

CUSTOMER 客户.

规格书编号

SPEC NO:

产品规格书 SPECIFICATION

PRODUCT 产品:	SAW RESONATO	OR						
MODEL NO 型 号:	HDR316.2M-S3							
PREPARED 编 制:	CHECKED 审 核:							
APPROVED 批准: DATE 日期: 2006-5-11								
客户确认 CUSTOMER RECEIVED:								
审核 CHECKED								

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



1. SCOPE

This specification shall cover the characteristics of 1-port SAW resonator with 316.2M used for remote-control security.

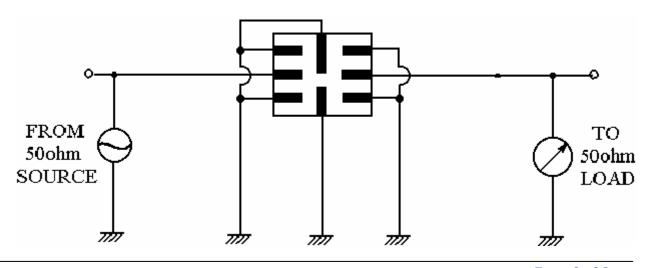
2. ELECTRICAL SPECIFICATION

DC Voltage VDC	10V			
AC Voltage Vpp	10V50Hz/60Hz			
Operation temperature	-40°C to +85°C			
Storage temperature	-45°C to +85°C			
RF Power Dissipation	0dBm			

Electronic Characteristics

Item	Unites	Minimum	Typical	Maximum	
Center Freq	MHz	316.125	316.200	316.275	
Insertion Lo	dB		1.5	2.5	
Quality Factor	Unload Q		8000	20000	
50 Ω	Loaded Q		1500	2500	
Temperature	Turnover Temperature	$^{\circ}$	10	25	40
Stability Turnover Frequency		KHz		fo	
	Freq.temp.Coefficient	ppm/°C2		0.032	
Frequency Aging		ppm/yr		≤10	$ f_A $
DC. Insulation	Resistance	ΜΩ	1.0		
Motional Resistance R1		Ω		10	26
RF Equivalent Motional Inductance L1 RLC Model Motional Capacitance C1		μН		112.23	
		fF		2.2574	
Pin 1 to Pin 2	Staic Capacitance	pF	1.7	2.0	2.3
Transducer Sta	ntic Capacitance	pF		2.23	

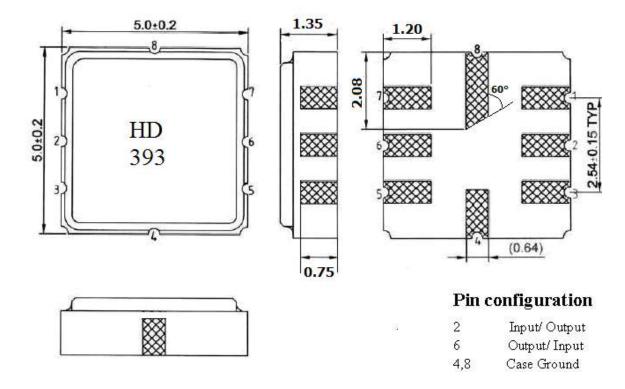
3. TEST CIRCUIT



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4. DIMENSION



5. ENVIRONMENTAL CHARACTERISTICS

5-1 High temperature exposure

Subject the device to $+85\,^{\circ}\text{C}$ for 16 hours. Then release the resonator into the room conditions for 24 hours prior to the measurement. It shall fulfill the specifications in table 1

5-2 Low temperature exposure

Subject the device to -20° 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 table 1.

5-3 Temperature cycling

Subject the device to a low temperature of -40° C for 30 minutes. Following by a high temperature of $+80^{\circ}$ 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 table 1.

5-4 Resistance to solder heat

Dip the device terminals no closer than 1.5mm into the solder bath at 260° C $\pm 10^{\circ}$ C for 10 ± 1 sec. Then release the device into the room conditions for 4 hours. The device shall meet the specifications in table 1.

5-5 Solderability

Subject the device terminals into the solder bath at 245° C $\pm 5^{\circ}$ C for 5s, More than 95% area of the terminals must be covered with new solder. It shall meet the specifications in table 1.

5-6 Mechanical shock



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

5-7 Vibration

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

5-8 Lead fatigue

5-8-1 Pulling test

Weight along with the direction of lead without an shock 1kg. The device shall satisfy all the initial Characteristics.

5-8-2 Bending test

Lead shall be subject to withstand against 90°C bending with 450g weight in the direction of thickness. This operation shall be done toward both direction. The device shall show no evidence of damage and shall satisfy all the initial electrical characteristics.

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.

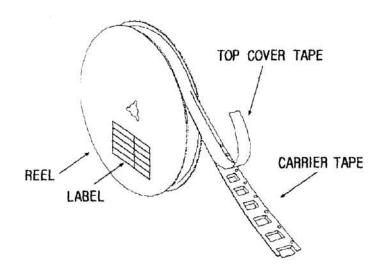
7.2 Reeling Quantity

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.

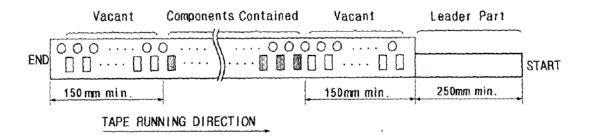




(2) Label

Device Name	
User Product Name	
Quantity	
Lot No.	

(3) Leader part and vacant position specifications.

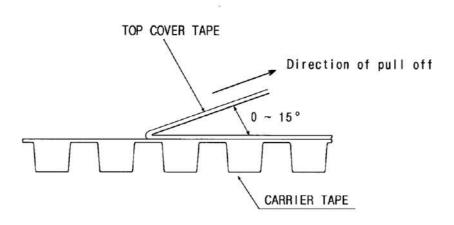


8. TAPE SPECIFICATIONS

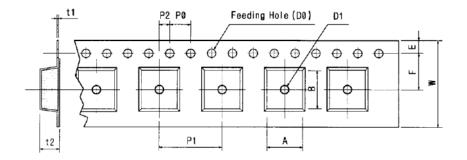
- 8.1 Tensile Strength of Carrier Tape: 4.4N/mm width
- 8.2 Top Cover Tape Adhesion (See the below figure)
 - (1) pull off angle: 0~15° (2) speed: 300mm/min.

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(3) force: 20~70g



[Figure 1] Carrier Tape Dimensions



Tape Running Direction

[Unit:mm]

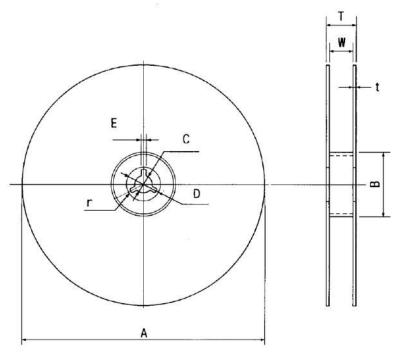
W	F	Е	P0	P1	P2	D0	D1	t1	t2	A	В
12.0	5.5	1.75	4.0	8.0	2.0	Ø1.5	Ø1.0	0.3	2.10	6.40	5.20
± 0.3	± 0.05	± 0.1	± 0.1	± 0.1	± 0.05	± 0.1	± 0.25	± 0.05	± 0.1	± 0.1	± 0.1

[Figure 2]



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A	В	С	D	Е	W	t	r
Ø330	Ø100	Ø13	Ø21	2	13	3	1.0
± 1.0	± 0.5	± 0.5	± 0.8	± 0.5	± 0.3	max.	max.