Power Diode - Fast Recovery

Features:

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

Mechanical specifications:

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	FR107	Unit
Maximum recurrent peak reverse voltage	V_{RRM}	1,000	V
Maximum RMS voltage	V_{RMS}	700	
Maximum DC blocking voltage	V_{DC}	1,000	
Maximum average forward rectified current 0.375" (9.5mm) lead length at T_A = 55°C	$I_{(AV)}$	3	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 1.0A	V_F	1.2	V
Maximum DC reverse current at TA = 25°C at rated DC blocking voltage at TA = 100°C	I_R	5 100	uA
Maximum reverse recovery time (Note 1)	T_{rr}	500	ns
Typical junction capacitance (Note 2)	Cj	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:

1. Reverse recovery test conditions: I_F = 0.5A, I_R = 1A, I_{RR} = 0.25A
2. Measured at 1MHz and applied reverse voltage of 4V DC
3. Mount on Cu-Pad Size 5mm × 5mm on PCB

Ratings and Characteristic Curves

Figure 1 Maximum Forward Current Derating Curve

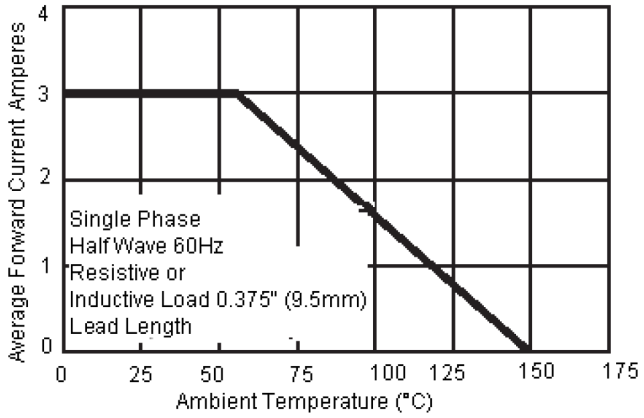


Figure 2 Maximum Non-Repetitive Forward Surge Current

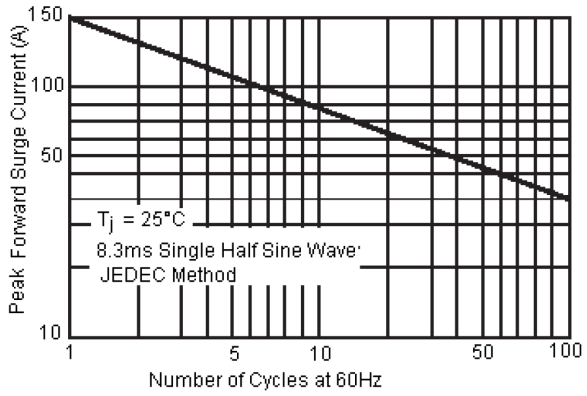


Figure 3 Typical Forward Characteristics

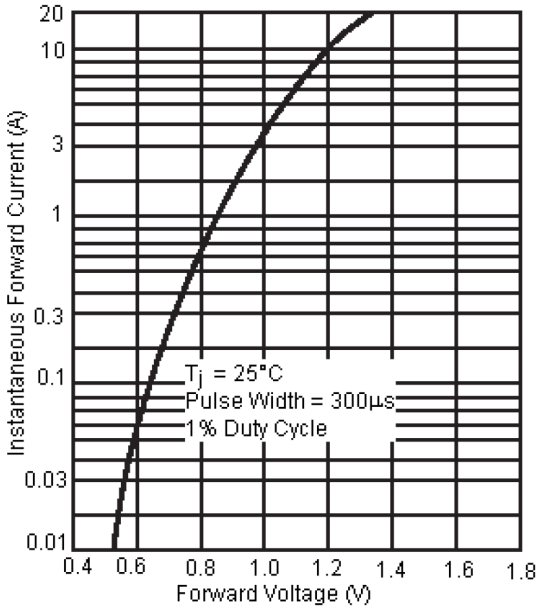


Figure 4 Typical Junction Capacitance

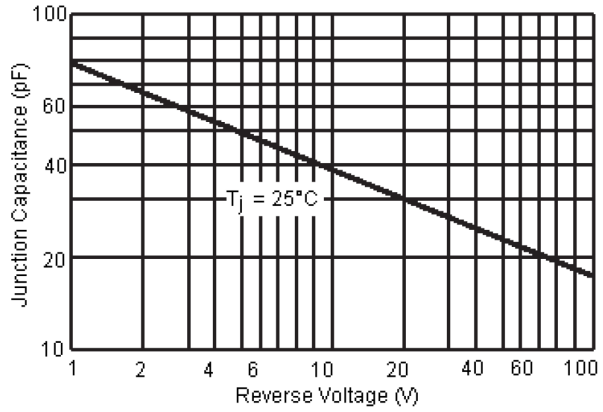
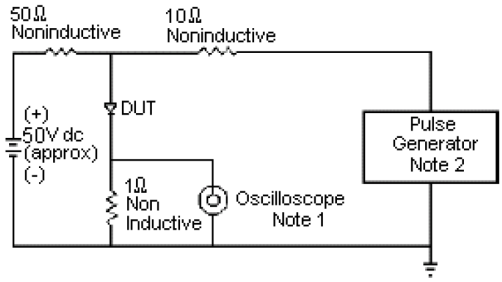
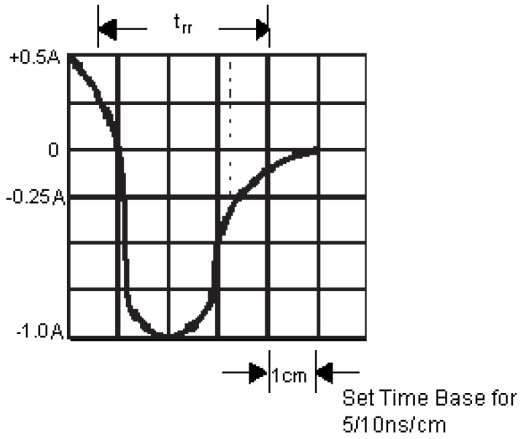


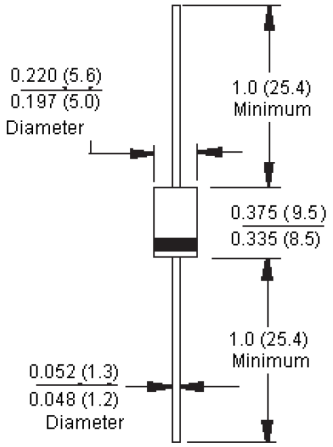
Figure 5 Reverse Recovery Time Characteristic and Test Circuit Diagram





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

DO-201AD



Dimensions : Inches (Millimetres)

Part Number Table

Description	Length	Diameter	Part Number
Power Diodes - Fast Recovery	9.5mm	5.6mm	FR307