RECTRON
SEMICONDUCTOR
TECHNICAL SPECIFICATION

RS101 THRU RS107

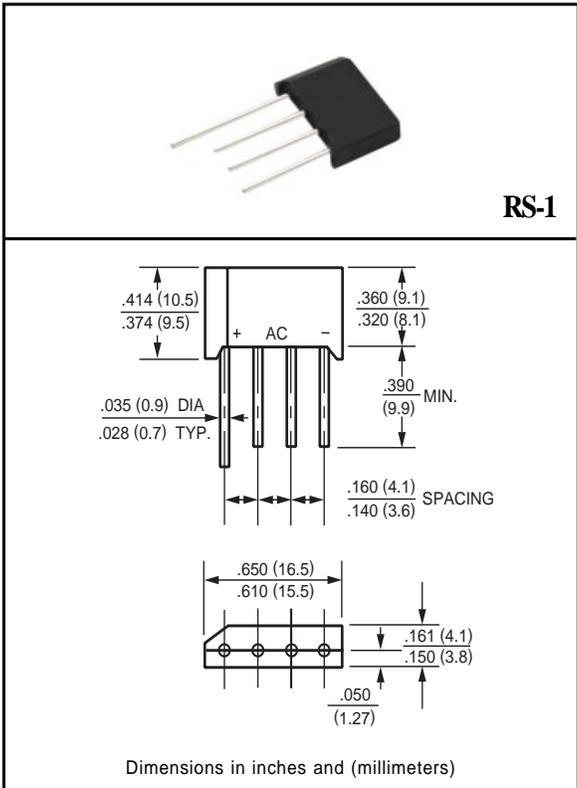## SINGLE-PHASE GLASS PASSIVATED SILICON BRIDGE RECTIFIER

VOLTAGE RANGE 50 to 1000 Volts   CURRENT 1.0 Ampere

FEATURES
* Low cost
* Low leakage
* Low forward voltage
* Mounting position: Any
* Weight: 1.26 grams

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

RS-1

.414 (10.5) / .374 (9.5)
.360 (9.1) / .320 (8.1)
+ AC −
.035 (0.9) DIA / .028 (0.7) TYP.
.390 (9.9) MIN.
.160 (4.1) / .140 (3.6) SPACING
.650 (16.5) / .610 (15.5)
.161 (4.1) / .150 (3.8)
.050 (1.27)

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS
Ratings at 25 $^{\circ}$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	RS101	RS102	RS103	RS104	RS105	RS106	RS107	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 at $T_A = 50^{\circ}$C	I_O	1.0							Amps
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	30							Amps
Typical Thermal Resistance from junction to ambient	$R_{\theta JA}$	50							$^{\circ}$C/W
Typical Thermal Resistance from junction to case	$R_{\theta JC}$	15							
Operating Temperature Range	T_J	-55 to + 150							$^{\circ}$C
Storage Temperature Range	T_{STG}	-55 to + 150							$^{\circ}$C

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

CHARACTERISTICS		SYMBOL	RS101	RS102	RS103	RS104	RS105	RS106	RS107	UNITS
Maximum Forward Voltage Drop per Bridge Element at 1.0A 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
	@$T_A = 100^{\circ}$C		1							mAmps

Note: "Fully ROHS compliant", "100% Sn plating (Pb-free)".

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RATING AND CHARACTERISTIC CURVES (RS101 THRU RS107)
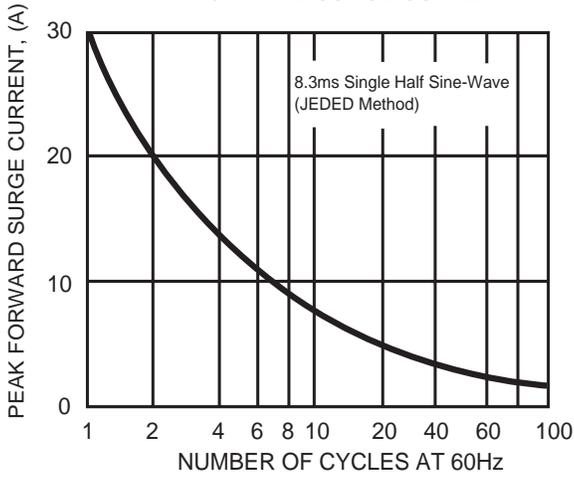
FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

8.3ms Single Half Sine-Wave
(JEDED Method)

PEAK FORWARD SURGE CURRENT, (A) vs NUMBER OF CYCLES AT 60Hz

FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

60 Hz RESISTIVE OR INDUCTIVE LOAD

AVERAGE FORWARD CURRENT, (A) vs AMBIENT TEMPERATURE, (℃)
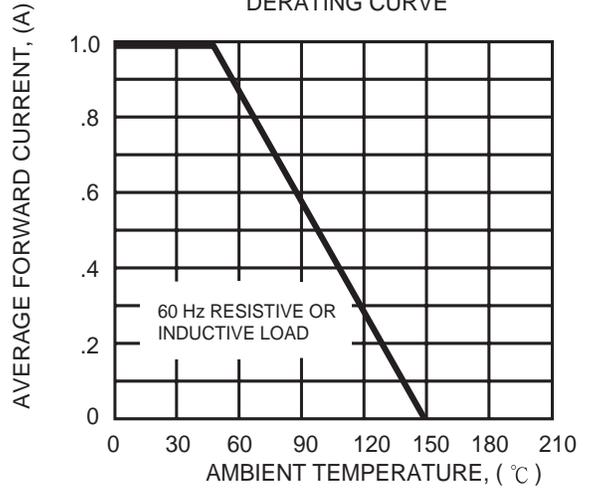
FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

$T_J = 25℃$
Pulse Width = 300us
1% Duty Cycle
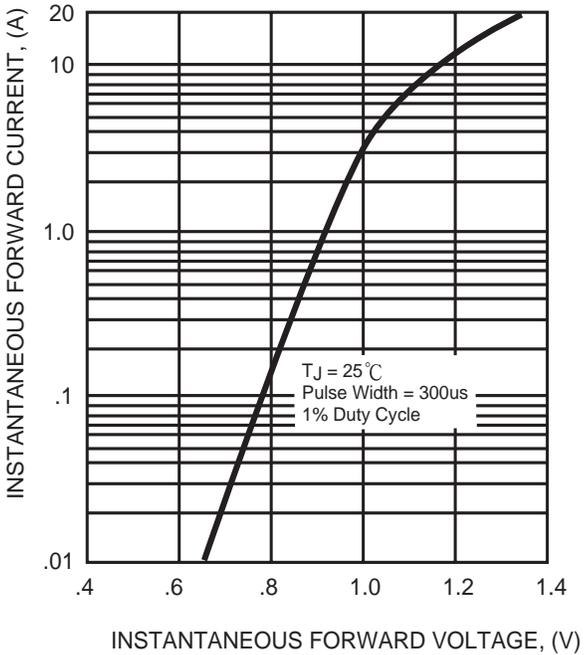
INSTANTANEOUS FORWARD CURRENT, (A) vs INSTANTANEOUS FORWARD VOLTAGE, (V)

FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

$T_J = 25℃$

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

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