RECTRON
SEMICONDUCTOR
TECHNICAL SPECIFICATION

1A1 THRU 1A7

SILICON RECTIFIER
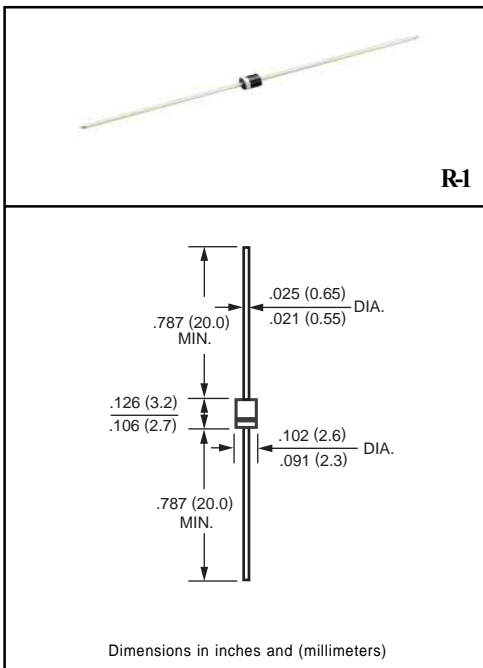
VOLTAGE RANGE 50 to 1000 Volts   CURRENT 1.0 Ampere

FEATURES
* High reliability
* Low leakage
* Low forward voltage drop
* High current capability

MECHANICAL DATA
* Case: Molded plastic black body
* Epoxy: Device hasUL flammability classification 94V-O
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 0.19 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%.

R-1

.787 (20.0) MIN.

.025 (0.65) / .021 (0.55) DIA.

.126 (3.2) / .106 (2.7)

.102 (2.6) / .091 (2.3) DIA.

.787 (20.0) MIN.

Dimensions in inches and (millimeters)

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

RATINGS	SYMBOL	1A1	1A2	1A3	1A4	1A5	1A6	1A7	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	VRMS	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	VDC	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at TA = 25°C	IO				1.0				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM				25				Amps
Typical Junction Capacitance (Note)	CJ				15				pF
Typical Thermal Resistance	R θ J A				60				°C/W
Operating and Storage Temperature Range	TJ, TSTG				-55 to + 150				°C

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

CHARACTERISTICS		SYMBOL	1A1	1A2	1A3	1A4	1A5	1A6	1A7	UNITS
Maximum Instantaneous Forward Voltage at 1.0A DC		VF				1.1				Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@TA = 25°C	IR				5.0				uAmps
	@TA = 100°C					50				
Maximum Full Load Reverse Current Full Cycle Average .375" (9.5mm) lead length at TL = 75°C						100				uAmps

NOTES :   Measured at 1 MHz and applied reverse voltage of 4.0 volts

RATING AND CHARACTERISTIC CURVES (1A1 THRU 1A7)
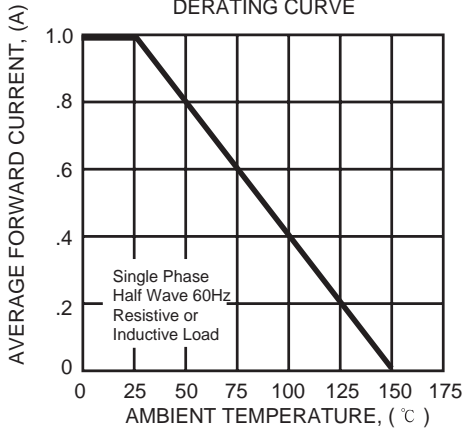
FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

Single Phase Half Wave 60Hz Resistive or Inductive Load

AVERAGE FORWARD CURRENT, (A) vs AMBIENT TEMPERATURE, (℃)

FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

$T_J = 25 ℃$
Pulse Width=300uS
1% Duty Cycle

INSTANTANEOUS FORWARD CURRENT, (A) vs INSTANTANEOUS FORWARD VOLTAGE, (V)
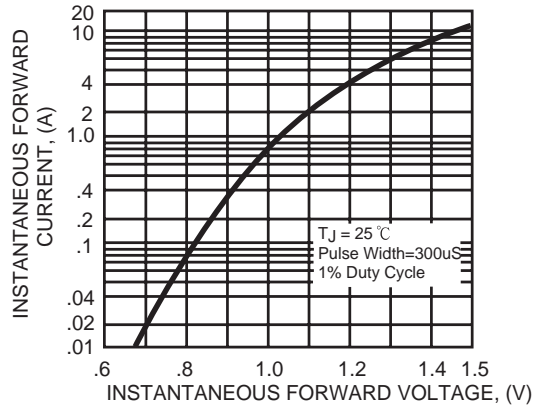
FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

8.3ms Single Half Sine-Wave (JEDED Method)

PEAK FORWARD SURGE CURRENT, (A) vs NUMBER OF CYCLES AT 60Hz
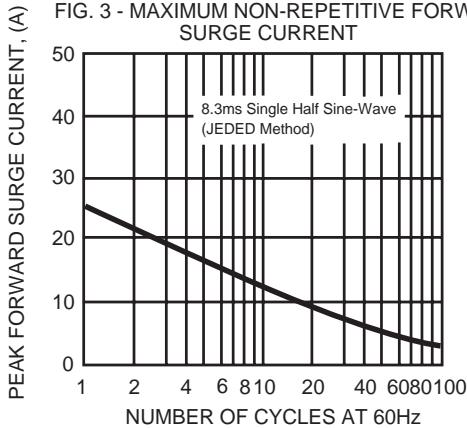
FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

$T_J = 25℃$

INSTANTANEOUS REVERSE CURRENT, (uA) vs PERCENT OF RATED PEAK REVERSE VOLTAGE, (%)

FIG. 5 - TYPICAL JUNCTION CAPACITANCE

$T_J = 25℃$

JUNCTION CAPACITANCE, (pF) vs REVERSE VOLTAGE, (V)

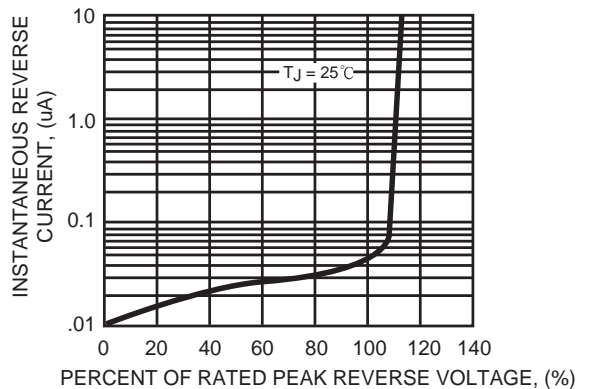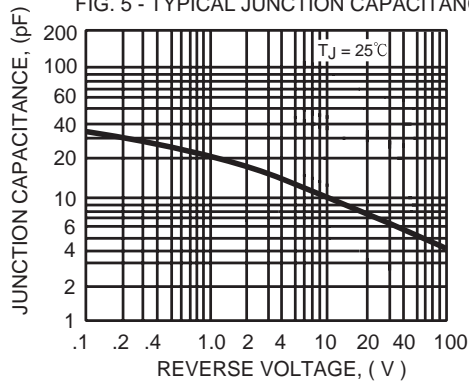**RECTRON**

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