



SPEC NO.: SRD-102L

SPECIFICATION

TO:STE953

Model Name: SAW Resonator

PART NO: SSR315N01D11

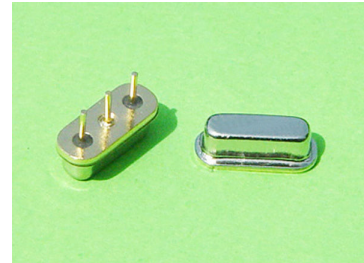
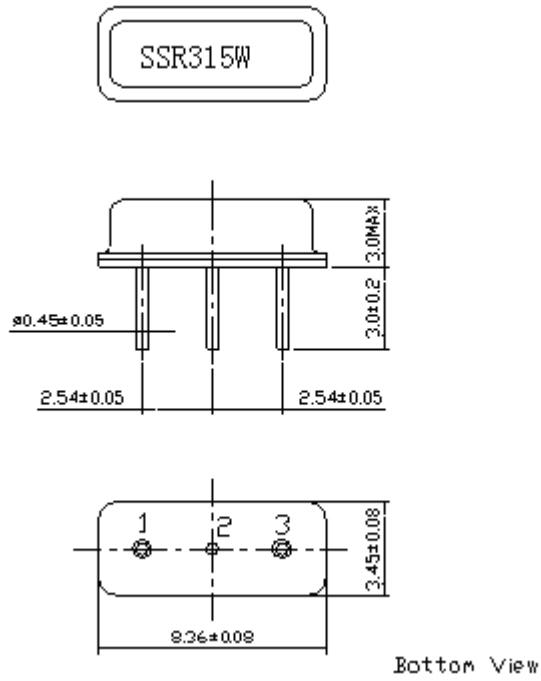
CUSTOMER PART NO.:

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1.Package Dimension

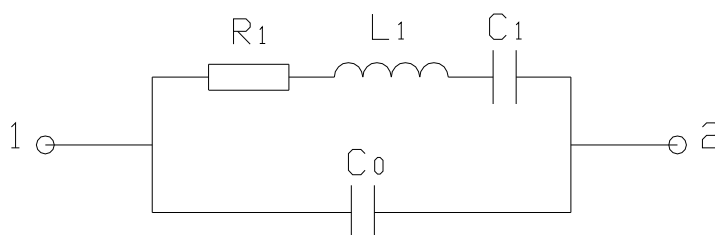


Pin No.	Functions
1.	INPUT
2.	GROUND
3.	OUTPUT

2. Marking

R315M Model

3. Equivalent LC Model



4. Performance

4.1 Maximum Rating

Item	Value
DC Voltage V_{DC}	10V
AC Voltage V_{PP}	10V (50Hz/60Hz)
Operation Temperature range	-40°C to +85°C
Storage Temperature range	-45°C to +85°C
RF Power Dissipation	0dBm

4.2 Electronic Characteristics

Test Temperature: 22°C +/- 2°C

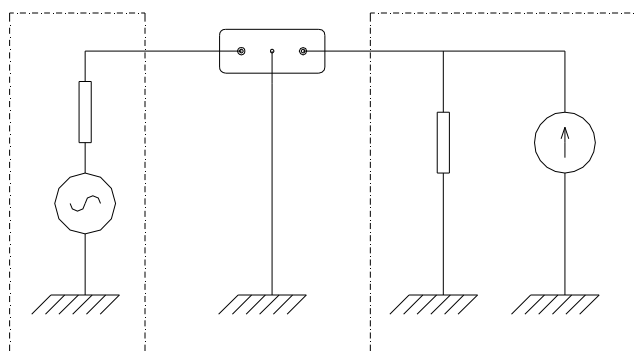
Terminating source impedance: 50Ω

Terminating load impedance: 50Ω

Item	Unit	Minimum	Typical	Maximum
Center Frequency (f_0)	MHz	314.925	315.000	315.075
Insertion Loss	dB	—	1.5	2.5
Quality Factor				
Unloaded Q	—	—	12,000	—
50Ω Loaded Q	—	—	1,900	—
Temperature Stability				
Turnover Temperature	°C	10	25	40
Frequency Temperature Coefficient	ppm/°C ²	—	0.037	—

Frequency Aging	ppm/yr	—	<±10	
DC Insulation Resistance	MΩ	1.0		—
RF Equivalent RLC Model				
Motional Resistance R ₁	Ω	—	23	29
Motional Inductance L ₁	μH	—	115.2	—
Motional Capacitance C ₁	fF	—	2.2	—
Shunt Static Capacitance C ₀	pF	2.1	2.4	2.7

4.3 Test Circuit



Note: Reference temperature shall be $25 \pm 2^\circ\text{C}$. However, the measurement may be carried out at 5°C to 35°C unless there is a dispute.

5. Reliability

5.1 Resistance to Soldering heat:

5.1.1 The components shall remain within the electrical specifications after it soldered on the 1mm-thickness PCB board and dipped in the solder at $260^\circ\text{C} \pm 5^\circ\text{C}$ for 10 ± 1 seconds.

5.1.2 The components shall remain within the electrical specifications after it soldered by electric iron, solder at $350^\circ\text{C} \pm 10^\circ\text{C}$ for 3~4 seconds, recovery time : $2\text{h} \pm 0.5\text{h}$.

5.2 Thermal Shock:

The components shall remain within the electrical specifications after being kept at the condition of heat cycle conditions: $T_A = -40^\circ\text{C} \pm 3^\circ\text{C}$, $T_B = 85^\circ\text{C} \pm 2^\circ\text{C}$, $t_1 = t_2 = 30\text{min}$, switch time $\leq 3\text{min}$ & cycle time : 100 times, recovery time : $2\text{h} \pm 0.5\text{h}$.

5.3 The Temperature Storage:

5.3.1 High Temperature Storage: The components shall remain within the electrical specifications after being kept at the 85 ± 2 for 500 hours, recovery time : $2h\pm 0.5h$.

5.3.2 Low Temperature Storage: The components shall remain within the electrical specifications after being kept at the -40 ± 3 for 500 hours, recovery time : $2h\pm 0.5h$.

5.4 Humidity test:

The components shall remain within the electrical specifications after being kept at the condition of ambient temperature 60 ± 2 , and 90~95% RH for 500 hours.

5.5 Drop test:

The components shall remain within the electrical specifications after random free drops 10 times from height of 1.0 meter onto concrete floor, and the specimens shall meet the electrical specifications in table 5, external visual inspection.

5.6 Solderability test:

at the condition of temperature 245 ± 5 °C Depth: DIP 2/3 , SMD 1/5, time: 3.0s-5.0s, 80% or more of the immersed surface shall be covered with solder and well-proportioned.

5.7 Vibration Fatigue:

The components shall remain within the electrical specifications after loaded vibration at 10~55Hz, amplitude 1.5mm, X, Y, Z, direction, for 2 hours.

5.8 Terminal strength:

The force 10 ± 1 seconds of 19.6N is applied to each terminal, and 45° in the same direction 2 times with 2N bending force (Exception: SMD)

5.9 Mechanical Shock:

The components shall remain within the electrical specifications after 1000 shocks, acceleration 392 m/s^2 , duration 6ms.

Note: As a result of the particularity of inner structure of SAW products, it easy to be breakdown by electrostatic, so we should pay attention to ESD protect in the test.

6. Remarks

6.1 Static voltage

Static voltage between signal load & ground may cause deterioration & destruction of the component. Please avoid static voltage.

6.2 Ultrasonic cleaning

Ultrasonic vibration may cause deterioration & destruction of the component.

Please avoid ultrasonic cleaning.

6.3 Soldering

Only leads of component may be soldered. Please avoid soldering another part of component.

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