RECTRON
SEMICONDUCTOR
TECHNICAL SPECIFICATION

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

MECHANICAL DATA
* Case: Molded plastic
* Epoxy: Device has UL flammability classification 94V-O
* 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

.034 (0.9) DIA.
.028 (0.7)

1.0 (25.4) MIN.

.205 (5.2)
.166 (4.2)

.107 (2.7) DIA.
.080 (2.0)

1.0 (25.4) MIN.
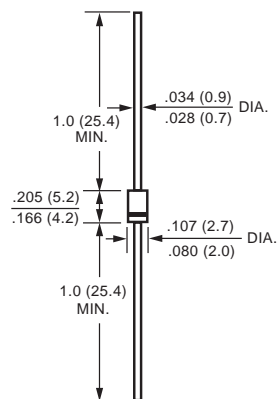
Dimensions in inches and (millimeters)

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

RATINGS	SYMBOL	R1200F	R1500F	R1800F	R2000F	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	1200	1500	1800	2000	Volts
Maximum RMS Volts	V_{RMS}	840	1050	1260	1400	Volts
Maximum DC Blocking Voltage	V_{DC}	1200	1500	1800	2000	Volts
Maximum Average Forward Rectified Current at TA = 50°C	I_O	500			200	mAmps
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	30				Amps
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to + 150				°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_F	2.5			4.0	Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage TA = 25°C	I_R	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)	trr	500				nSec

NOTES : Test Conditions: IF = 0.5A, IR = -1.0A, IRR = -0.25A

RATING AND CHARACTERISTIC CURVES (R1200F THRU R2000F)
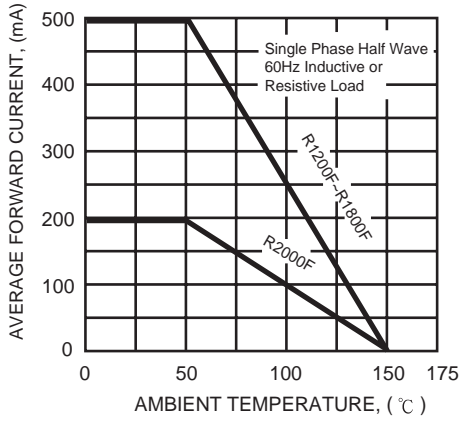
FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

AVERAGE FORWARD CURRENT, (mA)

AMBIENT TEMPERATURE, (℃)

Single Phase Half Wave 60Hz Inductive or Resistive Load

R1200F~R1800F

R2000F

FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

PEAK FORWARD SURGE CURRENT, (A)

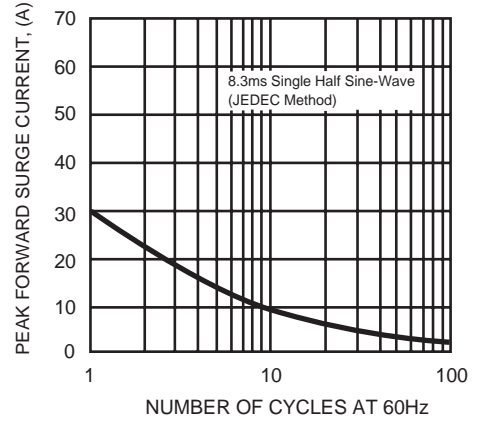NUMBER OF CYCLES AT 60Hz

8.3ms Single Half Sine-Wave (JEDEC Method)

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

50 Ω NONINDUCTIVE

10 Ω NONINDUCTIVE

(+)
25 Vdc (approx)
(-)

D.U.T

1 Ω NON-INDUCTIVE

OSCILLOSCOPE (NOTE 1)

PULSE GENERATOR (NOTE 2)

(-)

(+)

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

+0.5A

0

-0.25A

-1.0A

trr

1cm

SET TIME BASE FOR 50/100 ns/cm

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