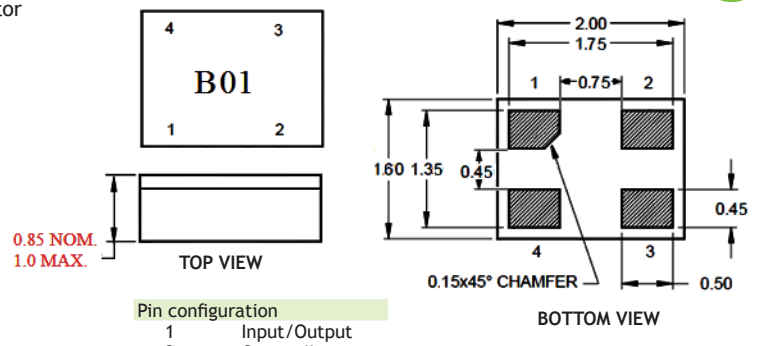
SCOPE

This specification shall cover the characteristics of 1-port SAW resonator with R433M used for remote-control security.

DIMENSIONS (all in mm)



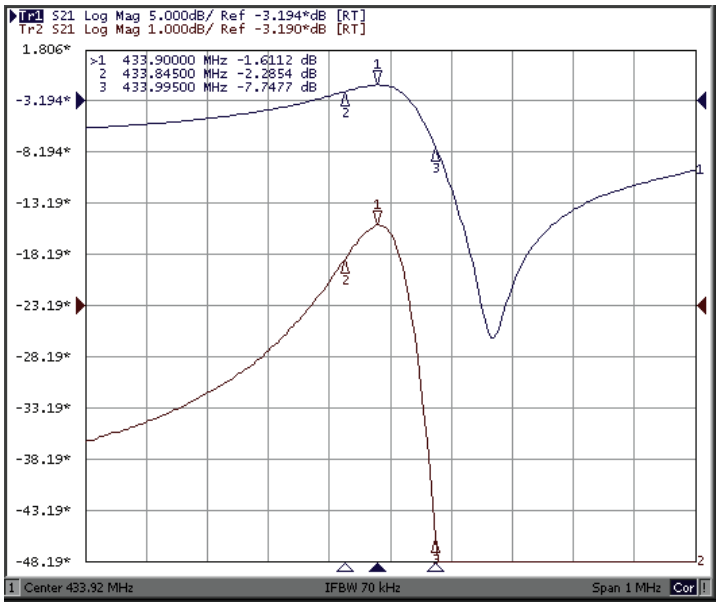
Pin configuration	
1	Input/Output
3	Output/Input
2,4	Ground

2.1. ELECTRICAL SPECIFICATION

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
Max Input Power	10dBm

2.2. ELECTRONIC CHARACTERISTICS

Item		Reference Value			Unit
		Min	Typical	Max.	
Center Frequency		433.845	433.920	433.995	MHz
Insertion Loss			1.8	2.2	dB
Quality Factor	Unload Q	8300	12000		
	50 Ohm Loaded Q	850	1500		
Temperture Stability	Turnover Temperature	10	25	40	°C
	Freq. Temp Coefficient		0.032		ppm/°C
Frequency Aging			<±10		ppm/yr
DC. Insulation Resistance		1.0			MOhms
RF Equivalent RLC Model	Motional Resistance R1		18	26	Ohm
	Motional Inductance L1		79.82		µH
	Motional Capacitance C1		1.685		fF
Transducer Static Capacitance CO			2.3		pF



ENVIRONMENT CHARACTERISTIC

1. High temperature exposure

Subject the device to +85°C for 16 hours. Then release the filter into the room conditions for 24 hours prior to the measurement. It shall fulfill the specifications in 2-2.

2. Low temperature exposure

Subject the device to -40°C for 16 hours. Then release the device into the room conditions for 24 hours prior to the measurement. It shall fulfill the specifications in 2-2.

3. Temperature cycling

Subject the device to a low temperature of -40°C for 30 minutes. Following by a high temperature of +85°C for 30 Minutes. Then release the device into the room conditions for 24 hours prior to the measurement. It shall meet the specifications in 2-2.

4. Resistance to solder heat

Dip the device terminals no closer than 1.5mm into the solder bath at 260°C ±10°C for 10±1 sec. Then release the device into the room conditions for 4 hours. The device shall meet the specifications in 2-2.

5. Solderability

Subject the device terminals into the solder bath at 245°C ±5°C for 5s, More than 95% area of the terminals must be covered with new solder. It shall meet the specifications in 2-2.

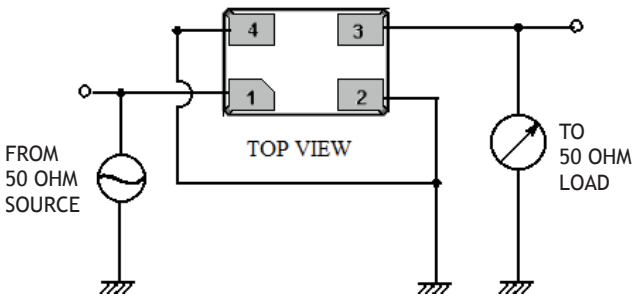
6. Mechanical shock

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

7. Vibration

Subject the device to the vibration for 1 hour each in x, y and z axes with the amplitude of 1.5mm at 10 to 55 Hz. The device shall fulfill the specifications in 2.2

TEST CIRCUIT



Remark

1. Static Voltage: Static voltage between signal load and ground may cause deterioration and destruction of the component. Please avoid static voltage.

2. Ultrasonic cleaning: Ultrasonic vibration may cause deterioration and destruction of the component. Please avoid ultrasonic cleaning.

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

PART NUMBERING SYSTEM (Example)

HDSB13-433.92-75-S-XX

- Package: HDSB13
- Center Frequency in MHz: See table 1
- Frequency Tolerance in kHz: See table 1
- Options (can be blank): S= Standard; X= Additional Specifications; T= Tape and Reel
- Operating Temperature Range*: S=Standard

* Operating Temperature Range: -20°C to +80°C (Standard)
* Specific Operating Temperature Range under request

RELM - SHOULDER Brasil

Av. Eliza Rosa Colla Padoan, 45 - CETIS - Módulo 3 -CEP: 85503-380 - Bairro Fraron - Pato Branco-PR - Tel: (55) (46) 3225-2446
www.relm.com.br/componentes www.hdshoulder.com.br relm@relm.com.br

Packing

Dimensions:

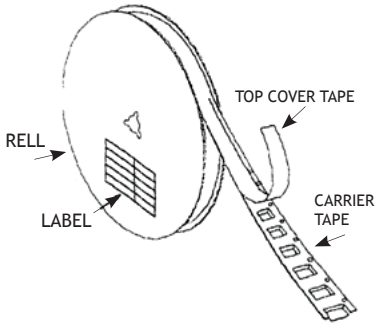
Carrier Tape: Figure 1
Reel: Figure 2
The product shall be packed properly not to be damaged during Transportation and storage

Reeling Quantity

1000 pcs/reel 7”

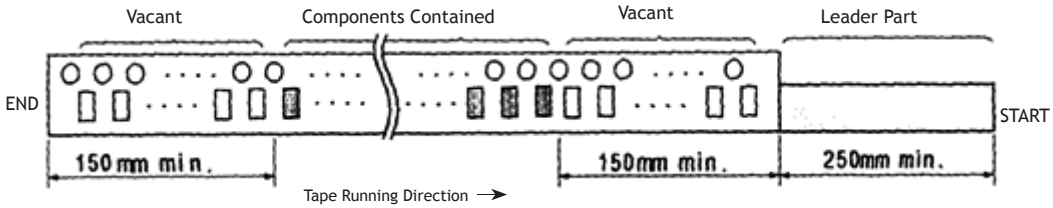
Taping Structure

The tap shall be wound around the reel in the direction shown in the right side



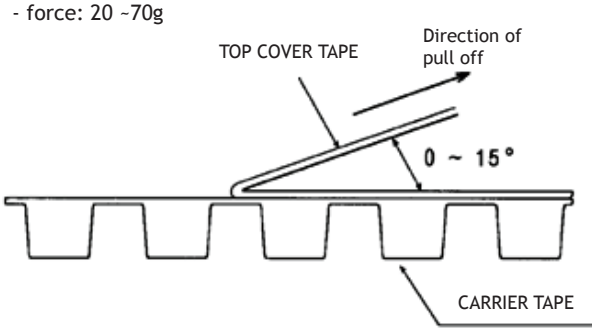
Label	
Device Name	
User Product Name	
Quantity	
Lot No.	

Leader part and vacant position specifications

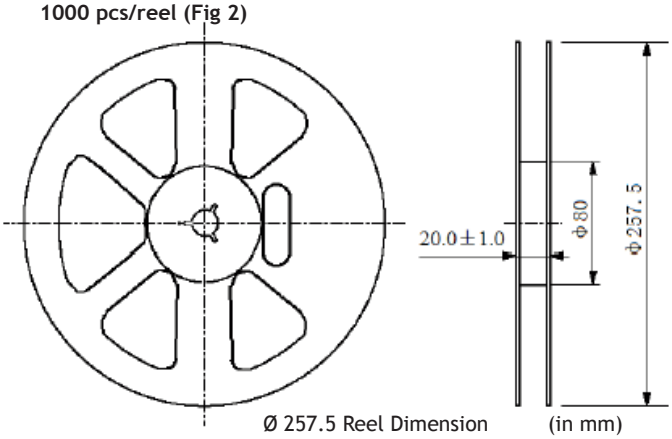


TAPE SPECIFICATIONS

Tensile Strength of Carrier Tape: 4.4N/mm width
Top Cover Tape Adhesion (See the below figure)
- pull off angle: 0 ~ 15°
- speed: 300mm/min.
- force: 20 ~70g

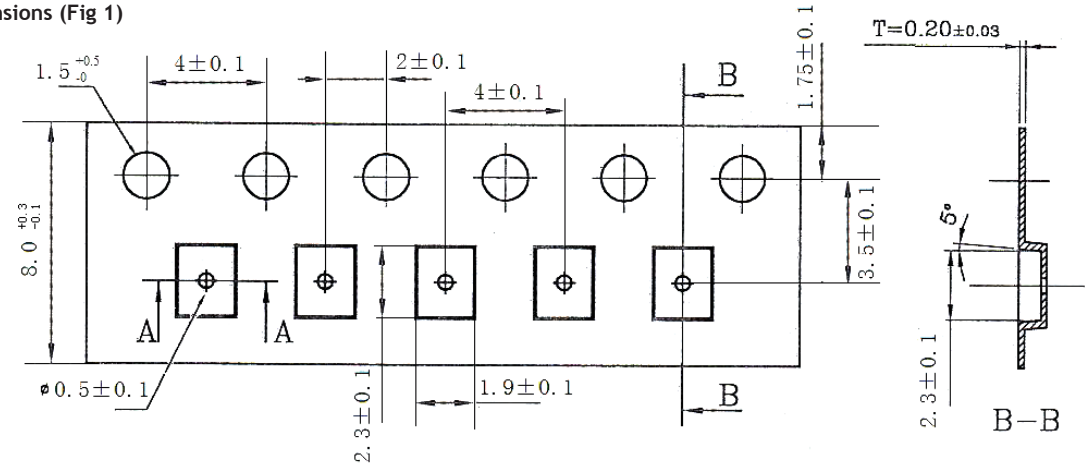


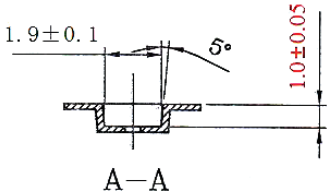
1000 pcs/reel (Fig 2)



Ø 257.5 Reel Dimension (in mm)

Carrier Tape Dimensions (Fig 1)





A—A