTS
FORWARD CURRENT: 3.0 AMPERE

FEATURES

- High surge current capability
- Void-free Plastic in a DO-201AD package.
- 3.0 ampere operation at $T_A=55^{\circ}\text{C}$ with no thermal runaway.
- Fast switching for high efficiency
- Exceeds environmental standards of MIL-S-19500/228
- Low leakage.

MECHANICAL DATA

Case: Molded plastic, DO-201AD

Epoxy: UL 94V-O rate flame retardant

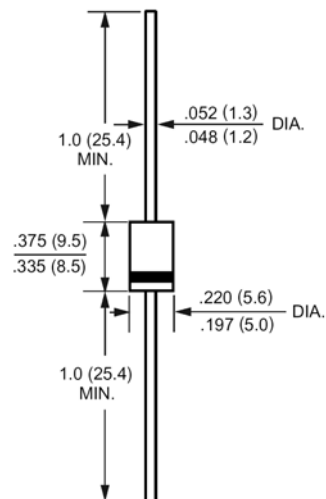
Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed

Polarity: Color band denotes cathode end

Mounting position: Any

Weight: 0.04ounce, 1.1gram

DO-201AD



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	FR301	FR302	FR303	FR304	FR305	FR306	FR307	Units
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 .375"(9.5mm) Lead Length at T _A =55℃	I _(AV)	3.0							Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I _{FSM}	200							Amp
Maximum Forward Voltage at 3.0A DC and 25℃	V _F	1.3							Volts
Maximum Reverse Current at T _A =25℃ at Rated DC Blocking Voltage T _A =100℃	I _R	10 100							uAmp
Typical Junction Capacitance (Note 1)	C _J	60							pF
Typical Thermal Resistance (Note 2)	R _{θJA}	22							℃/W
Maximum Reverse Recovery Time (Note 3)	T _{RR}	150				250	500		nS
Operating and Storage Temperature Range	T _J , T _{stg}	-55 to +150							℃

NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal Resistance From Junction to Ambient 0.375" (9.5mm) lead length P.C.B. Mounted with 0.8x0.8" (20x20mm) copper pads

3- Reverse Recovery Test Conditions: $I_F=.5\text{A}$, $I_R=1\text{A}$, $I_{RR}=.25\text{A}$.

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RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

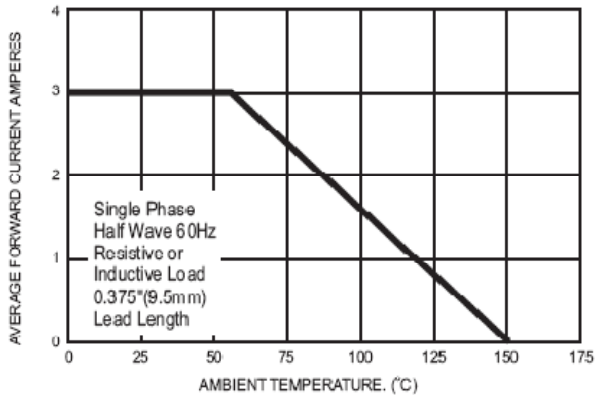


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

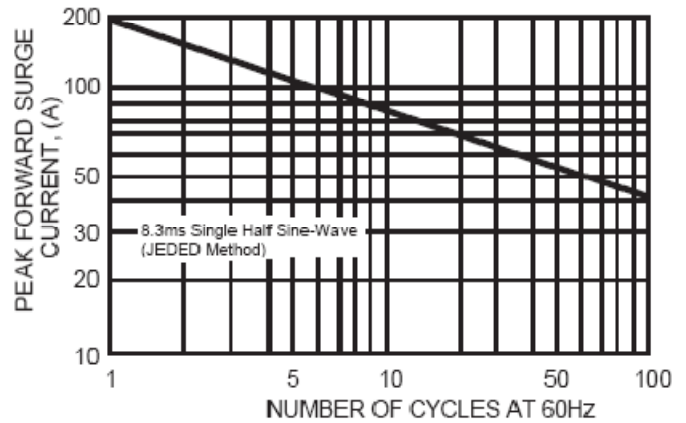


FIG.3- TYPICAL FORWARD CHARACTERISTICS

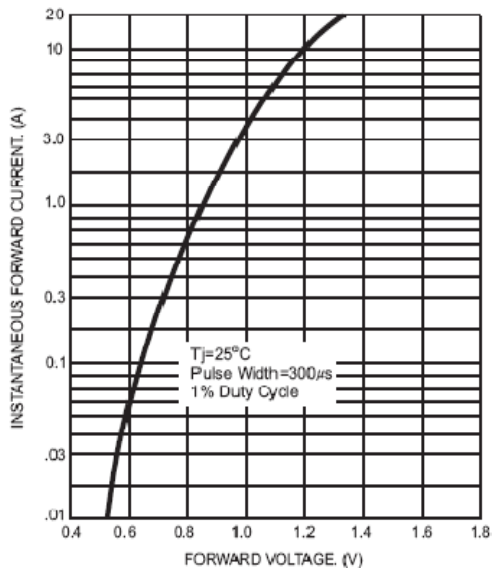


FIG.4- TYPICAL JUNCTION CAPACITANCE

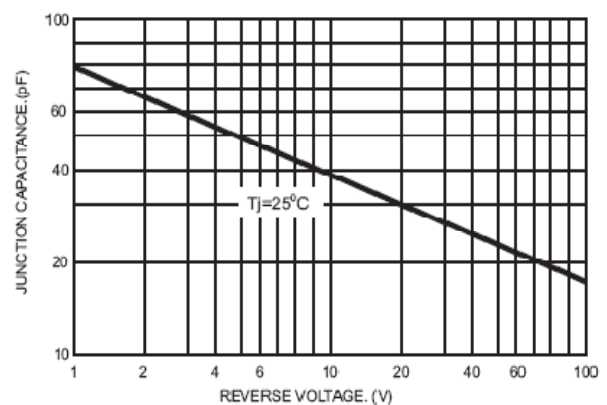
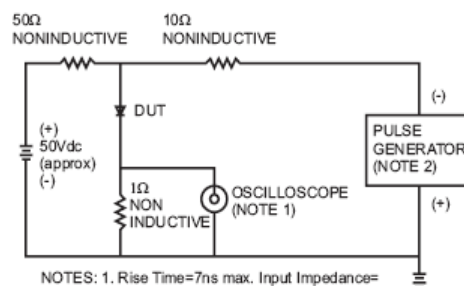


FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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

