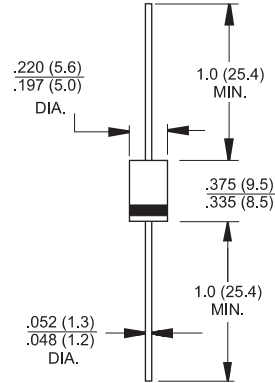


FR301-FR309

3.0 AMP. Fast Recovery Rectifiers



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 inches and (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%

Type Number	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 °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°C at Rated DC Blocking Voltage @ T _A =125 °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 _{θJA}	40									°C/W
Operating Temperature Range	T _J	-65 to +150									°C
Storage Temperature Range	T _{STG}	-65 to +150									°C

Notes:

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

FR301-FR309

3.0 AMP. Fast Recovery Rectifiers

RATINGS AND CHARACTERISTIC CURVES (FR301 THRU FR309)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

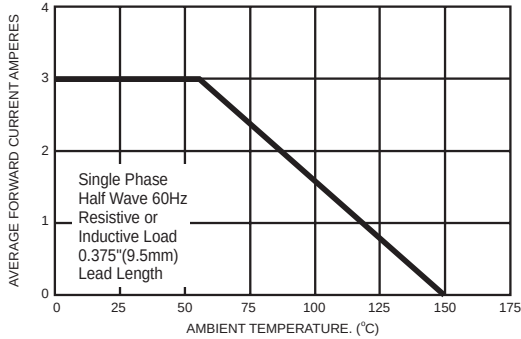


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

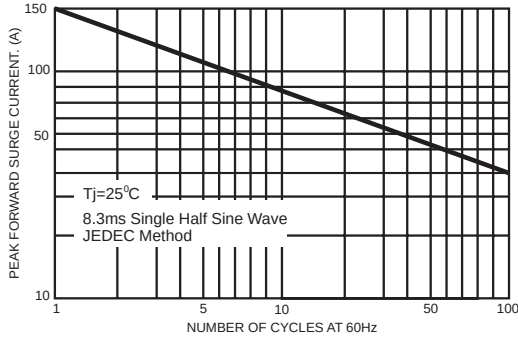


FIG.4- TYPICAL JUNCTION CAPACITANCE

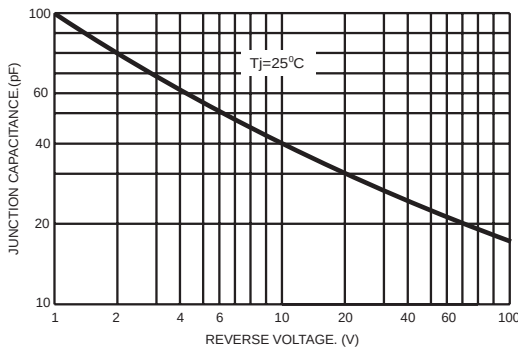


FIG.2- TYPICAL REVERSE CHARACTERISTICS PER LEG

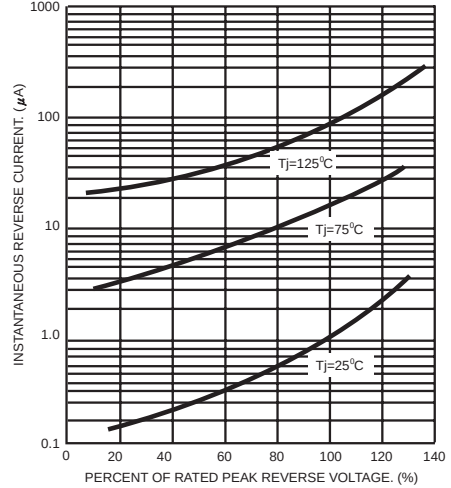


FIG.5- TYPICAL FORWARD CHARACTERISTICS

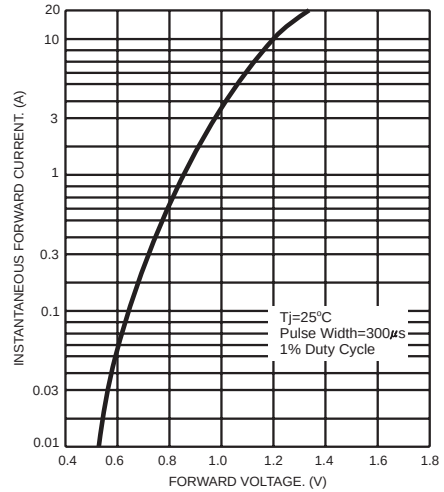


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

