

# WILLAS

**R1200F  
THRU  
R2000F**

## HIGH VOLTAGE FAST RECOVERY RECTIFIER

**VOLTAGE RANGE 1200 to 2000 Volts CURRENT 0.2 to 0.5 Ampere**

### FEATURES

- \*Fast switching
- \*Low leakage
- \*High current capability
- \*High surge capability
- \*High reliability

**Pb Free Product**

### MECHANICAL DATA

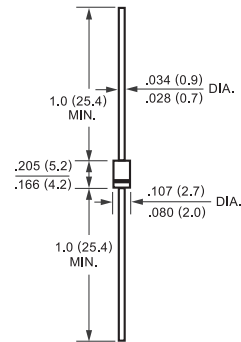
- \* Case: Molded plastic
- \* Epoxy: UL 94V-O rate flame retardant
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.35 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.



DO-41



### MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)

| RATINGS  | SYMBOL                            | R1200F       | R1500F | R1800F | R2000F | UNITS |
|--|-----------------------------------|--------------|--------|--------|--------|-------|
| Maximum Recurrent Peak Reverse Voltage   | V <sub>RRM</sub>                  | 1200         | 1500   | 1800   | 2000   | Volts |
| Maximum RMS Volts  | V <sub>RMS</sub>                  | 840          | 1050   | 1260   | 1400   | Volts |
| Maximum DC Blocking Voltage  | V <sub>DC</sub>                   | 1200         | 1500   | 1800   | 2000   | Volts |
| Maximum Average Forward Rectified Current at TA = 50°C   | I <sub>O</sub>                    | 500          |        |        | 200    | mAmps |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | I <sub>FSM</sub>                  | 30           |        |        |        | Amps  |
| Operating and Storage Temperature Range  | T <sub>J</sub> , T <sub>STG</sub> | -65 to + 175 |        |        |        | °C    |

### ELECTRICAL CHARACTERISTICS (At TA = 25°C unless otherwise noted)

| CHARACTERISTICS   | SYMBOL          | R1200F | R1500F | R1800F | R2000F | UNITS |
|---|-----------------|--------|--------|--------|--------|-------|
| Maximum Instantaneous Forward Voltage at 0.5A/0.2A DC   | V <sub>F</sub>  | 2.5    |        |        | 4.0    | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage TA = 25°C                             | I <sub>R</sub>  | 5.0    |        |        |        | uAmps |
| Maximum Full Load Reverse Current Average, Full Cycle .375", (9.5mm) lead length at TL = 55°C |                 | 100    |        |        |        | uAmps |
| Maximum Reverse Recovery Time (Note)  | t <sub>rr</sub> | 500    |        |        |        | nSec  |

NOTES : Test Conditions: I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>RR</sub> = 0.25A

# RATING AND CHARACTERISTIC CURVES ( R1200F THRU R2000F )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

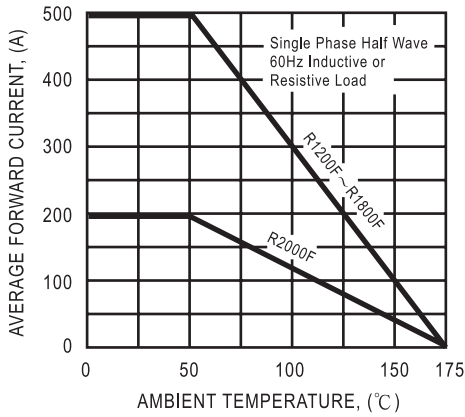


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

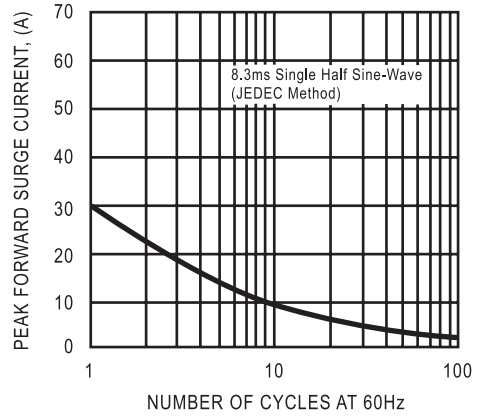
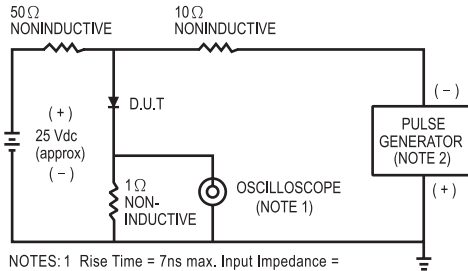


FIG. 3 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



- NOTES: 1 Rise Time = 7ns max. Input Impedance = 1 megohm. 22 pF.  
 2. Rise Time = 10ns max. Source Impedance = 50 ohms.

