

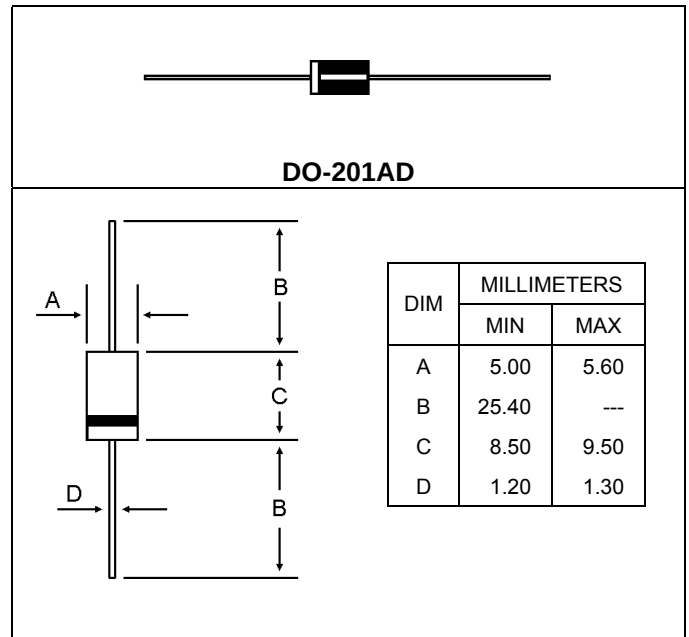
FAST RECOVERY RECTIFIER
Voltage range 50 TO 1000 Volts
Current 3.0 Ampere

FEATURES

- *Fast switching for high efficiency
- *Glass Passivated Chip junction
- *Low leakage
- *High temperature soldering guaranteed
260°C/10 seconds, 0.375"(9.5 mm) lead length
at 5 lbs(2.3kg) tension

MECHANICAL DATA

- *Case : Transfer Molded Plastic
- *Epoxy: UL94V-O rate flame retardant
- *Terminals : Plated axial lead, Solderable Per MIL-STD-202
Method 208
- *Polarity : Color band denotes cathode end
- *Mounting position: Any
- *Weight : 0.042 ounce. 1.19 gram (approx)



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 %

Characteristic	Symbol	FR301	FR302	FR303	FR304	FR305	FR306	FR307	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectifier Forward Current Per Leg $T_C=55^\circ\text{C}$	$I_{F(AV)}$	3.0							A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	I_{FSM}	125							A
Maximum Instantaneous Forward Voltage ($I_F=1.5$ Amp $T_C=25^\circ\text{C}$)	V_F	1.3							V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C=25^\circ\text{C}$) (Rated DC Voltage, $T_C=125^\circ\text{C}$)	I_R	5.0 500							uA
Reverse Recovery Time (Note 3)	T_{rr}	150				250	500		ns
Typical Junction Capacitance (Note 1)	C_j	40							pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	30							°C/W
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +175							°C

NOTES:

- 1.Measured at 1.0MHz and applied reverse voltage of 4.0 volts
- 2.Thermal Resistance from Junction to ambient at .375"(9.5mm)lead length, P.C. board mounted
- 3.Test conditions: $I_F=0.5$ A, $I_R=1.0$, $I_{RR}=0.25$ A

FR301 Thru FR307

FIG-1 TYPICAL FORWARD CHARACTERISTICS

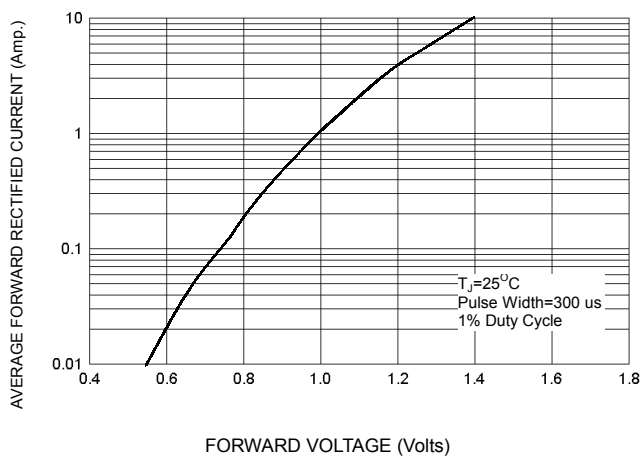


FIG-3 FORWARD CURRENT DERATING CURVE

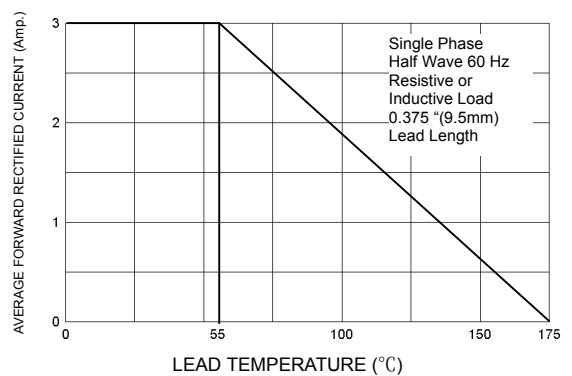


FIG-2 TYPICAL REVERSE CHARACTERISTICS

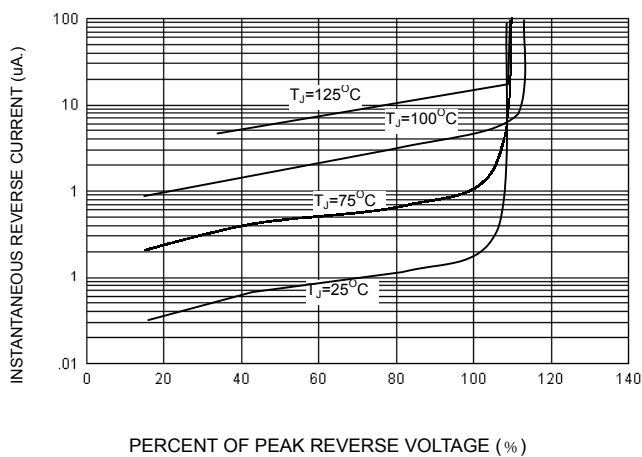


FIG-4 TYPICAL JUNCTION CAPACITANCE

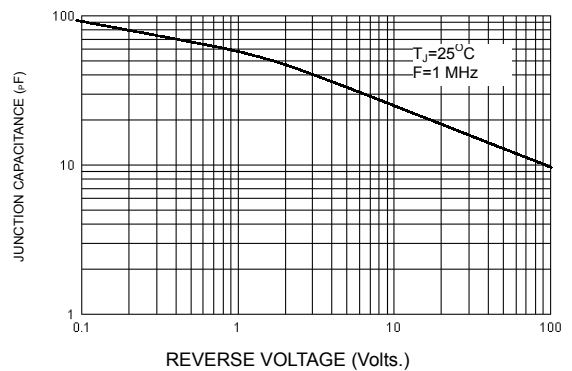
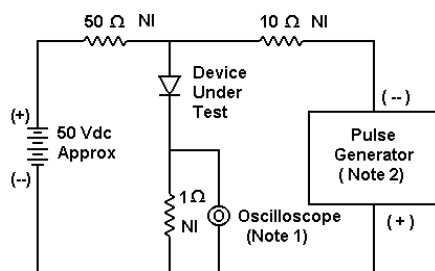
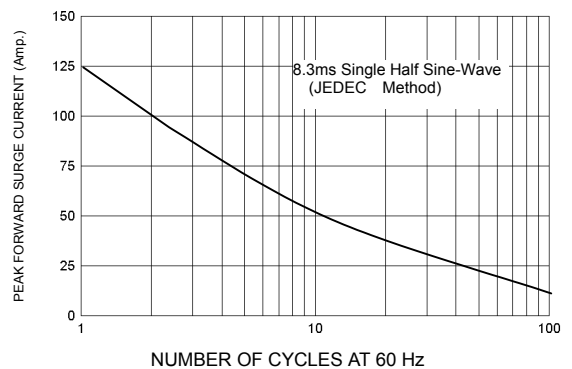
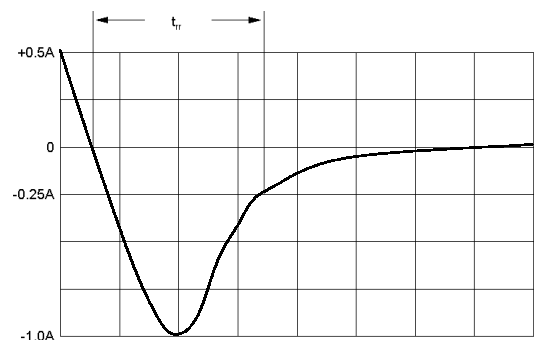


FIG-5 PEAK FORWARD SURGE CURRENT



- Notes:
 1. Rise Time = 7 ns max. Input Impedance = 1 M Ω , 22 pF
 2. Rise Time = 10 ns max. Input Impedance = 50 Ω



Set time base for 50/100 ns/cm

FIG-6 Reverse Recovery Time Characteristic and Test Circuit Diagram

