



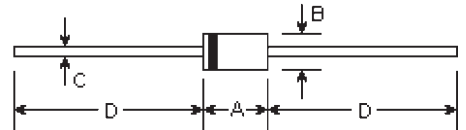
# FR301 THRU FR307

**FAST RECOVERY RECTIFIER**  
**Reverse Voltage - 50 to 1000 Volts**  
**Forward Current - 3.0 Amperes**

## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Fast switching for high efficiency
- Construction utilizes void-free molded plastic technique
- 3.0 ampere operation at  $T_A=75^\circ\text{C}$  with no thermal runaway
- High temperature soldering guaranteed:  $250^\circ\text{C}/10$  seconds, 0.375"(9.5mm) lead length, 5 lbs. (2.3kg) tension

## DO-201AD



## Mechanical Data

- **Case:** DO-201AD molded plastic body
- **Terminals:** Plated axial leads, solderable per MIL-STD-750, method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 0.042 ounce, 1.195 grams

DIM	DIMENSIONS				Note
	inches		mm		
	Min.	Max.	Min.	Max.	
A	0.283	0.374	7.20	9.50	
B	0.189	0.208	4.80	5.30	ϕ
C	0.048	0.051	1.20	1.30	ϕ
D	1.000	-	25.40	-	

## Maximum Ratings and Electrical Characteristics @25°C unless otherwise specified

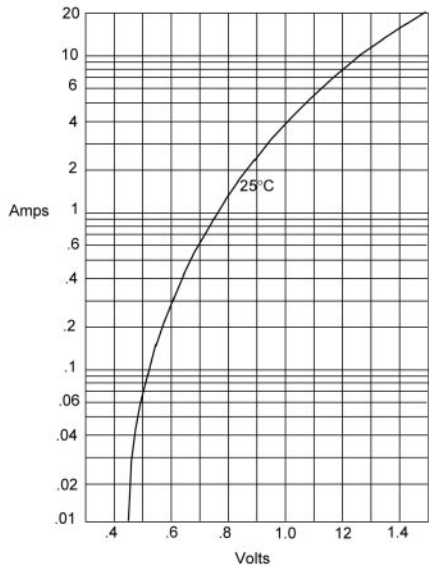
	Symbols	FR301	FR302	FR303	FR304	FR305	FR306	FR307	FR307-STR	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	1000	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	700	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	1000	Volts
Average forward rectified current at $T_A=75^\circ\text{C}$	$I_{(AV)}$	3.0								Amps
Peak forward surge current 8.3mS single half sine-wave (MIL-STD-750D 4066 method)	$I_{FSM}$	200.0								Amps
Maximum instantaneous forward voltage at $I_{FM}=3.0\text{A}$ , $T_A=25^\circ\text{C}$ (Note 3)	$V_F$	1.3								Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=55^\circ\text{C}$	$I_R$	10.0 150.0								µA
Maximum reverse recovery time (Note 1)	$T_{rr}$	150		250		500		250		nS
Typical junction capacitance (Note 2)	$C_J$	65.0								pF
Operating and storage temperature range	$T_J, T_{STG}$	-65 to +150								°C

### Notes:

- (1) Reverse recovery test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$
- (2) Measured at 1.0MHz and applied reverse voltage of 4.0 volts
- (3) Pulse test: pulse width 300µSec, Duty cycle 1%

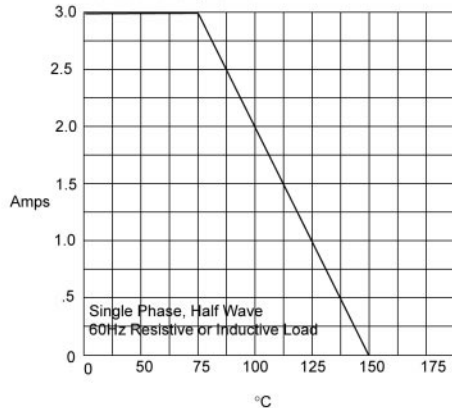
# RATINGS AND CHARACTERISTIC CURVES

Figure 1  
Typical Forward Characteristics



Instantaneous Forward Current - Amperes *versus*  
Instantaneous Forward Voltage - Volts

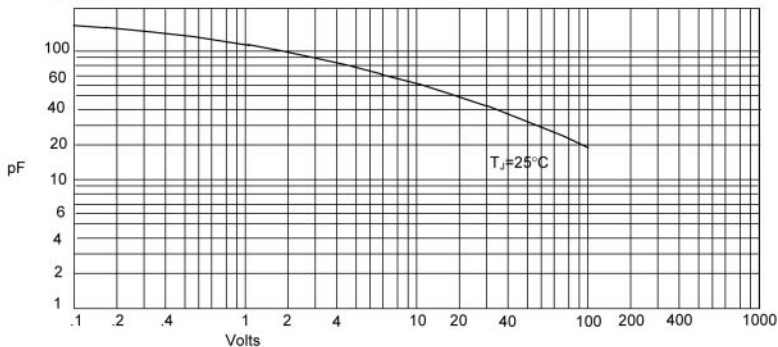
Figure 2  
Forward Derating Curve



Single Phase, Half Wave  
60Hz Resistive or Inductive Load

Average Forward Rectified Current - Amperes *versus*  
Ambient Temperature - °C

Figure 3  
Junction Capacitance



Junction Capacitance - pF *versus*  
Reverse Voltage - Volts

# RATINGS AND CHARACTERISTIC CURVES

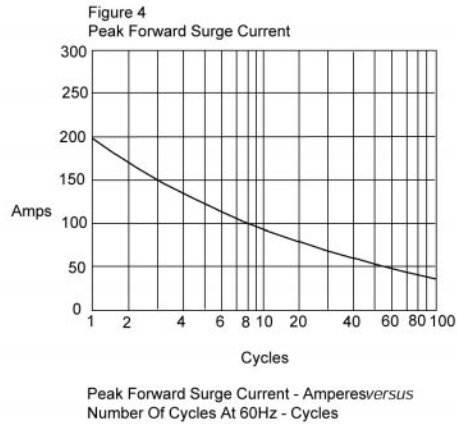


Figure 5  
Reverse Recovery Time Characteristic And Test Circuit Diagram

