

# PS1010R

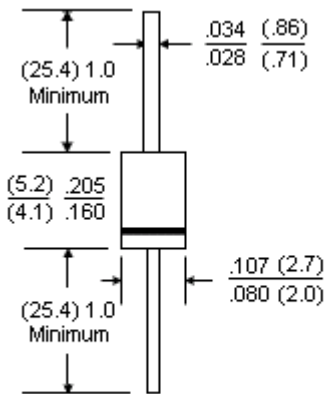
## Fast Recovery Axial Rectifier



### Features:

- High current capability.
- 1.0 Ampere operation at  $T_A = 55^\circ\text{C}$  with no thermal runaway.
- Fast switching for high efficiency.
- Exceeds environmental standards of MIL-S-19500/228.
- Low leakage.

### DO-41



### 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	: 0.012 ounce, 0.3 gram.

Dimensions : Inches (Millimetres)

### Maximum Ratings and Electrical Characteristics

Rating at  $25^\circ\text{C}$  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	1000	V
Maximum RMS voltage	700	
Maximum DC blocking voltage	1000	
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A = 55^\circ\text{C}$	1.0	A
Peak forward surge current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)	30	
Maximum forward voltage at 1.0A dc	1.3	V
Maximum reverse current $T_J = 25^\circ\text{C}$ at rated DC blocking voltage $T_J = 100^\circ\text{C}$	5.0 500	$\mu\text{A}$
Typical junction capacitance (Note 1) CJ	12	pF

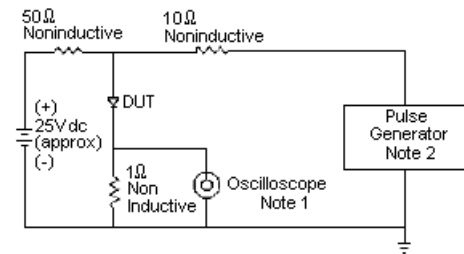


Description	Rating	Units
Typical thermal resistance (Note 3) R $\theta$ JA	41	°C/W
Maximum reverse recovery time (Note 2)	500	ns
Operating and Storage temperature range T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

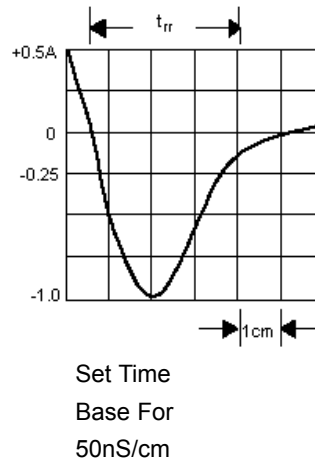
**Notes:**

1. Measured at 1MHz and applied reverse voltage of 4.0V dc.
2. Reverse recovery test conditions: I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A.
3. Thermal resistance from junction to ambient and from junction to lead length 0.375" (9.5mm) PCB mounted.

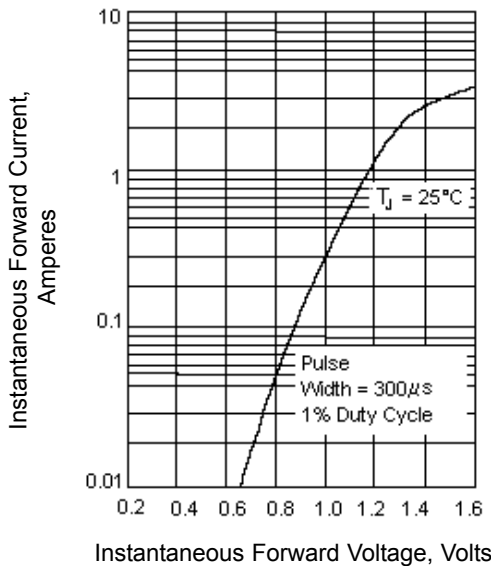
### Rating and Characteristics Curves



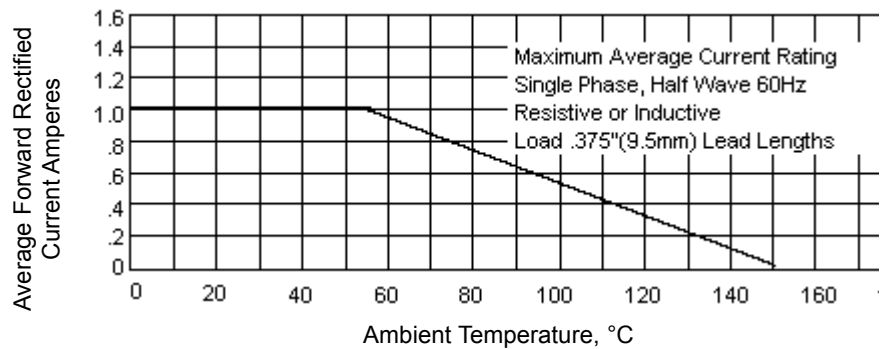
- Note:
1. Rise Time = 7nS maximum  
Input Impedance = 1M $\Omega$ , 22pF
  2. Rise Time = 10nS maximum  
Source Impedance = 50 $\Omega$



**Figure 1 - Reverse Recovery Time Characteristics and Test Circuit Diagram**



**Figure 2 - Typical Instantaneous Forward Characteristics**



**Figure 3 - Forward Current Derating Curve**

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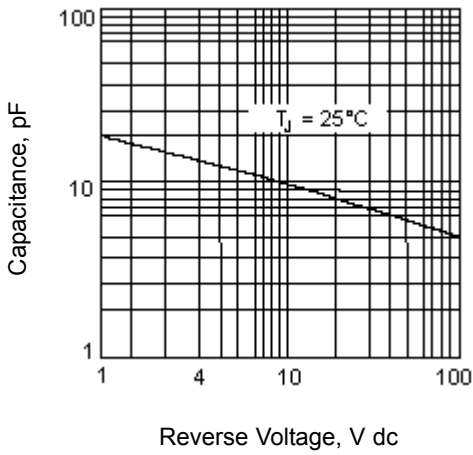


Figure 4 - Typical Junction Capacitance

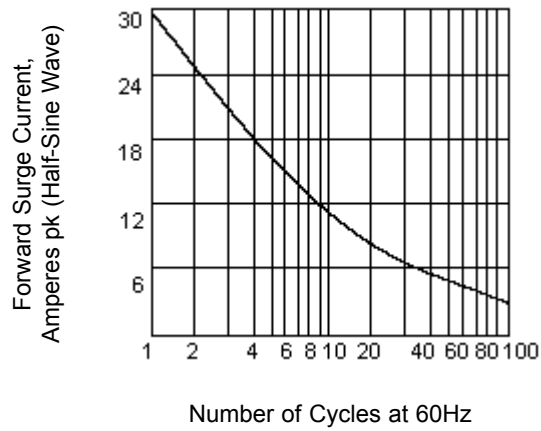


Figure 5 - Peak Forward Surge Current

### Specifications

$V_{RRM}$ maximum (V)	$I_{F(av)}$ (A)	$I_{FSM}$ (A)	$t_{rr}$ maximum (nS)	$V_F$ (V) at $I_F = 1A$	Length	Diameter	Package	Part Number
1000	1	30	500	1.3	5.2	2.7	DO-41	PS1010R

Dimensions : Millimetres



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### Notes:

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