



FR301-FR309

3.0 AMP. Fast Recovery Rectifiers



DO-27/DO-201AD

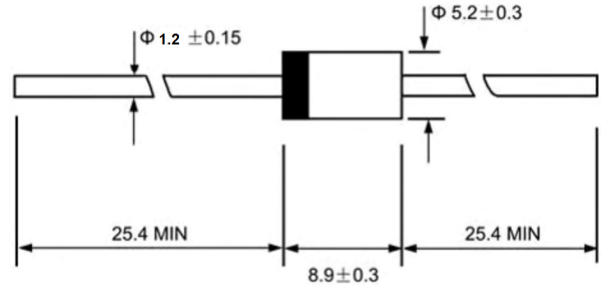


Features

- ◇ High efficiency, Low VF
- ◇ High current capability
- ◇ High reliability
- ◇ High surge current capability
- ◇ Low power loss.

Mechanical Data

- ◇ Cases: Molded plastic
- ◇ Epoxy: UL 94V-0 rate flame retardant
- ◇ 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



Dimensions in millimeters

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%

Parameter	Symbol	FR 301	FR 302	FR 303	FR 304	FR 305	FR 306	FR 307	FR 308	FR 309	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	1200	1300	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	840	910	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	1200	1300	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	1.30									V
Maximum DC Reverse Current @ $T_A=25^\circ C$ at Rated DC Blocking Voltage @ $T_A=125^\circ C$	I_R	5 150									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 FR309)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

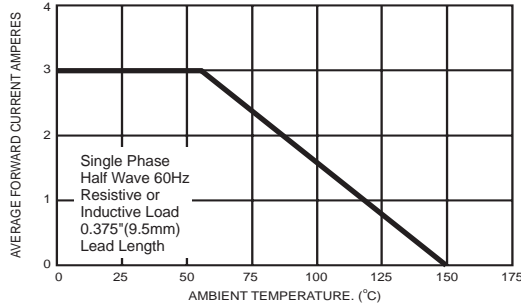


FIG.2- TYPICAL REVERSE CHARACTERISTICS PER LEG

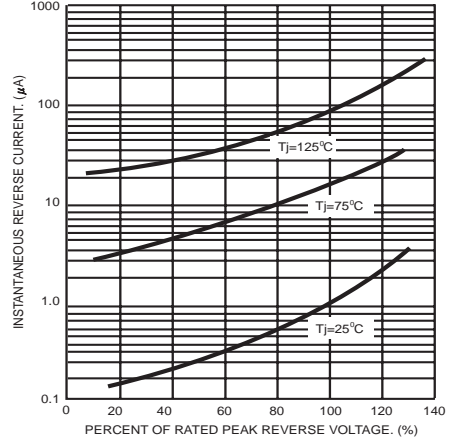


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

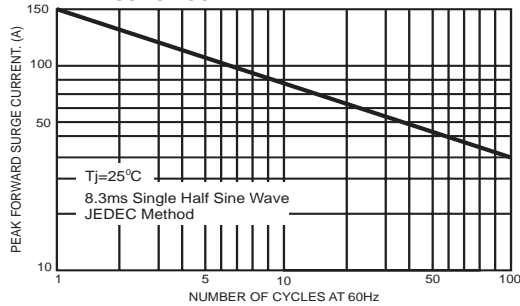


FIG.5- TYPICAL FORWARD CHARACTERISTICS

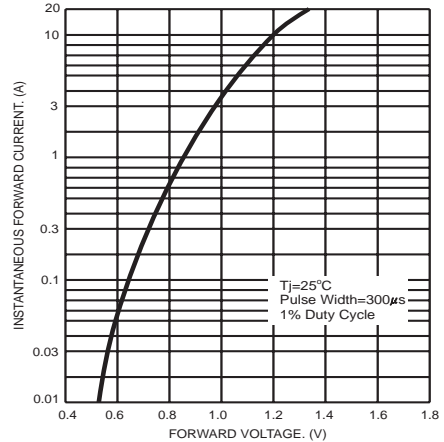


FIG.4- TYPICAL JUNCTION CAPACITANCE

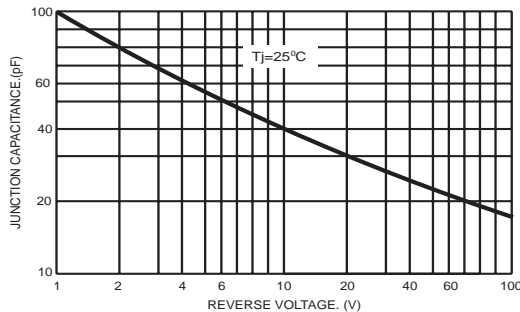
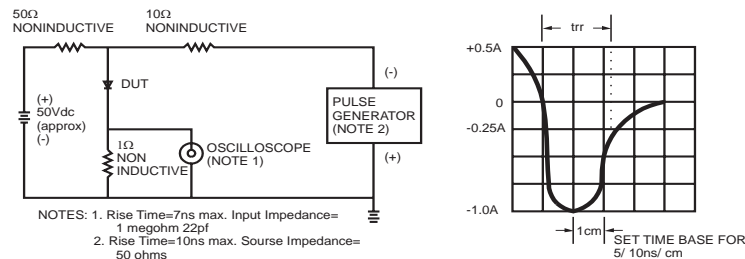


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
DO-27	1250/AMMO	12500	40X26.5X30	14.00	12.00