

## 1. SCOPE

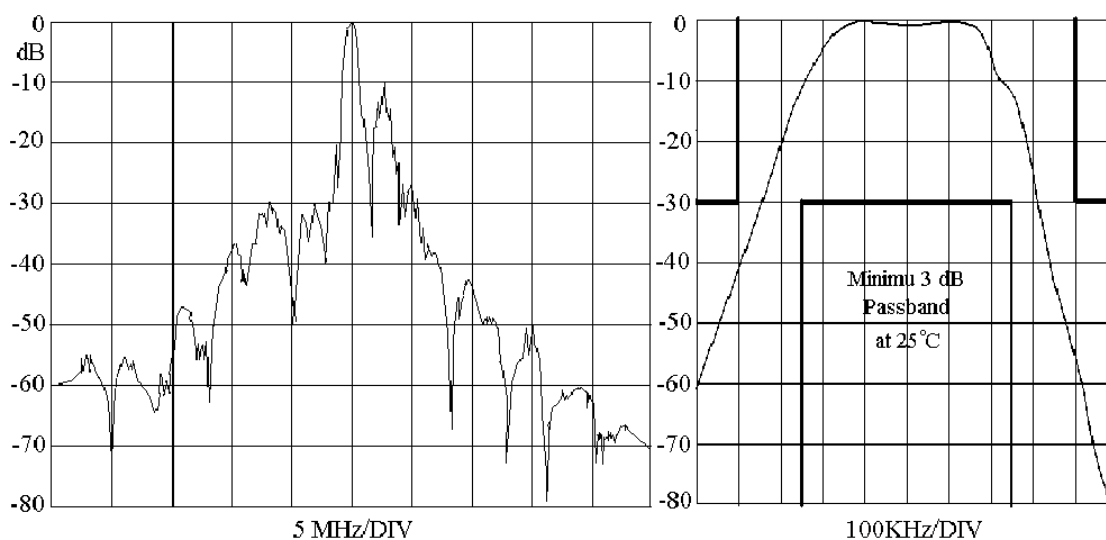
This specification shall cover the characteristics of SAW filter 315MHz with used for remote-control security.

## 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

#### 2-1.Type frequency response

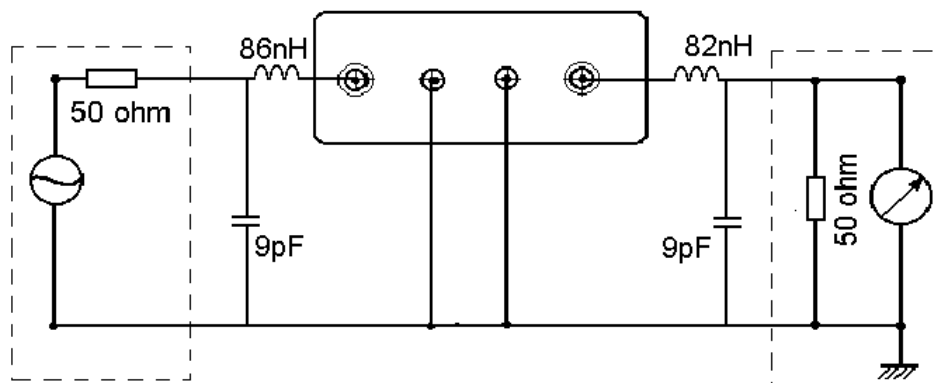
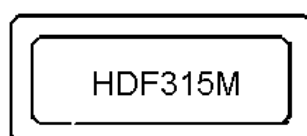
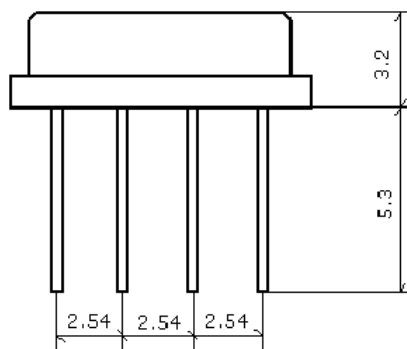
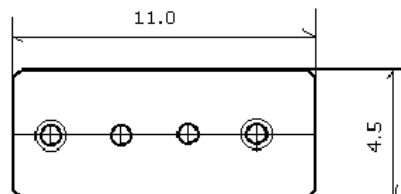


#### 2-2.Electrical characteristics

Characteristic		Sym	Notes	Min	Typical	Max	Units
Center frequency	Absolute frequency	Fc	1.2	314.920	315.000	315.080	MHz
	Tolerance from nominal	$\Delta f_c$				$\pm 80$	KHz
Insertion Loss		IL	1		1.7	3.0	dB
3dB Bandwidth		BW <sub>3</sub>	1.2	500	700	800	KHz
Passband Ripple (Fc $\pm$ 400 KHz)					0.2	0.5	dB
Rejection	At fo-21.4MHz (Image)		1	40	50		dB
	At fo-10.7 MHz (LO)			16	40		
	Ultimate				80		
Temperature characteristics	Operating case temp.	Tc	3.4	-35		+85	°C
	Tumor temp.	To		22	37	62	°C
	Turnover Frequency	fo			fc		MHz
	Fre.temp.coeficient	FTC			0.032		ppm/°C
Frequency aging			5		< $\pm 10$		ppm/y

**Note:**

1. Typical test circuit is shown as below.
2. Passband and reject bands are specified in reference to  $f_c$ .
3. The turnover temperature,  $T_o$ , is the temperature at the maximum frequency,  $F_o$ .
4. The nominal frequency at any case temperature,  $T_c$ , inside the operating temperature range may be calculated from:  $f=f_o[1-FTC(T_o-T_c)^2]$ .
5. Typical aging is for 10 years.

**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 filter into the room conditions for 24 hours prior to the measurement. It shall fulfill the specifications in 2-2.

### 5-2 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.

### 5-3 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.

### 5-4 Resistance to solder heat

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

### 5-5 Solderability

Subject the device terminals into the solder bath at 245°C  $\pm$ 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.

### 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 2-2.

### 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 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.