

# PS100R THRU PS1010R

## FAST SWITCHING PLASTIC DIODES

VOLTAGE - 50 to 1000 Volts CURRENT - 1.0 Ampere

### FEATURES

- High current capability
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O Utilizing Flame Retardant Epoxy Molding Compound
- 1.0 ampere operation at  $T_A=55\text{ }^{\circ}\text{C}$  with no thermal runaway
- Fast switching for high efficiency
- Exceeds environmental standards of MIL-S-19500/228
- Low leakage

### MECHANICAL DATA

Case: Molded plastic, DO-41

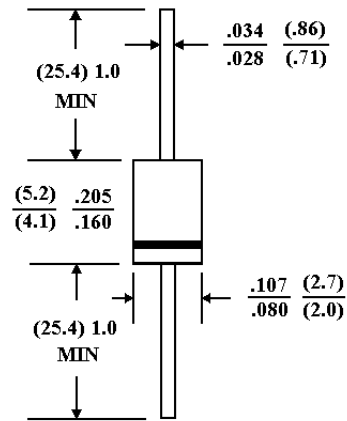
Terminals: Plated axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting Position: Any

Weight: 0.012 ounce, 0.3 gram

### DO-41



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings 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%.

	PS100R	PS101R	PS102R	PS104R	PS106R	PS108R	PS1010R	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375"(9.5mm) lead length at $T_A=55\text{ }^{\circ}\text{C}$	1.0							A
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load(JEDEC method)	30							A
Maximum Forward Voltage at 1.0A DC	1.3							V
Maximum Reverse Current $T_J=25\text{ }^{\circ}\text{C}$	5.0							Eg A
at Rated DC Blocking Voltage $T_J=100\text{ }^{\circ}\text{C}$	500							Eg A
Typical Junction capacitance (Note 1) C <sub>J</sub>	12							pF
Typical Thermal Resistance (Note 3) R <sub>θJKJA</sub>	41							$^{\circ}\text{C}/\text{W}$
Maximum Reverse Recovery Time(Note 2)	150	150	150	150	250	500	500	ns
Operating and Storage Temperature Range $T_J, T_{STG}$	-55 to +150							$^{\circ}\text{C}$

### NOTES:

1. Measured at 1 MHz and applied reverse voltage of 4.0 VDC
2. Reverse Recovery Test Conditions:  $I_F=.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=.25\text{A}$
3. Thermal resistance from junction to ambient and from junction to lead at 0.375"(9.5mm) lead length P.C.B. mounted

# RATING AND CHARACTERISTIC CURVES

## PS100R THRU PS1010R

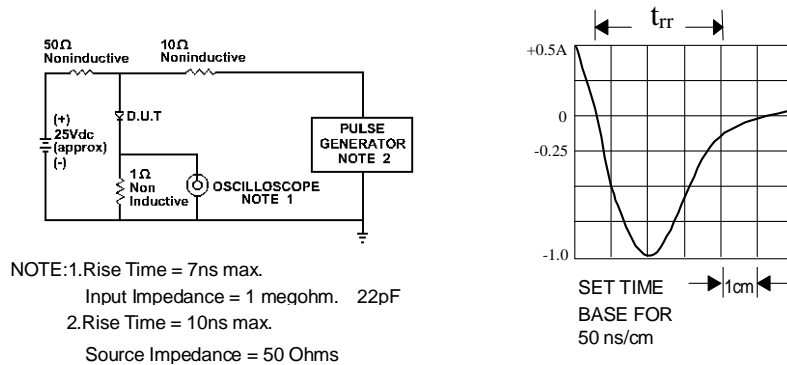
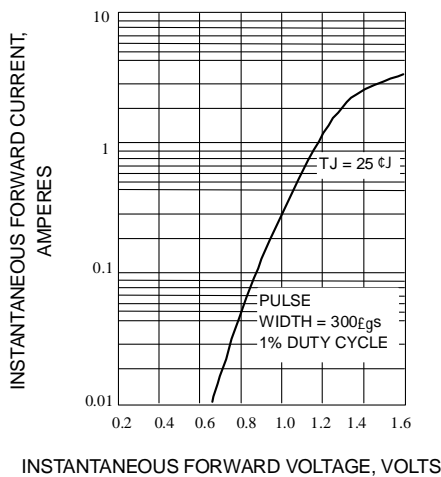


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

Fig. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

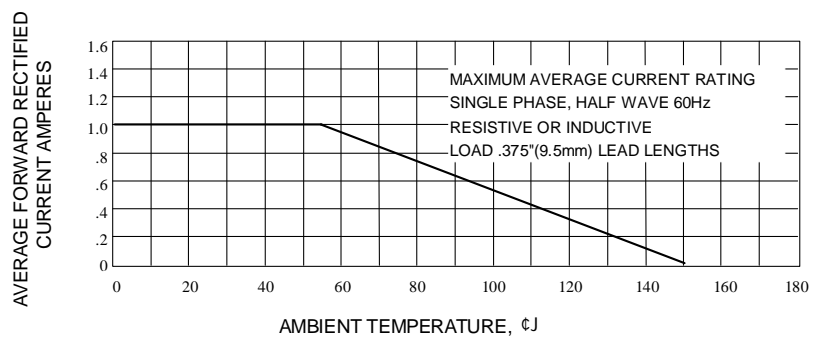


Fig. 3-FORWARD CURRENT DERATING CURVE

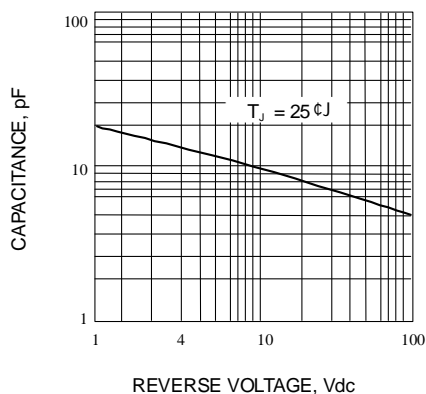


Fig. 4-TYPICAL JUNCTION CAPACITANCE

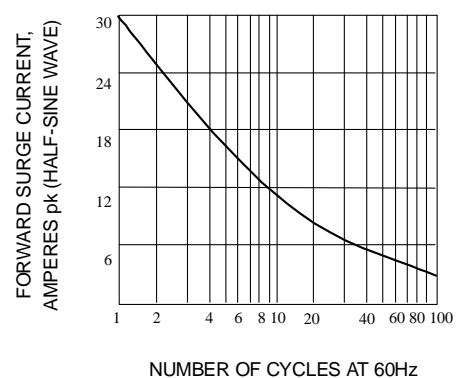


Fig. 5-PEAK FORWARD SURGE CURRENT