

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: \_\_\_\_\_ HDR293.175M-TO39

PREPARED 编制: \_\_\_\_\_ CHECKED 审核: \_\_\_\_\_

APPROVED 批准: \_\_\_\_\_ D A T E 日期: \_\_\_\_\_ 2006-5-11

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



## 1. SCOPE

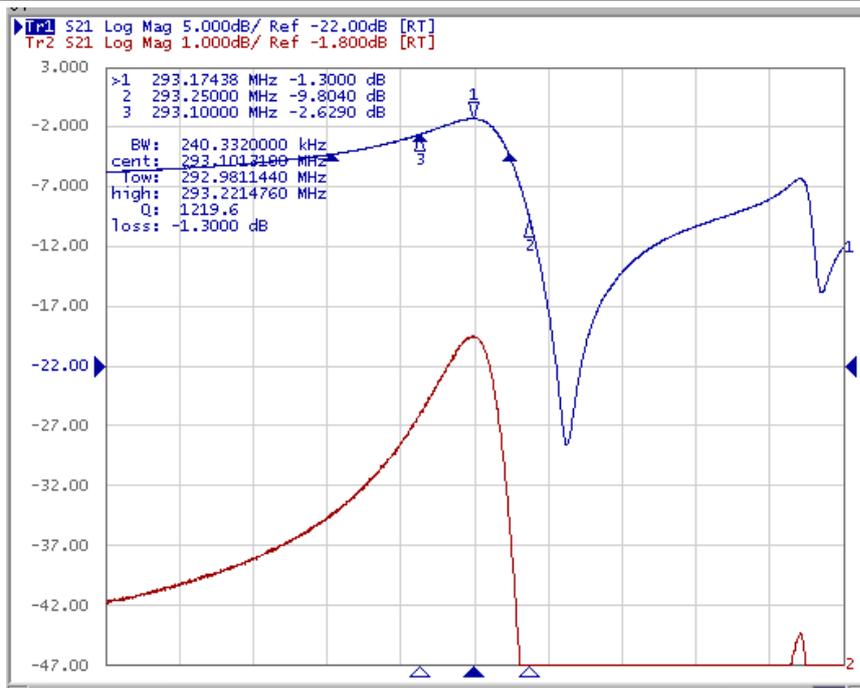
This specification shall cover the characteristics of 1-port SAW resonator with 293.175M used for remote-control security.

## 2. ELECTRICAL SPECIFICATION

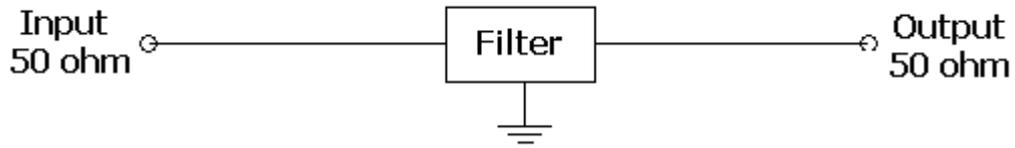
DC Voltage VDC	10V
AC Voltage Vpp	10V50Hz/60Hz
Operation temperature	-20°C to +85°C
Storage temperature	-45°C to +85°C
RF Power Dissipation	0dBm

### Electronic Characteristics

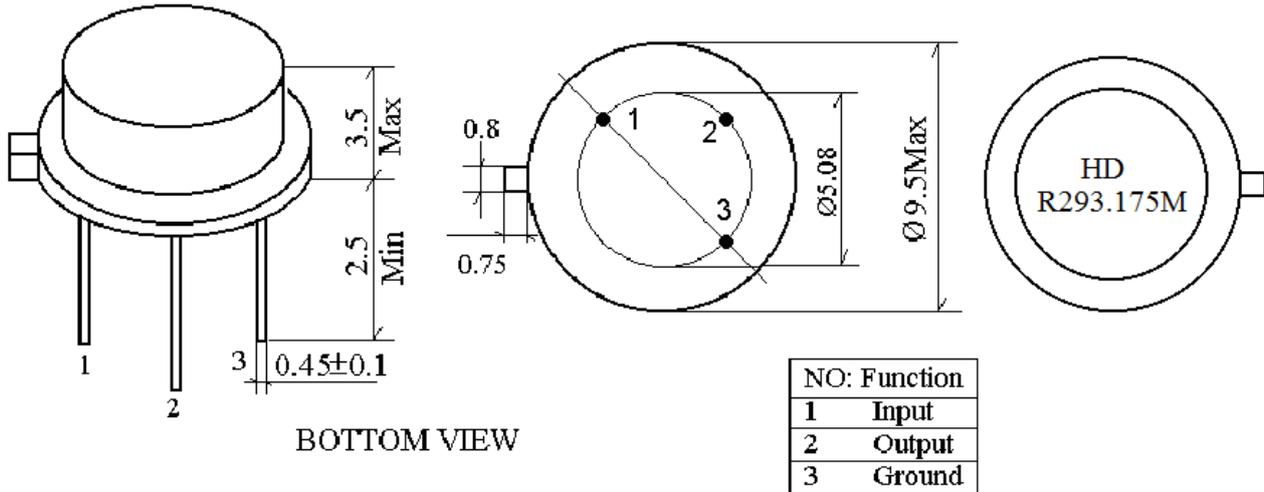
Item	Unites	Minimum	Typical	Maximum	
Center Frequency	MHz	293.100	293.175	293.250	
Insertion Loss	dB	-	1.5	2.5	
Quality Factor Unload Q		8000	12000	-	
50Ω Loaded Q		1000	2000	-	
Temperature Stability	Turnover Temperature	°C	10	25	40
	Freq.temp.Coefficient	ppm/°C <sup>2</sup>	-	-0.032	-
Frequency Aging	ppm/yr	-	≤±10	-	
DC. Insulation Resistance	MΩ	1.0	-	-	
RF Equivalent RLC Model	Motional Resistance R1	Ω	-	16	26
	Motional Inductance L1	μ H	-	138.46	-
	Motional Capacitance C1	fF	-	2.1292	-
Transducer Static Capacitance	pF	-	2.6	-	



### 3. TEST CIRCUIT



### 4. DIMENSION



### 5. ENVIRONMENTAL CHARACTERISTICS

#### 5-1 High temperature exposure

Subject the device to +85°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°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 ±10°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 ±5°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

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.

## **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.