

# 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

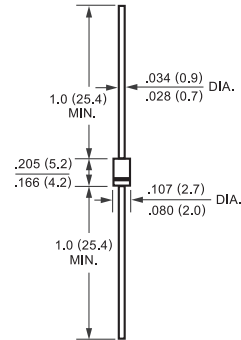
- \* Case: Molded plastic
- \* Epoxy: UL 94V-O rate flame retardant
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.35 gram

### 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



Dimensions in inches and (millimeters)

### 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

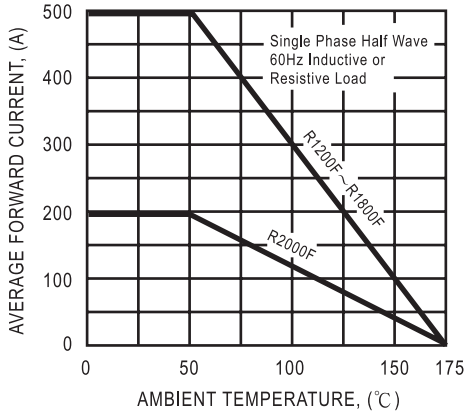


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

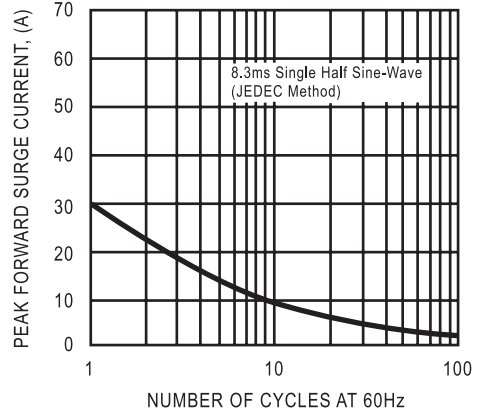
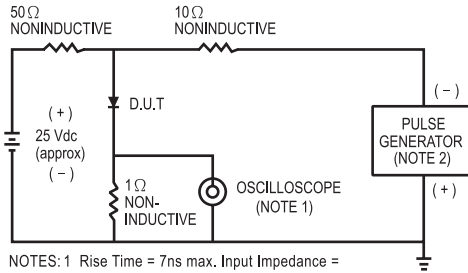


FIG. 3 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

