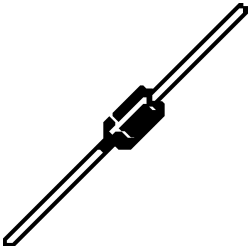
Semiconductor *Data Sheet*

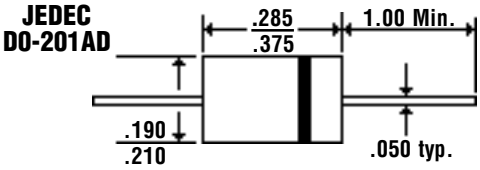
3.0 Amp FAST RECOVERY PLASTIC RECTIFIERS

FR30 . . . 310 Series

Description



Mechanical Dimensions



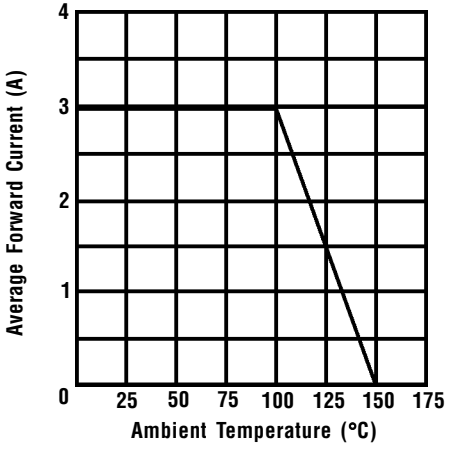
Features

- **FAST SWITCHING FOR HIGH EFFICIENCY**
- **HIGH SURGE CAPABILITY**
- **3.0 AMP OPERATION @ T_A = 105°C, WITH NO THERMAL RUNAWAY**
- **MEETS UL SPECIFICATION 94V-0**

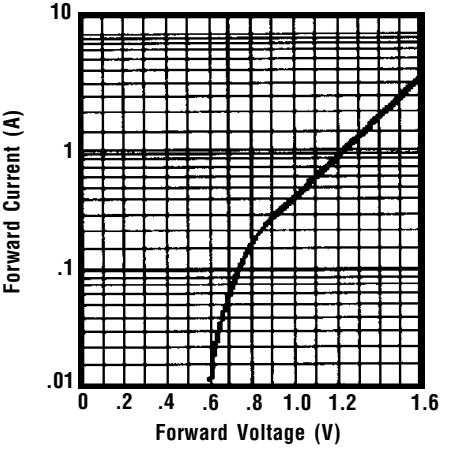
	FR30. . . 310 Series							**Units**
Maximum Ratings	**FR30**	**FR31**	**FR32**	**FR34**	**FR36**	**FR38**	**FR310**	
Peak Repetitive Reverse Voltage...V_{RRM}	50	100	200	400	600	800	1000	Volts
RMS Reverse Voltage...$V_{R(rms)}$	35	70	140	280	420	560	700	Volts
DC Blocking Voltage...V_{DC}	50	100	200	400	600	800	1000	Volts
Average Forward Rectified Current...$I_{F(av)}$ T_A = 55°C	..... 3.0							Amps
Non-Repetitive Peak Forward Surge Current...I_{FSM} @ Rated Current & Temp	..... 200							Amps
Operating & Storage Temperature Range...T_J, T_{STRG}	..... -65 to 150							°C
Electrical Characteristics								
Maximum Forward Voltage @ 3.0A...V_F	..... 1.3							Volts
Maximum DC Reverse Current...I_R @ 25°C	..... 50							µAmps
@ Rated DC Blocking Voltage @ 100°C	..... 100							µAmps
Typical Junction Capacitance...C_J *(Note 1)*	..... 60							pF
Maximum Reverse Recovery Time...t_{RR}	150	150	150	150	250	500	500	ns

3.0 Amp FAST RECOVERY PLASTIC RECTIFIERS

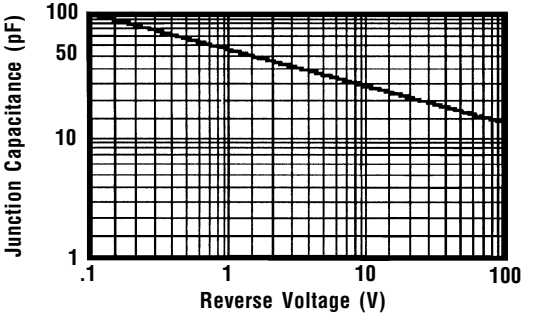
Forward Current Derating Curve

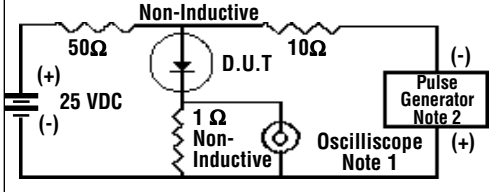


Typical Instantaneous Forward Characteristics



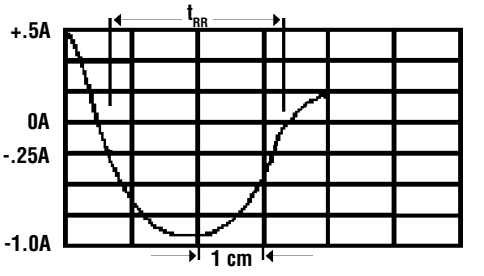
Typical Junction Capacitance





Notes: 1. Rise Time = 7 ns Max.
Impedance = 1 megohm, 22 pF
2. Rise Time = 10 ns Max.
Source Impedance = 50 Ohms

Reverse Recovery Characteristics



Time Base Set @ 50/100ns/cm

Ratings at 25 Deg. C ambient temperature unless otherwise specified.

Single Phase Half Wave, 60 Hz Resistive or Inductive Load.

For Capacitive Load, Derate Current by 20%.

NOTES: 1. Measured @ 1 MHz and applied reverse voltage of 4.0V.
2. Thermal Resistance Junction to Case, Jedec Method.