RECTRON
SEMICONDUCTOR
TECHNICAL SPECIFICATION

RS401L THRU RS407L

SINGLE-PHASE GLASS PASSIVATED SILICON BRIDGE RECTIFIER

VOLTAGE RANGE 50 to 1000 Volts   CURRENT 4.0 Ampere

FEATURES
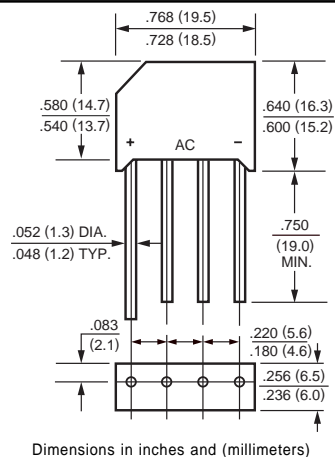
* Ideal for printed circuit board
* Surge overload rating: 150 amperes peak
* Mounting position: Any
* Weight: 4.8 grams
* Molded structure

MECHANICAL DATA

* UL listed the recognized component directory, file #E94233
* Epoxy: Device has UL flammability classification 94V-O

RS-4L

.768 (19.5)
.728 (18.5)

.580 (14.7)
.540 (13.7)

.640 (16.3)
.600 (15.2)

AC

.052 (1.3) DIA.
.048 (1.2) TYP.

.750
(19.0)
MIN.

.083
(2.1)

.220 (5.6)
.180 (4.6)

.256 (6.5)
.236 (6.0)

Dimensions in inches and (millimeters)

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%.

MAXIMUM RATINGS (At $T_A = 25^{\circ}C$ unless otherwise noted)

RATINGS	SYMBOL	RS401L	RS402L	RS403L	RS404L	RS405L	RS406L	RS407L	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Bridge Input Voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Output Current $T_A = 50^{\circ}C$	I_O	4.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150							Amps
Operating Temperature Range	T_J	-55 to + 150							^{0}C
Storage Temperature Range	T_{STG}	-55 to + 150							^{0}C
Typical Junction Capacitance (Note)	C_J	40							pF

ELECTRICAL CHARACTERISTICS (At $T_A = 25^{\circ}C$ unless otherwise noted)

CHARACTERISTICS		SYMBOL	RS401L	RS402L	RS403L	RS404L	RS405L	RS406L	RS407L	UNITS
Maximum Forward Voltage Drop per Bridgeat Element at 4.0A DC		V_F	1.0							Volts
Maximum Reverse Current at Rated Dc Blocking Voltage per element	@$T_A = 25^{\circ}C$	I_R	5.0							uAmps
	@$T_A = 125^{\circ}C$		1.0							mAmps

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

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RATING AND CHARACTERISTIC CURVES (RS401L THRU RS407L)

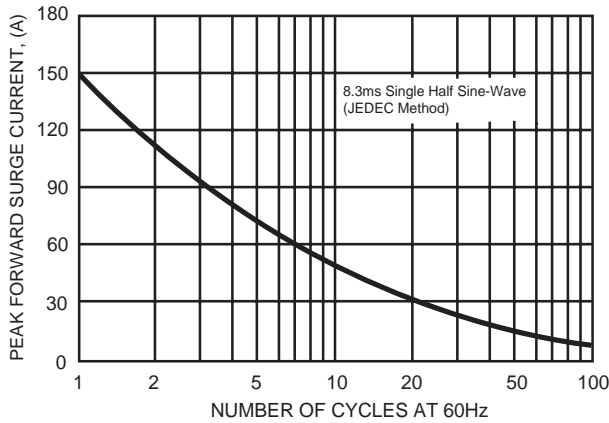FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

8.3ms Single Half Sine-Wave
(JEDEC Method)

PEAK FORWARD SURGE CURRENT, (A)

NUMBER OF CYCLES AT 60Hz

FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

60 Hz RESISTIVE OR
INDUCTIVE LOAD

AVERAGE FORWARD OUTPUT CURRENT, (A)

CASE TEMPERATURE, (℃)
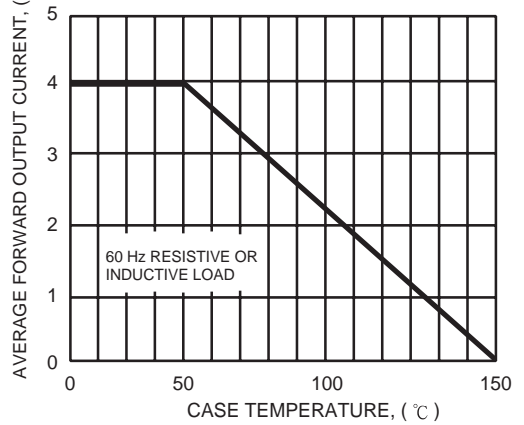
FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

$T_J = 25℃$

Pulse Width = 300us
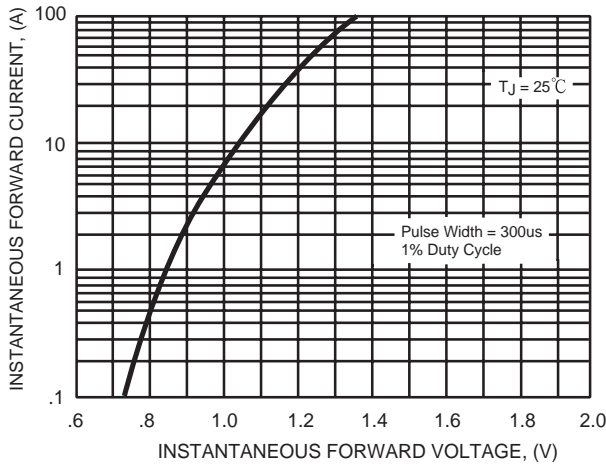1% Duty Cycle

INSTANTANEOUS FORWARD CURRENT, (A)

INSTANTANEOUS FORWARD VOLTAGE, (V)

FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

$T_J = 100℃$

$T_J = 25℃$

INSTANTANEOUS REVERSE CURRENT, (uA)

PERCENT OF RATED PEAK REVERSE VOLTAGE, (%)

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