Fast Diode

RoHS Compliant

Features:

- High surge current capability
- 3 Ampere operation at T_A = 55°C with no thermal runaway
- Exceeds environmental standards of MIL-S-19500/228
- Fast switching for high efficiency

Specifications:

Mechanical Data:

Case	: Moulded plastic.
Terminals	: Axial leads, solderable per MIL-STD-202, Method 208.
Polarity	: Band denotes cathode.
Mounting position	: Any

Maximum Ratings and Electrical Characteristics:

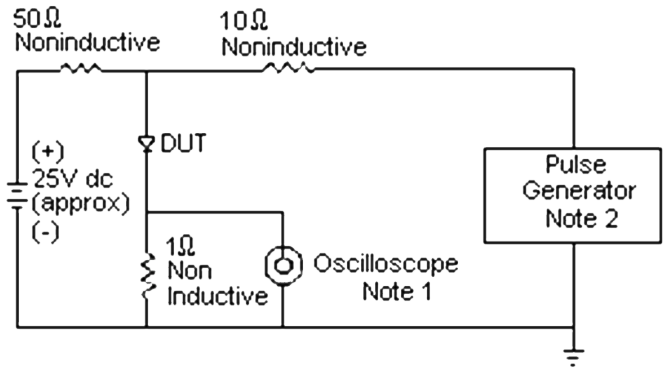
Rating at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

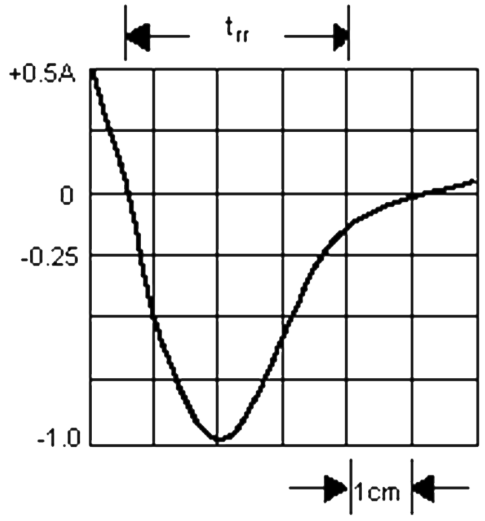
Parameters	PS3010R	Units
Maximum Recurrent Peak Reverse Voltage	1,000	V
Maximum RMS Voltage	700	
Maximum DC Blocking Voltage	1,000	
Maximum Average Forward Rectified Current 0.375" (9.5mm) Lead Length at T_A = 55°C	3	A
Peak Forward Surge Current 8.3Ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	200	
Maximum Forward Voltage at 3.0A	1.3	V
Maximum Reverse Current T_J = 25°C at Rated DC Blocking Voltage T_J = 100°C	5 500	µA µA
Maximum Reverse Recovery Time (Note 1)	500	nS

Parameters	PS3010R	Units
Typical Junction Capacitance (Note 2) CJ	60	pF
Typical Thermal Resistance (Note 3) RθJA	22	°C/W
Operating and Storage Temperature Range	-55 to +150	°C

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. Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5mm) lead length with both leads equally heatsink.





Set Time Base For 50nS/cm

Notes:

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

Figure 1 - Reverse Recovery Time Characteristics and Test Circuit Diagram

Ratings and Characteristic Curves

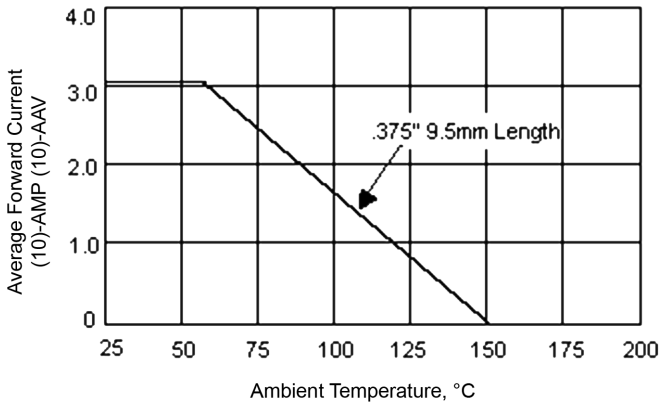


Figure 2 - Forward Current Derating Curve

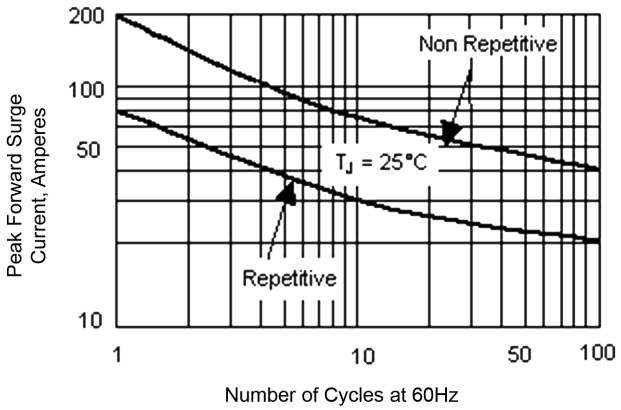


Figure 3 - Peak Forward Surge Current

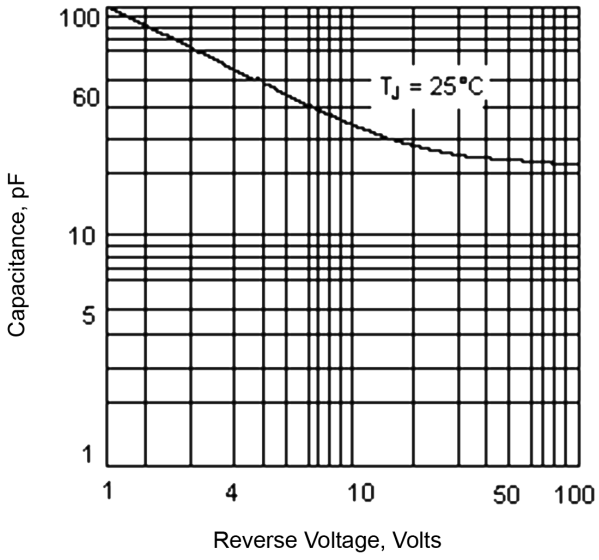


Figure 4 - Typical Junction Capacitance

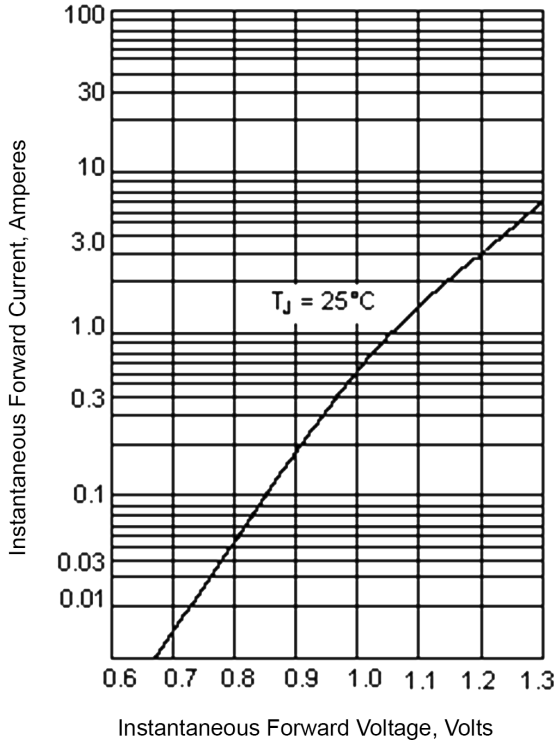
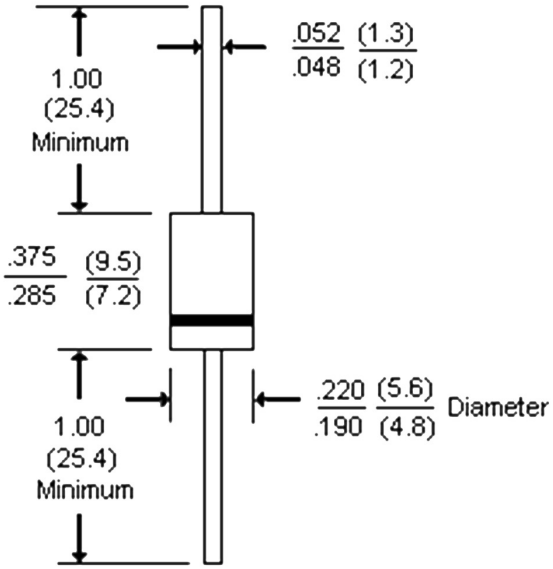


Figure 5 - Typical Instantaneous Forward Characteristics

DO-201AD



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Diode, Fast, 3A, 1,000V	PS3010R