Fast Recovery Axial Rectifier

Features:

- High current capability
- 1A Operation at T_A = 55°C with no thermal runaway
- Fast switching for high efficiency
- Exceeds environmental standards of MIL-S-19500/228
- Low leakage

Mechanical Data:

Case	: Moulded plastic
Terminals	: Plated axial leads, solderable per MIL-STD-202, Method 208
Polarity	: Colour band denotes cathode
Mounting position	: Any
Weight	: 0.012oz, 0.3g

Maximum Ratings and Electrical Characteristics:

Rating at 25°C ambient temperature unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load

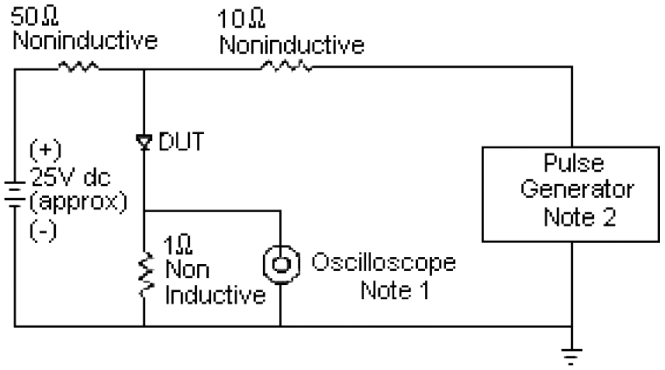
For capacitive load, derate current by 20%

Description	Rating	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	1	A
Peak forward surge current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)	30	
Maximum forward voltage at 1A DC	1.3	1.7
Maximum reverse current T_J = 25°C at rated DC blocking voltage T_J = 100°C	5 500	µA
Typical junction capacitance (Note 1) C_J	12	pF
Typical thermal resistance (Note 3) $R_{\theta JA}$	41	°C/W
Maximum reverse recovery time (Note 2)	500	ns
Operating and Storage temperature range T_J, T_{STG}	-55 to +150	°C

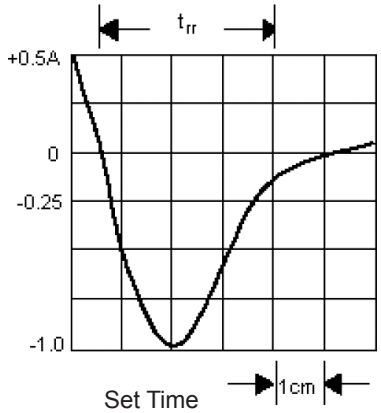
Notes:

1. Measured at 1MHz and applied reverse voltage of 4V DC
2. Reverse recovery test conditions: I_F = 0.5A, I_R = 1A, I_{rr} = 0.25A
3. Thermal resistance from junction to ambient and from junction to lead length 0.375" (9.5mm) PCB mounted

Rating and Characteristics Curves



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



Set Time
Base For
50nS/cm

Figure 1 - Reverse Recovery Time Characteristics and Test Circuit Diagram

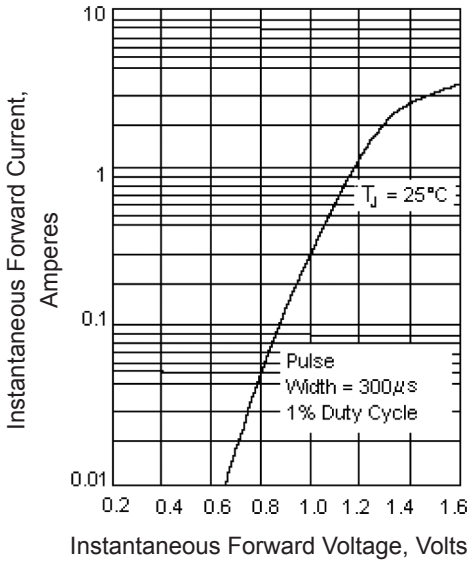


Figure 2 - Typical Instantaneous Forward Characteristics

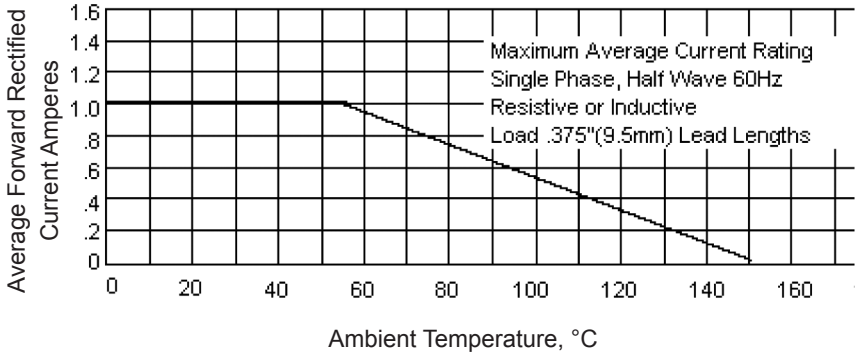


Figure 3 - Forward Current Derating Curve

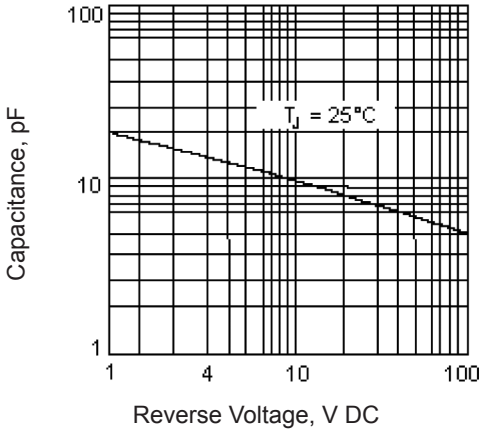


Figure 4 - Typical Junction Capacitance

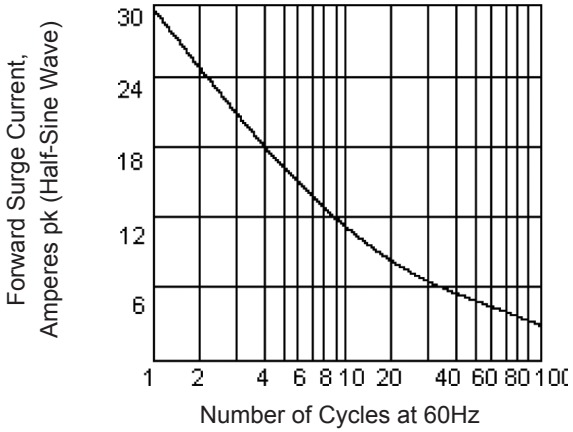


Figure 5 - Peak Forward Surge Current

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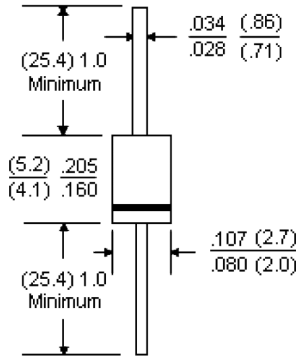

Dimensions: Inches (Millimetres)

Part Number Table

Description	Part Number
Diode, Fast, 1A, 1000V	PS1010R