

# TS100R THRU TS1010R

FAST SWITCHING PLASTIC DIODES

VOLTAGE - 50 to 1000 Volts CURRENT - 1.0 Ampere

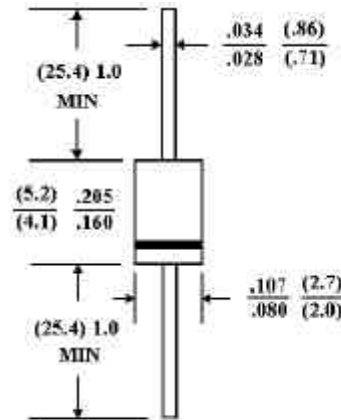
## FEATURES

- High current capability
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0 Utilizing Flame Retardant Epoxy Molding Compound
- 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

## 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%.

	TS100R	TS101R	TS102R	TS104R	TS106R	TS108R	TS1010R	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 $T_A=55^\circ\text{C}$	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 $T_J=25^\circ\text{C}$	5.0							$\mu\text{gA}$
at Rated DC Blocking Voltage $T_J=100^\circ\text{C}$	500							$\mu\text{gA}$
Typical Junction capacitance (Note 1) C <sub>J</sub>	12							pF
Typical Thermal Resistance (Note 3) R <sub>θJKJA</sub>	41							$^\circ\text{C/W}$
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:  $I_F=.5\text{A}$ ,  $I_R=1\text{A}$ ,  $t = .25\text{A}$
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

## TS100R THRU T S1010R

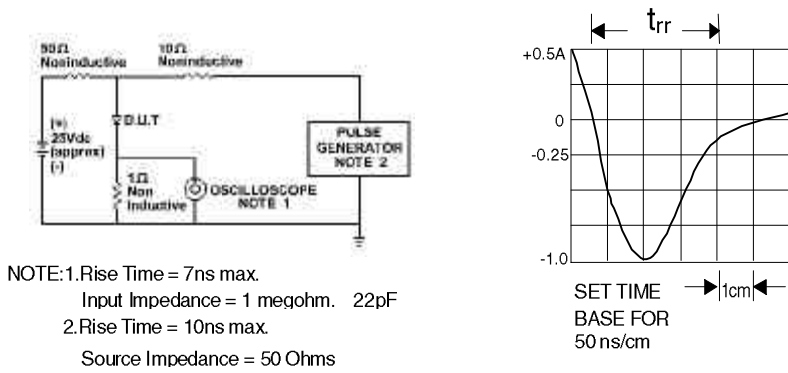
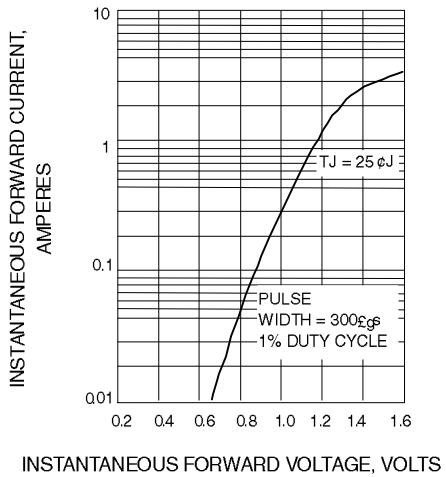


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

Fig. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

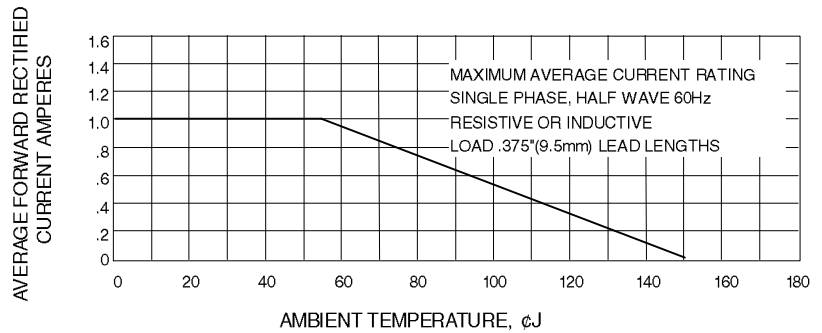


Fig. 3-FORWARD CURRENT DERATING CURVE

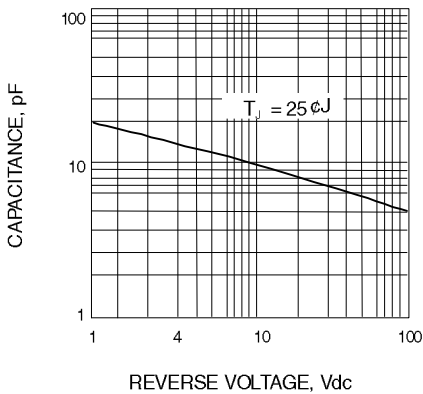


Fig. 4-TYPICAL JUNCTION CAPACITANCE

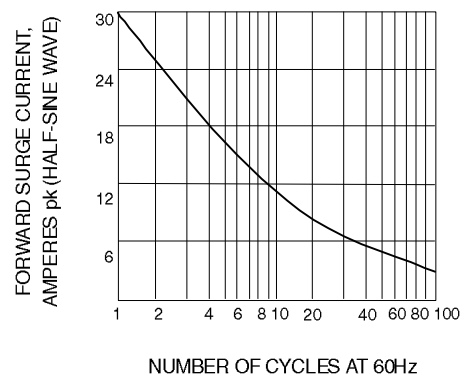


Fig. 5-PEAK FORWARD SURGE CURRENT