

规格书编号

SPEC NO :

产品规格书

SPECIFICATION

CUSTOMER 客户: _____
PRODUCT 产品: _____ SAW RESONATOR _____
MODEL NO 型号: _____ HDR315.12M2 S6 _____
PREPARED 编制: _____ CHECKED 审核: _____
APPROVED 批准: _____ D A T E 日期: _____ 2011-5-25 _____

| | | |
|-------------------------|-------------|---------|
| 客户确认 CUSTOMER RECEIVED: | | |
| 审核 CHECKED | 批准 APPROVED | 日期 DATE |
| | | |

无锡市好达电子有限公司
Shoulder Electronics Limited

更改历史记录 History Record

| 更改日期 Date | 规格书编号 Spec. No. | 产品型号 Part No. | 客户产品型号 Customer No. | 更改内容描述 Modify Content | 备注 Remark |
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1. Scope

This specification shall cover the characteristics of 1-port SAW resonator with R315.12M2 used for remote-control security.

2. Electrical Specification

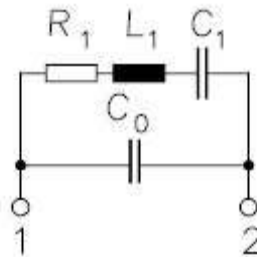
2.1 Maximum Rating

| | |
|-----------------------|----------------|
| DC Voltage VDC | 10V |
| AC Voltage Vpp | 10V 50Hz/60Hz |
| Operation temperature | -40°C to +85°C |
| Storage temperature | -45°C to +85°C |
| Source Power | 0dBm |

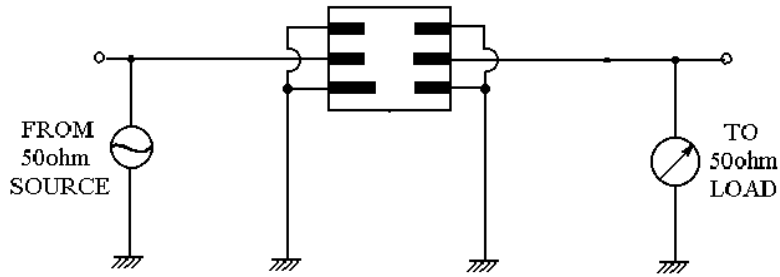
2.2 Electronic Characteristics

| Item | Unites | Minimum | Typical | Maximum | |
|----------------------------------|-------------------------|---------|---------|---------|----|
| Center Frequency | MHz | 315.045 | 315.120 | 315.195 | |
| Insertion Loss | dB | | 1.4 | 1.9 | |
| Quality Factor | Unload Q | 8000 | 12800 | | |
| | 50Ω Loaded Q | 1000 | 2000 | | |
| Temperature | Turnover Temperature | °C | 10 | 25 | 40 |
| Stability | Freq.temp.Coefficient | ppm/°C | | 0.032 | |
| Frequency Aging | | ppm/yr | | <±10 | |
| DC. Insulation Resistance | MΩ | 1.0 | | | |
| RF Equivalent RLC Model | Motional Resistance R1 | Ω | | 17.6 | |
| | Motional Inductance L1 | μH | | 118 | |
| | Motional Capacitance C1 | fF | | 2.16 | |
| Transducer Static Capacitance C0 | | pF | | 2.13 | |

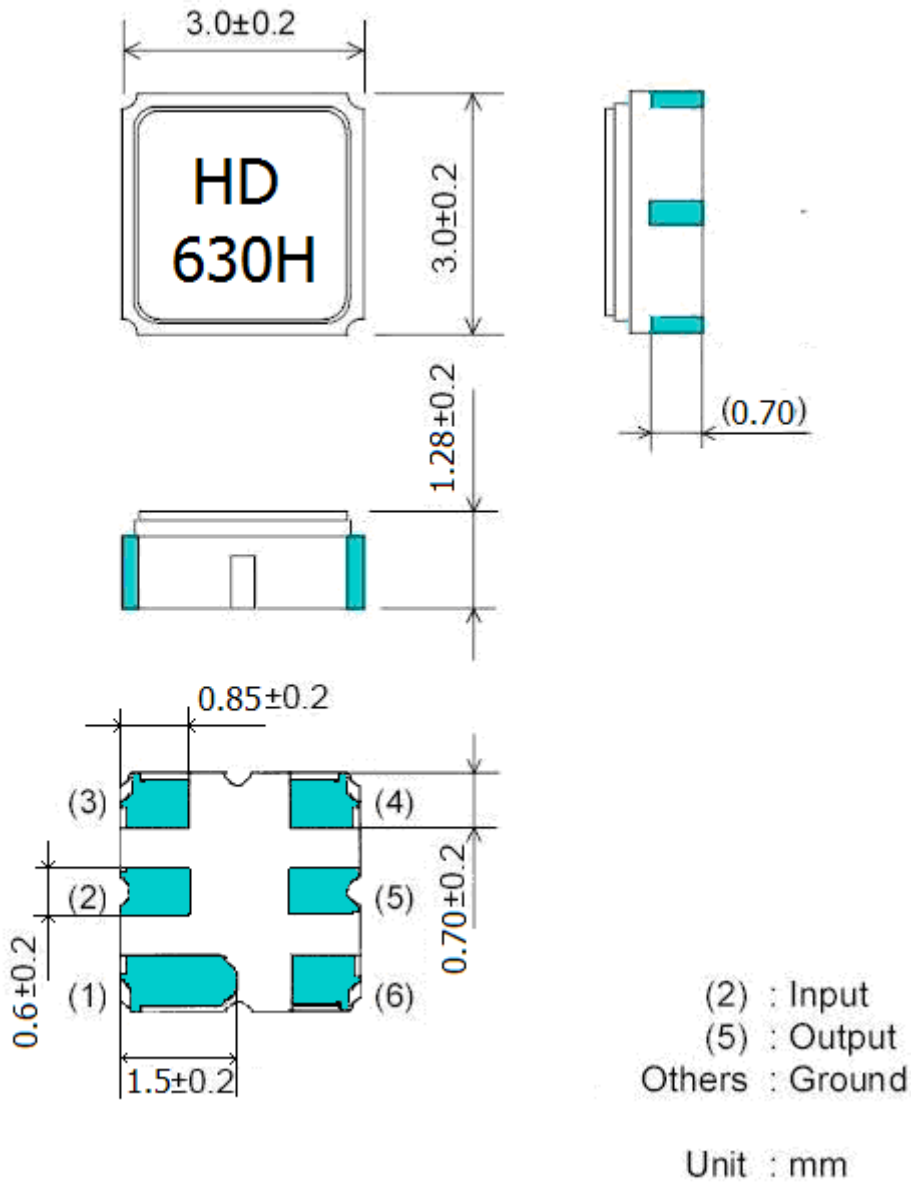
2.3 Equivalent LC Model



3. Test Circuit



4. Dimension



- 1. **HD**: Manufacture's logo
- 2. 630H: Model code

5. Environment Characteristic

5-1 Thermal Shock:

The components shall remain within the electrical specifications after being kept at the condition of heat cycle conditions: TA=-40°C±3°C, TB=85°C±2°C, t1=t2=30min, switch time≤3min& cycle time : 100 times, recovery time: 2h±0.5h.

5-2 Resistance to solder heat

Submerge the device terminals into the solder bath at 260°C ±5°C for 10±1 sec. Then release the device into the room conditions for 4 hours. It shall meet the specifications in 2.2.

5-3 Solder ability

Submerge the device terminals into the solder bath at 245°C ±5°C for 5s, More than 95% area of the soldering pad must be covered with new solder. It shall meet the specifications in 2.2

5-4 The Temperature Storage:

5.3.1 High Temperature Storage: The components shall remain within the electrical specifications after being kept at the 85°C±2°C for 96h±4h, recovery time : 2h±0.5h.

5.3.2 Low Temperature Storage: The components shall remain within the electrical specifications after being kept at the -40°C±3°C for 96h±4h, recovery time : 2h±0.5h.

5-5 Humidity test:

The components shall remain within the electrical specifications after being kept at the condition of ambient temperature 60°C±2°C, and 90~96% RH for 96h±4h.

5-6 Mechanical shock

Drop the device randomly onto the concrete floor from the height of 1m for 3 times. The resonator shall fulfill the specifications in 2.2.

5-7 Vibration

Subject the device to the vibration for 2 hour each in X, Y and Z axes with the amplitude of 1.5 mm at 10 to 55 Hz. The resonator shall fulfill the specifications in 2.2.

6. Remark

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.

7. Packing

7.1 Dimensions

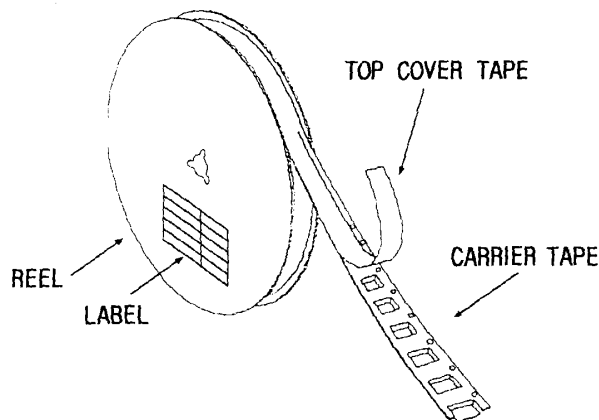
- (1) Carrier Tape: Figure 1
- (2) Reel: Figure 2
- (3) The product shall be packed properly not to be damaged during transportation and storage.

7.2 Reeling Quantity

- 1000 pcs/reel 7"
- 3000 pcs/reel 13"

7.3 Taping Structure

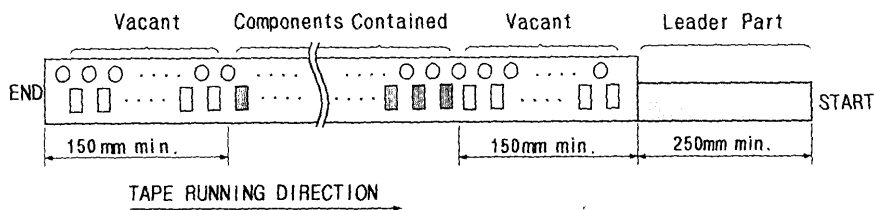
- (1) The tape shall be wound around the reel in the direction shown below.



- (2) Label

| | |
|-------------------|--|
| Device Name | |
| User Product Name | |
| Quantity | |
| Lot No. | |

- (3) Leader part and vacant position specifications.

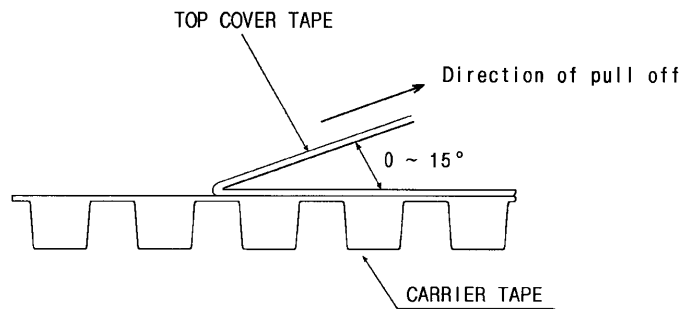


8. Tape Specifications

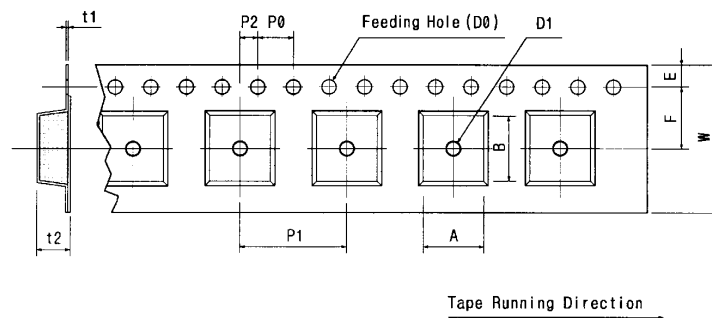
8.1 Tensile Strength of Carrier Tape: 4.4N/mm width

8.2 Top Cover Tape Adhesion (See the below figure)

- (1) pull off angle: 0~15°
- (2) speed: 300mm/min.
- (3) force: 20~70g



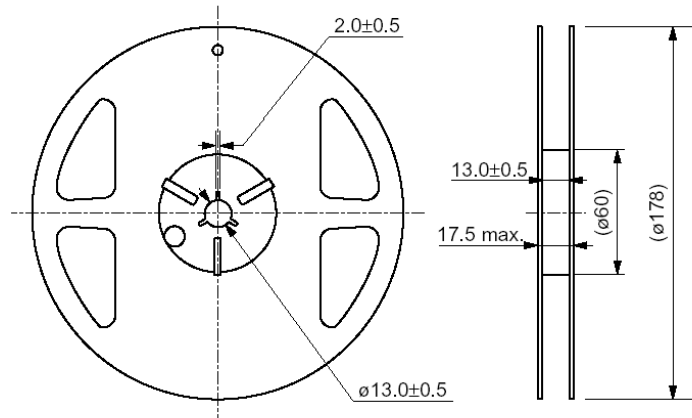
[Figure 1] Carrier Tape Dimensions



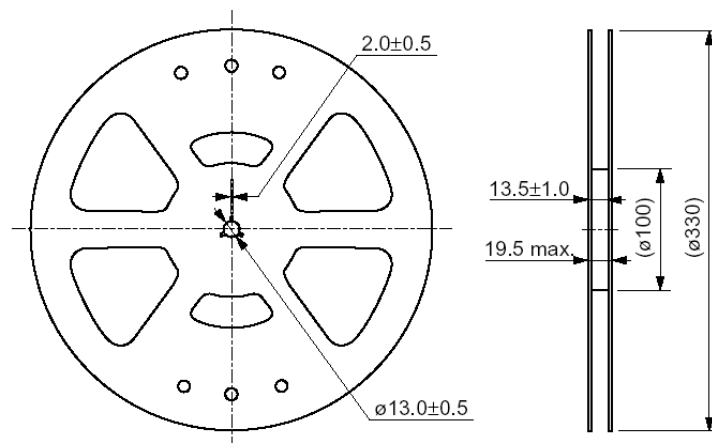
[Unit: mm]

| W | F | E | P0 | P1 | P2 | D0 | D1 | t1 | t2 | A | B |
|------|-------|------|------|------|-------|------|-------|-------|------|------|------|
| 12.0 | 5.5 | 1.75 | 4.0 | 4.0 | 2.0 | Ø1.5 | Ø1.0 | 0.3 | 1.25 | 3.3± | 3.3± |
| ±0.3 | ±0.05 | ±0.1 | ±0.1 | ±0.1 | ±0.05 | ±0.1 | ±0.25 | ±0.05 | ±0.1 | 0.1 | 0.1 |

[Figure 2] Reel Dimensions

 $\phi 178$ Reel Dimension

(in mm)

 $\phi 330$ Reel Dimension

(in mm)