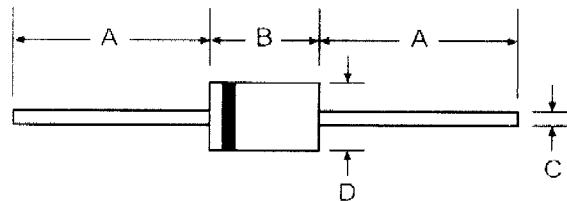


## FR301 - FR307

### 3.0A FAST RECOVERY RECTIFIER

#### Features

- Low Reverse Recovery Time ( $T_{rr}$ )
- Low Reverse Current
- Low Forward Voltage Drop
- High Current Capability
- Plastic Material - UL Recognition 94V-0



#### Mechanical Data

- Case: DO-201AD, Molded Plastic
- Terminals: Axial Leads, Solderable per MIL-STD-202 Method 208
- Polarity: Color Band Denotes Cathode
- Approx. Weight: 1.1 grams
- Mounting Position: Any

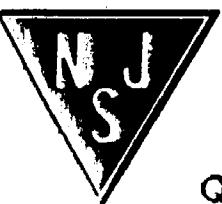
DO-201AD		
Dim	Min	Max
A	25.4	—
B	7.2	9.5
C	1.2	1.3
D	4.8	5.3
All Dimensions in mm		

#### Maximum Ratings and Electrical Characteristics

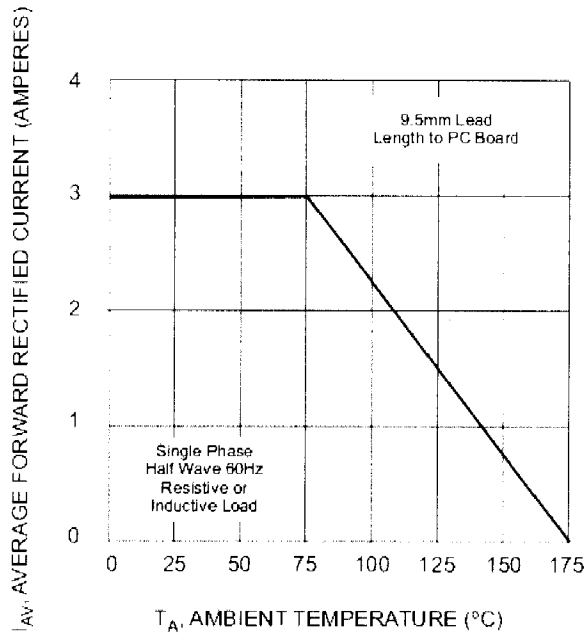
Ratings at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.

Characteristic	Symbol	FR 301	FR 302	FR 303	FR 304	FR 305	FR 306	FR 307	Unit
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current (9.5mm) Lead Length @ $T_A=75^\circ\text{C}$	$I_{AV}$				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 at 3.0A DC	$V_F$				1.3				V
Maximum DC Reverse Current	$I_R$				10				$\mu\text{A}$
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$				150	250	500		ns
Typical Junction Capacitance (Note 2)	$C_j$				70		50		pF
Operating and Storage Temperature Range	$T_J, T_{STG}$				-65 to +175				°C

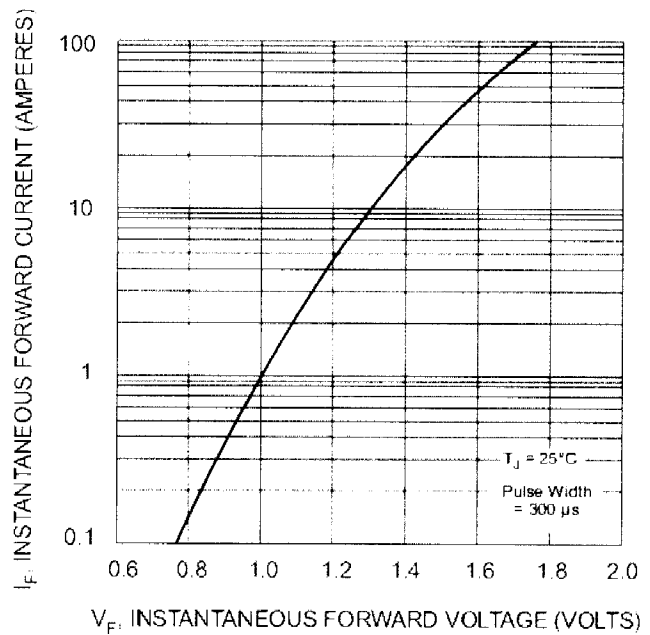
Notes: 1. Reverse Recovery Test Conditions:  $I_F=0.5\text{ A}$ ,  $I_R=1.0\text{ A}$ ,  $I_{RR}=0.25\text{ A}$   
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.



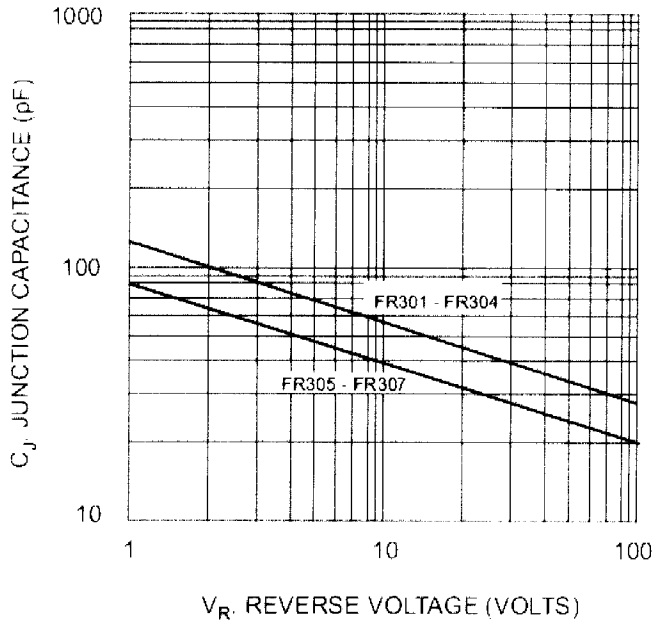
NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.



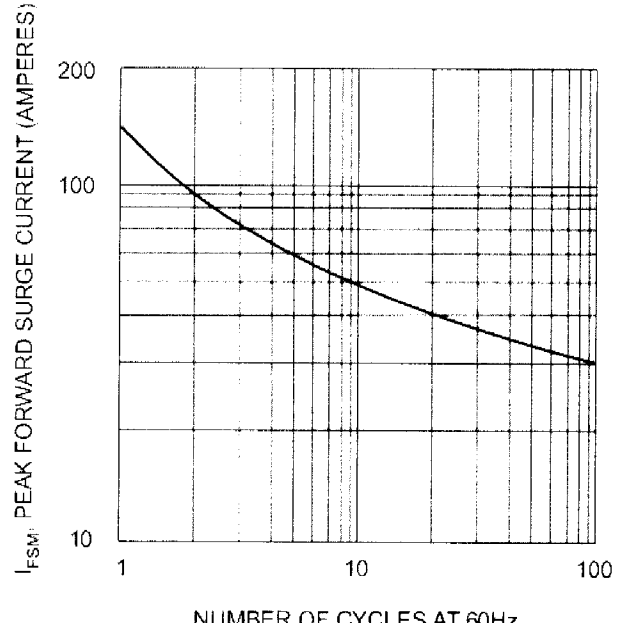
$T_A$ , AMBIENT TEMPERATURE (°C)  
Fig. 1, Forward Derating Curve



$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (VOLTS)  
Fig. 2, Typical Forward Characteristics



$V_R$ , REVERSE VOLTAGE (VOLTS)  
Fig. 3, Typical Junction Capacitance



NUMBER OF CYCLES AT 60Hz  
Fig. 4, Maximum Non-Repetitive Surge Current