

# FR301 - FR307-STR

**PRV : 50 - 1000 Volts**

**Io : 3.0 Amperes**

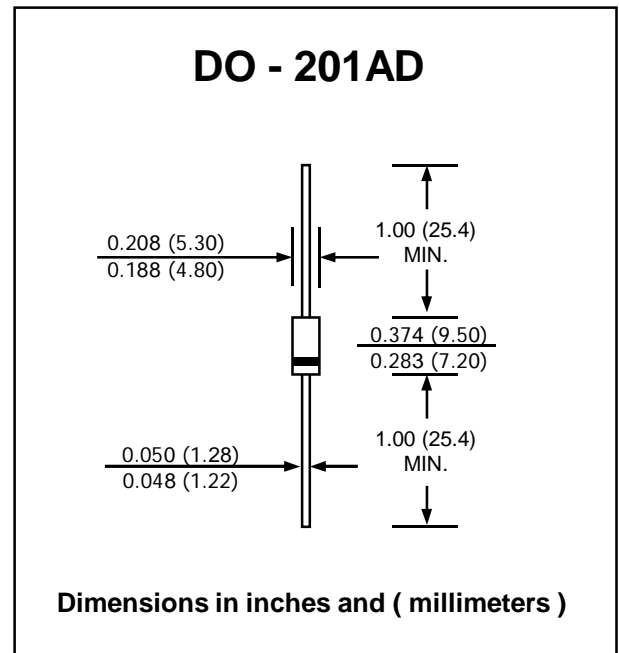
## FEATURES :

- \* High current capability
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* **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

# FAST RECOVERY RECTIFIER DIODES



## 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	FR301	FR302	FR303	FR304	FR305	FR306	FR307	FR307-STR	UNIT
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	800	1000	1000	V
Maximum RMS Voltage	VRMS	35	70	140	280	420	560	700	700	V
Maximum DC Blocking Voltage	VDC	50	100	200	400	600	800	1000	1000	V
Maximum Average Forward Current 0.375"(9.5mm) Lead Length      Ta = 55 °C	IF(AV)	3.0								A
Peak Forward Surge Current 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method)	IFSM	200								A
Maximum Peak Forward Voltage at IF = 3 A	VF	1.3								V
Maximum DC Reverse Current      Ta = 25 °C at Rated DC Blocking Voltage      Ta = 100 °C	IR	10								μA
	IR(H)	150								μA
Maximum Reverse Recovery Time ( Note 1 )	Trr	150			250		500		250	ns
Typical Junction Capacitance ( Note 2 )	CJ	60								pF
Junction Temperature Range	TJ	- 65 to + 150								°C
Storage Temperature Range	TSTG	- 65 to + 150								°C

### Notes :

- ( 1 ) Reverse Recovery Test Conditions : IF = 0.5 A, IR = 1.0 A, Irr = 0.25 A.
- ( 2 ) Measured at 1.0 MHz and applied reverse voltage of 4.0 Vdc

## RATING AND CHARACTERISTIC CURVES ( FR301 - FR307-STR )

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

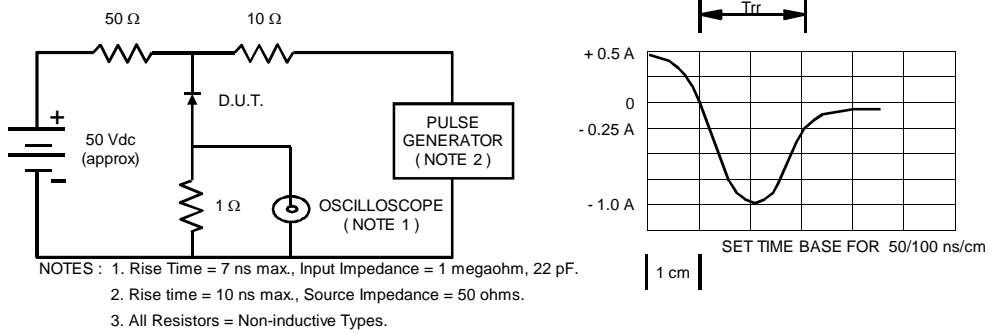


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

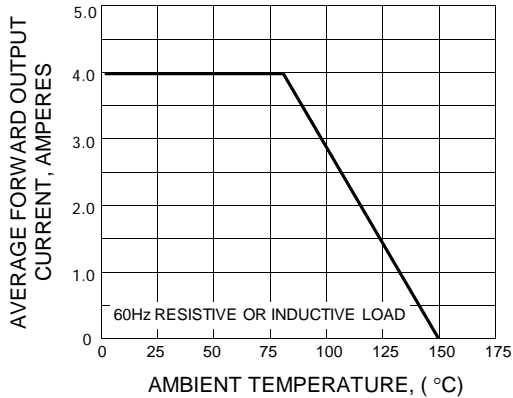


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

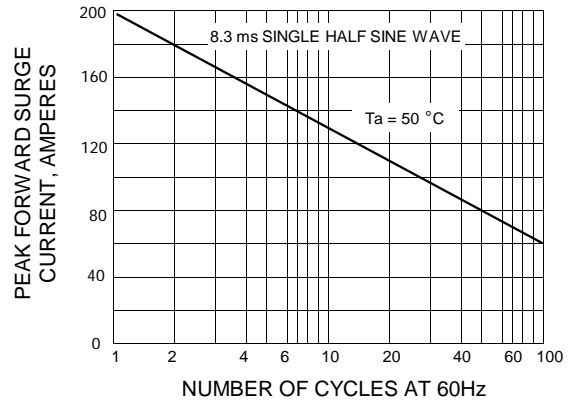


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

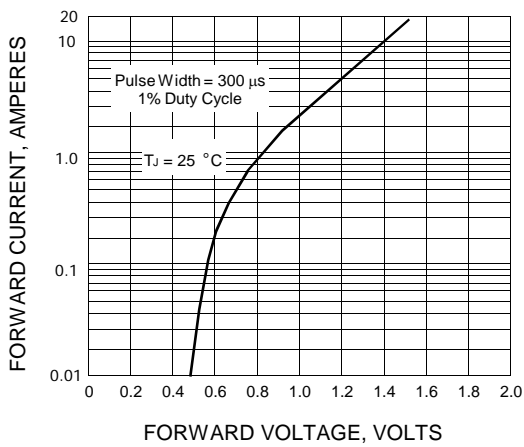


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

