

# FR301G - FR307G-STR

# GLASS PASSIVATED JUNCTION FAST RECOVERY RECTIFIERS

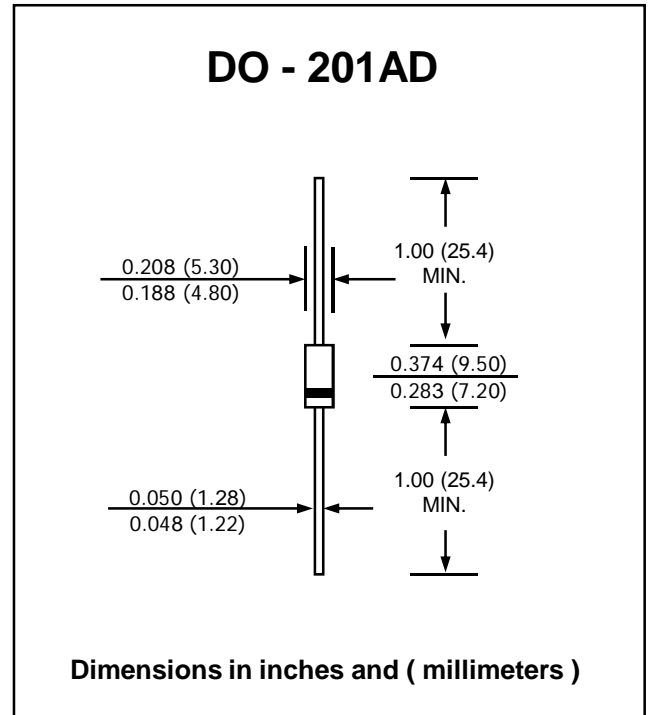
**PRV : 50 - 1000 Volts**  
**Io : 3.0 Amperes**

### FEATURES :

- \* Glass passivated chip
- \* High current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Fast switching for high efficiency
- \* **Pb / RoHS Free**

### MECHANICAL DATA :

- \* Case : DO-201AD Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 1.16 grams



## 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%.

RATING	SYMBOL	FR301G	FR302G	FR303G	FR304G	FR305G	FR306G	FR307G	FR307G-STR	UNIT
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	1000	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	700	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	1000	V
Maximum Average Forward Current 0.375"(9.5mm) Lead Length      Ta = 55 °C	I <sub>F(AV)</sub>	3.0								A
Peak Forward Surge Current, 8.3ms Single half sine wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	100								A
Maximum Peak Forward Voltage at I <sub>F</sub> = 3.0 A	V <sub>F</sub>	1.3								V
Maximum DC Reverse Current      Ta = 25 °C at Rated DC Blocking Voltage      Ta = 100 °C	I <sub>R</sub>	5								μA
	I <sub>R(H)</sub>	100								μA
Maximum Reverse Recovery Time ( Note 1 )	T <sub>rr</sub>	150			250		500		250	ns
Typical Junction Capacitance ( Note 2 )	C <sub>J</sub>	60								pf
Junction Temperature Range	T <sub>J</sub>	- 65 to + 150								°C
Storage Temperature Range	T <sub>STG</sub>	- 65 to + 150								°C

### Notes :

- ( 1 ) Reverse Recovery Test Conditions : I<sub>F</sub> = 0.5 A, I<sub>R</sub> = 1.0 A, I<sub>rr</sub> = 0.25 A.
- ( 2 ) Measured at 1.0 MHz and applied reverse voltage of 4.0 Vdc

## RATING AND CHARACTERISTIC CURVES ( FR301G - FR307G-STR )

FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

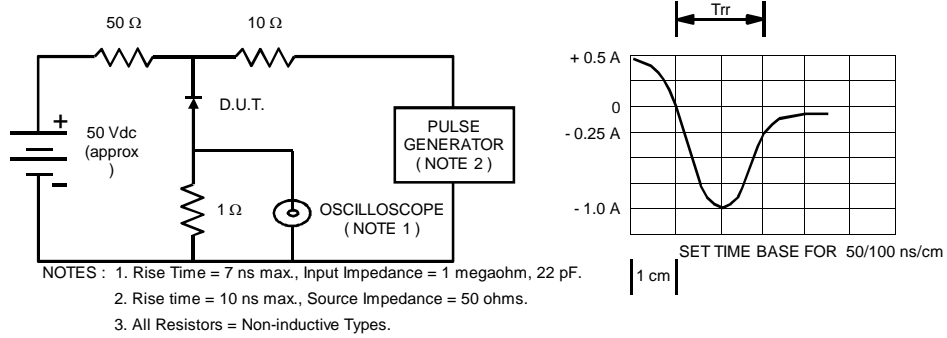


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

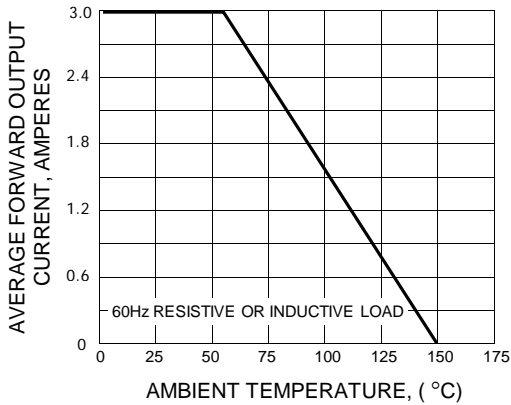


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

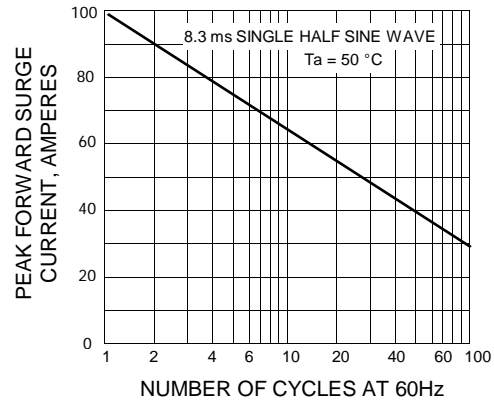


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

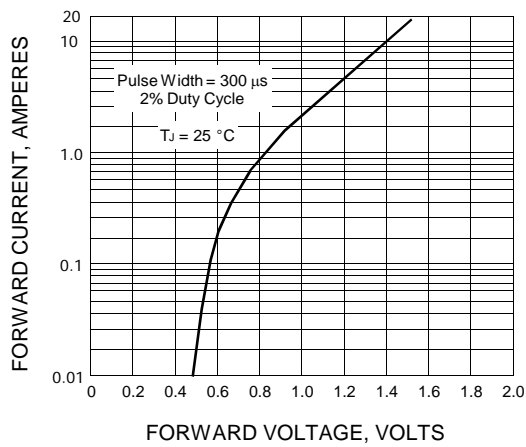


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

