



# TS100RS THRU TS1010RS

## FAST SWITCHING PLASTIC DIODES

VOLTAGE - 50 to 1000 Volts CURRENT - 1.0 Ampere

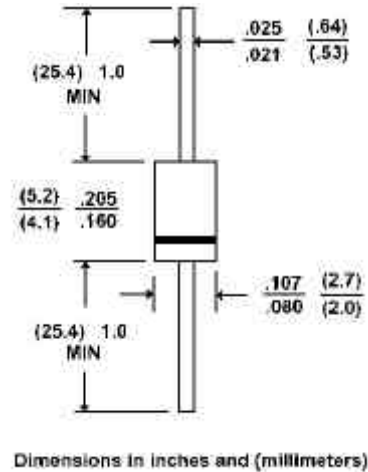
### FEATURES

- 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, A-405
- Terminals: Plated axial leads, solderable per MIL-STD-202, Method 208
- Polarity: Color band denotes cathode
- Mounting Position: Any
- Weight: 0.008 ounce, 0.22 gram

A-405



### 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%.

|                                                                                                 | TS100RS     | TS101RS | TS102RS | TS104RS | TS106RS | TS108RS | 1010RS | 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) $C_J$                                                     | 12          |         |         |         |         |         |        | $\mu\text{F}$      |
| Typical Thermal Resistance (Note 3) $R_{\theta\text{JKJA}}$                                     | 67          |         |         |         |         |         |        | $^\circ\text{C/W}$ |
| Maximum Reverse Recovery Time(Note 2)                                                           | 150         | 150     | 150     | 150     | 250     | 500     | 500    | ns                 |
| Operating and Storage Temperature Range $T_J, T_{\text{STG}}$                                   | -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:  $I_F=.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I = .25\text{A}$
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  
 TS100RS THRU T S1010RS

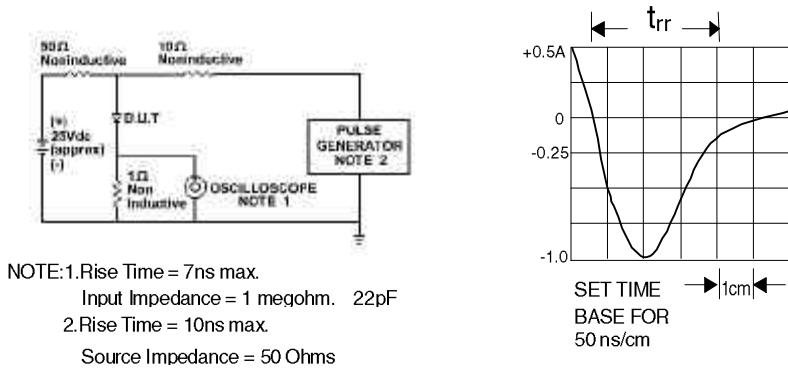


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

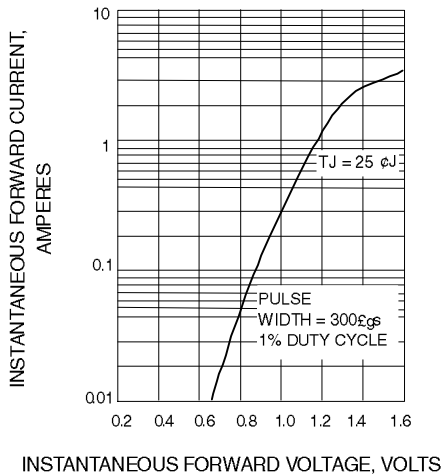


Fig. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

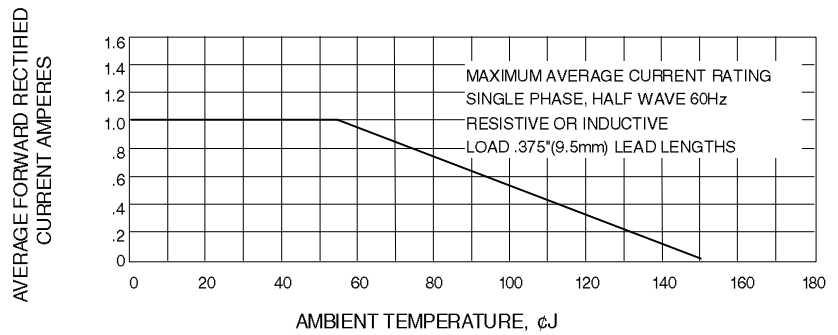


Fig. 3-FORWARD CURRENT DERATING CURVE

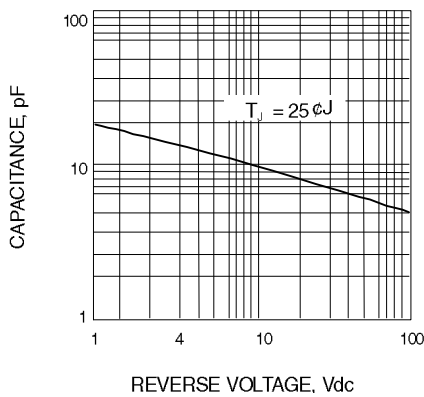


Fig. 4-TYPICAL JUNCTION CAPACITANCE

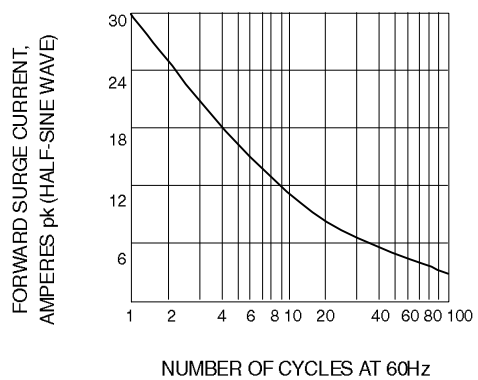


Fig. 5-PEAK FORWARD SURGE CURRENT