

# PS300R THRU PS3010R

## FAST SWITCHING PLASTIC RECTIFIER

VOLTAGE - 50 to 1000 Volts CURRENT - 3.0 Amperes

### FEATURES

- High surge current capability
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound
- Void-free Plastic in DO-201AD package
- 3 ampere operation at  $T_A=55\text{ }^{\circ}\text{C}$  with no thermal runaway
- Exceeds environmental standards of MIL-S-19500/228
- Fast switching for high efficiency

### MECHANICAL DATA

Case: Molded plastic , DO-201AD

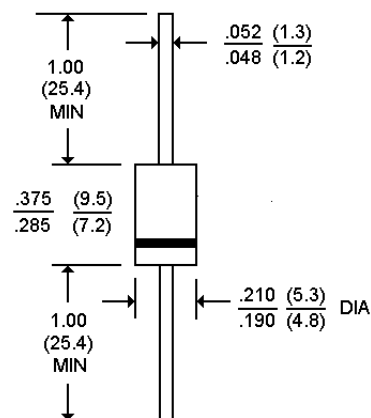
Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Band denotes cathode

Mounting Position: Any

Weight: 0.04 ounce, 1.1 gram

### DO-201AD



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, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	PS300R	PS301R	PS302R	PS304R	PS306R	PS308R	PS3010R	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 $T_A=55\text{ }^{\circ}\text{C}$	3.0							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	200							A
Maximum Forward Voltage at 3.0A	1.3							V
Maximum Reverse Current $T_J=25\text{ }^{\circ}\text{C}$ at Rated DC Blocking Voltage $T_J=100\text{ }^{\circ}\text{C}$	5.0							$\mu\text{g A}$
	500							$\mu\text{g A}$
Maximum Reverse Recovery Time(Note 1)	150	150	150	150	250	500	500	ns
Typical Junction capacitance (Note 2) C <sub>J</sub>	60							pF
Typical Thermal Resistance (Note 3) R $\theta$ KJA	22							$^{\circ}\text{C/W}$
Operating and Storage Temperature Range	-55 TO +150							$^{\circ}\text{C}$

### NOTES:

1. Reverse Recovery Test Conditions:  $I_F=.5\text{ A}$ ,  $I_R=1\text{ A}$ ,  $I_{rr}=.25\text{ A}$
2. Measured at 1 MHz and applied reverse voltage of 4.0 VDC
3. Thermal Resistance from Junction to Ambient and from junction to lead at 0.375"(9.5mm) lead length with both leads equally heatsink.

# RATING AND CHARACTERISTIC CURVES

## PS300R THRU PS3010R

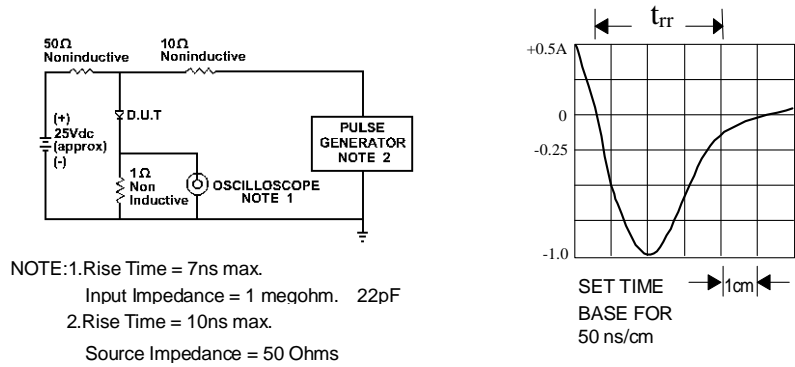


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

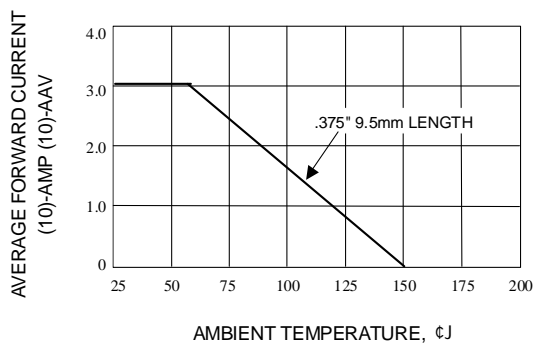


Fig. 2-FORWARD CURRENT DERATING CURVE

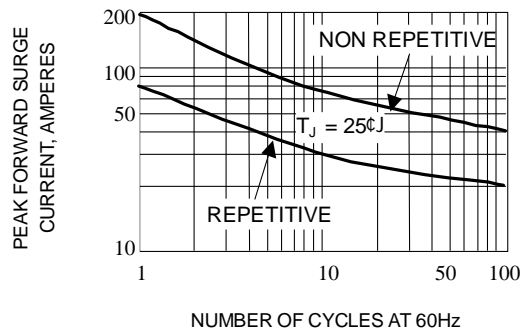


Fig. 3-PEAK FORWARD SURGE CURRENT

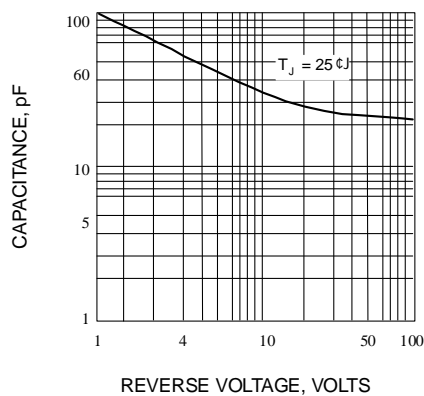


Fig. 4-TYPICAL JUNCTION CAPACITANCE

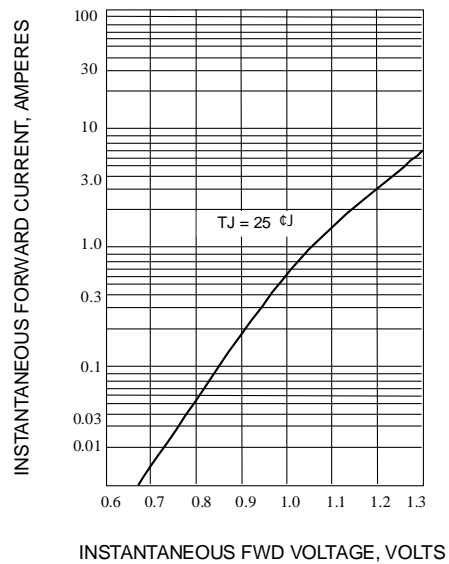


Fig. 5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS