



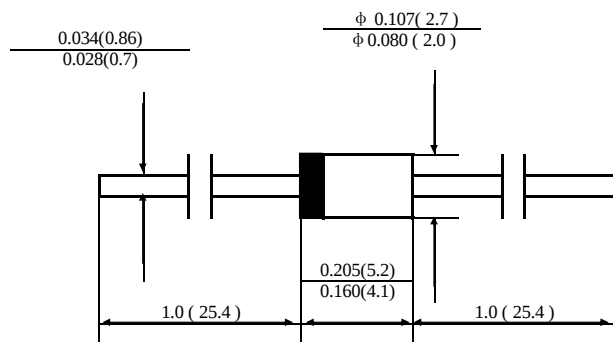
# TIGER ELECTRONIC CO.,LTD

## FR101 THRU FR107

### 1.0AMP FAST RECOVERY RECTIFIERS

VOLTAGE RANGE: 50 to 1000 VOLTS

#### DO-41



inch ( mm )

#### FEATURES

- . Low cost
- . Diffused junction
- . Low Leakage
- . Low forward voltage drop
- . High current capability
- . Easily cleaned with Freon. Alcohol. Isopropanol and similar solvents
- . The plastic material carries U/L recognition 94V-O

#### MECHANICAL DATA

- . Case: JEDEC DO - 41. molded plastic
- . Terminals: Axial leads. Solderable per MIL - STD - 202. Method 208
- . Polarity: Color band denotes cathode
- . Weight: 0.012 ounce. 0.33 grams
- . Mounting position: Any

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half wave 60HZ. resistive or inductive load. For capacitive load current derate by 20%

|                                                                                                      | SYMBOL            | FR101      | FR102 | FR103 | FR104 | FR105 | FR106 | FR107 | UNITS |
|------------------------------------------------------------------------------------------------------|-------------------|------------|-------|-------|-------|-------|-------|-------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                               | V <sub>RRM</sub>  | 50         | 100   | 200   | 400   | 600   | 800   | 1000  | V     |
| Maximum RMS Voltage                                                                                  | V <sub>RMS</sub>  | 35         | 70    | 140   | 280   | 420   | 560   | 700   | V     |
| Maximum DC Blocking Voltage                                                                          | V <sub>DC</sub>   | 50         | 100   | 200   | 400   | 600   | 800   | 1000  | V     |
| Maximum Average Forward Rectified Current<br>9.5mm Lead Length. T <sub>A</sub> = 55°C                | I <sub>(AV)</sub> | 1.0        |       |       |       |       |       |       | A     |
| Peak Forward Surge Current<br>8.3ms Single half-sine-wave superimposed<br>on rated load              | I <sub>FSM</sub>  | 30         |       |       |       |       |       |       | A     |
| Maximum Forward Voltage at 1.0A DC                                                                   | V <sub>F</sub>    | 1.2        |       |       |       |       |       |       | V     |
| Maximum Reverse Current T <sub>A</sub> = 25°C<br>at Rated DC Blocking Voltage T <sub>A</sub> = 100°C | I <sub>R</sub>    | 5.0<br>100 |       |       |       |       |       |       | μ A   |
| Maximum Reverse Recovery Time (Note 1)                                                               | trr               | 150        |       |       |       | 250   | 500   |       | ns    |
| Typical Junction Capacitance ( Note 2 )                                                              | C <sub>j</sub>    | 15         |       |       |       |       |       |       | pF    |
| Typical Thermal Resistance ( Note 3 )                                                                | R <sub>QJA</sub>  | 55         |       |       |       |       |       |       | °C/W  |
| Operating Junction Temperature Range                                                                 | T <sub>j</sub>    | —55 to 125 |       |       |       |       |       |       | °C    |
| Storage Temperature Range                                                                            | T <sub>STG</sub>  | —55 to 150 |       |       |       |       |       |       | °C    |

NOTE: 1.Measured with I<sub>F</sub>=0.5A,I<sub>R</sub>=1A,I<sub>rr</sub>=0.25A.

2.Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3.Thermal Resistance Junction to Ambient.



FIG. 1 -- TYPICAL FORWARD CHARACTERISTIC

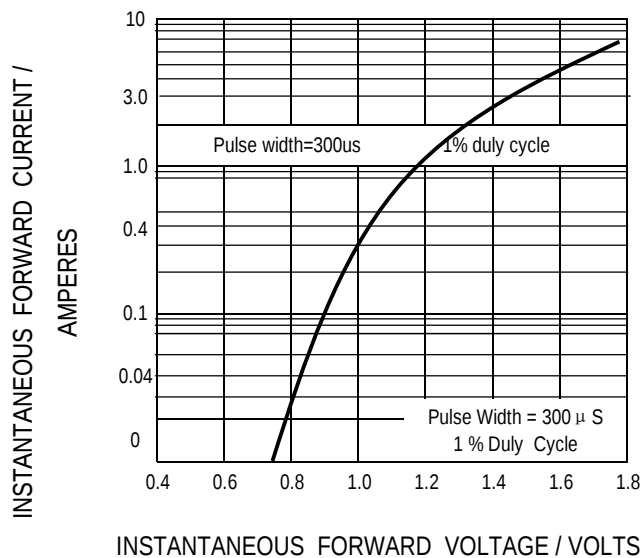


FIG. 2 -- TYPICAL JUNCTION CAPACITANCE

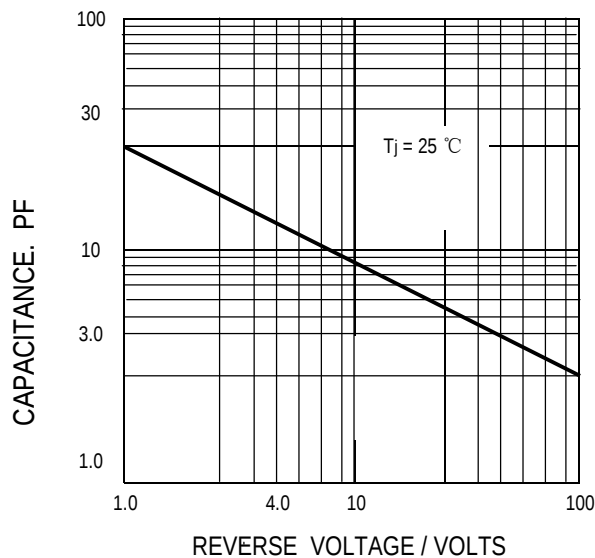


FIG. 3 -- FORWARD CURRENT DERATING CURVE

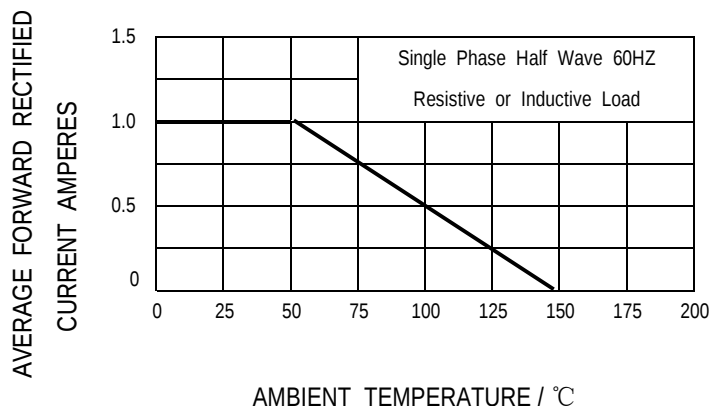


FIG. 4 -- PEAK FORWARD SURGE CURRENT

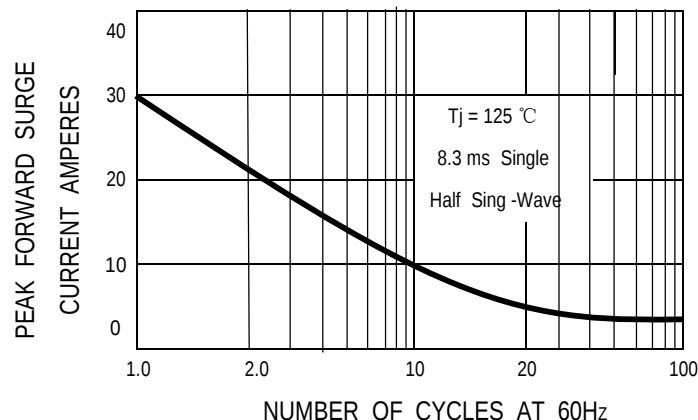
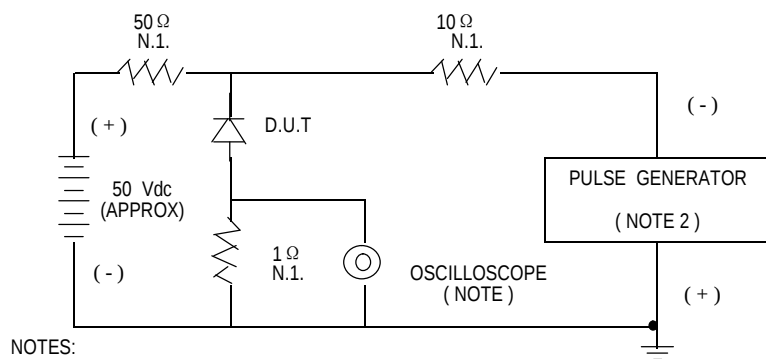
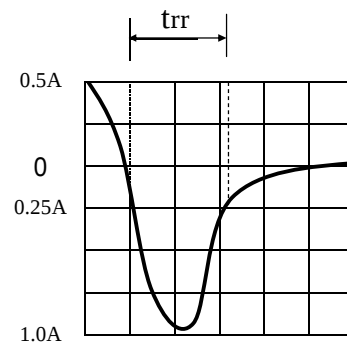


FIG. 5 -- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES:

1. RISE TIME = 7n SEC MAX. INPUT IMPEDANCE = 1 MEGOHM. 22pF
2. RISE TIME = 10n SEC MAX. SOURCE IMPEDANCE = 50 OHM.



SET TIME BASE FOR 15 ns / cm