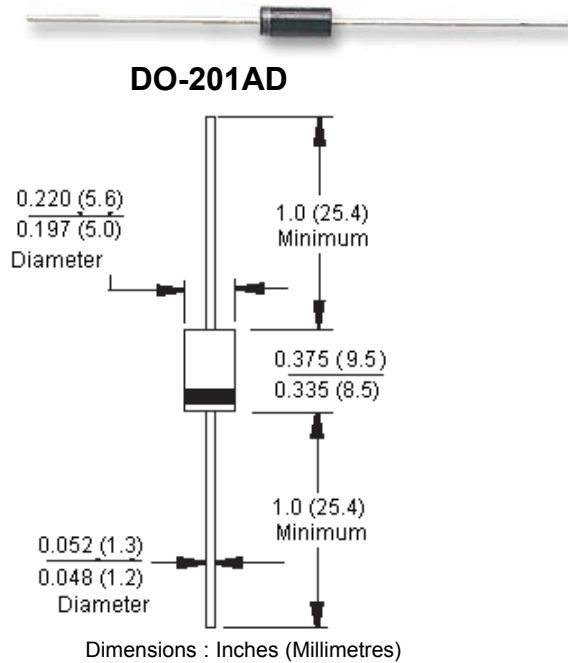


0.5A to 6A Axial



Features:

- Low forward voltage drop.
- High current capability.
- High reliability.
- High surge current capability.

Mechanical Data:

Cases	: Moulded plastic.
Lead	: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed.
Polarity	: Colour band denotes cathode end.
High temperature soldering guaranteed	: 260°C/10 seconds/0.375", (9.5mm) lead lengths at 5lbs., (2.3kg) tension.

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Type Number	Symbol	FR307	Unit
Maximum recurrent peak reverse voltage	V_{RRM}	1000	V
Maximum RMS voltage	V_{RMS}	700	
Maximum DC blocking voltage	V_{DC}	1000	
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A = 55^\circ\text{C}$	$I_{(AV)}$	3.0	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150	
Maximum instantaneous forward voltage at 3.0A	V_F	1.2	V
Maximum DC reverse current at $T_A = 25^\circ\text{C}$ at rated DC blocking voltage at $T_A = 100^\circ\text{C}$	I_R	5 100	μA
Maximum reverse recovery time (Note 1)	T_{rr}	500	ns

Type Number	Symbol	FR307	Unit
Typical junction capacitance (Note 2)	C_j	60	pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$	40	°C/W
Operating temperature range	T_J	-65 to +150	°C
Storage temperature range	T_{STG}		

Notes:

- Reverse recovery test conditions: $I_F = 0.5A$, $I_R = 1.0A$, $I_{RR} = 0.25A$.
- Measured at 1MHz and applied reverse voltage of 4.0V dc.
- Mount on Cu-Pad Size 16mm x 16mm on PCB.

Rating and Characteristics Curves

Figure 1 Maximum Forward Current Derating Curve

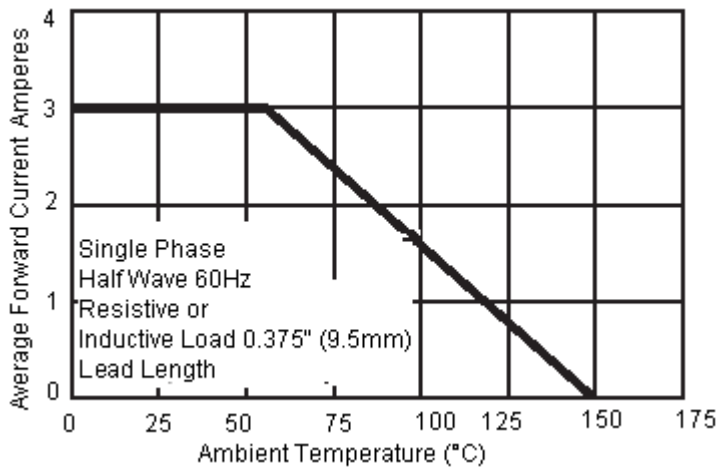


Figure 2 Maximum Non-Repetitive Forward Surge Current

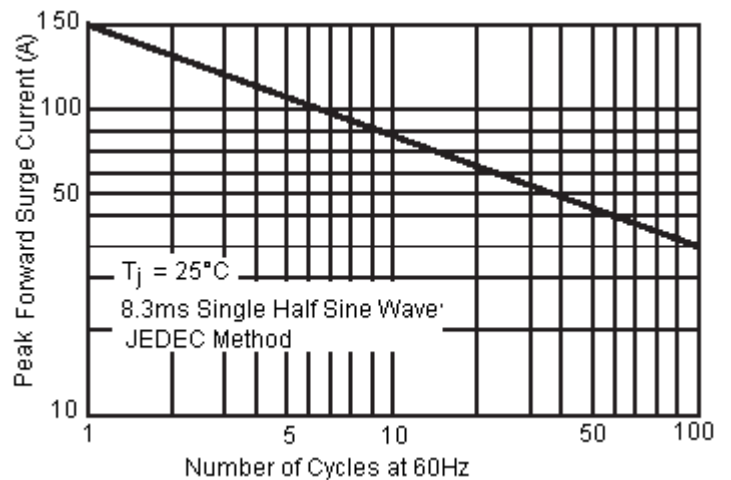


Figure 3 Typical Forward Characteristics

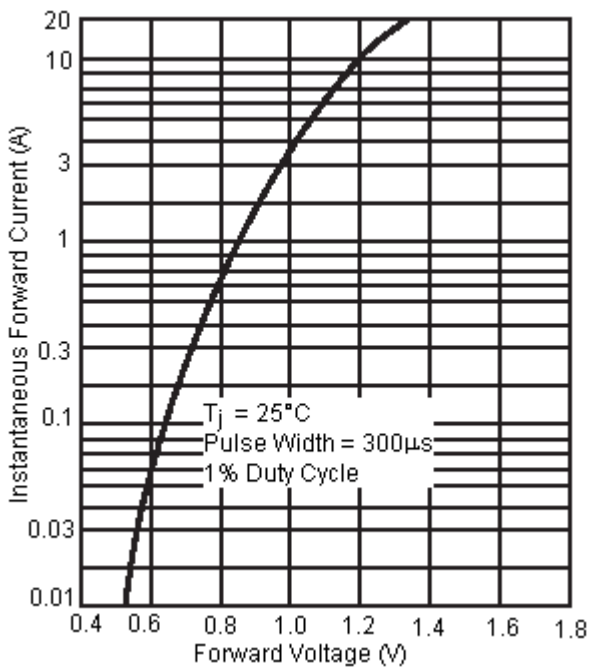


Figure 4 Typical Junction Capacitance

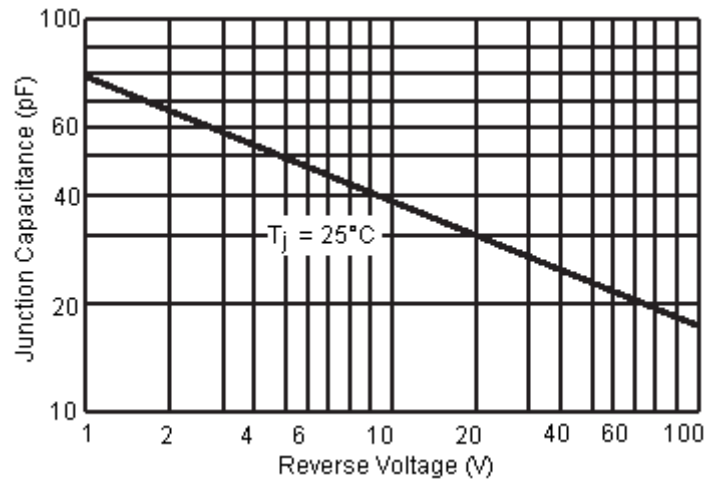
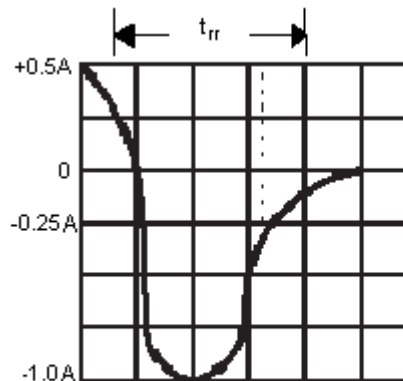
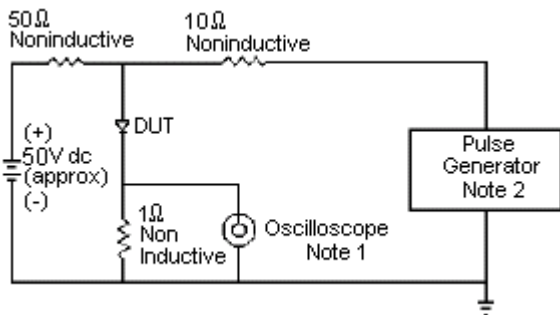


Figure 5 Reverse Recovery Time Characteristic and Test Circuit Diagram



- Note:
1. Rise Time = 7nS maximum
Input Impedance = 1MΩ, 22pF
 2. Rise Time = 10nS maximum
Source Impedance = 50Ω

1cm

Set Time Base for
5/10ns/cm

FR307

Power Diodes - Fast Recovery



Specifications

V_{rrm} maximum (V)	I_F (av) (A)	I_{FSM} (A)	t_{rr} maximum (ns)	V_F (V) at $I_F = 3A$	Length	Diameter	Package	Part Number
1000	3	150	500	1.3	9.5	5.6	DO-201AD	FR307

Dimensions : Millimetres

Notes:

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