

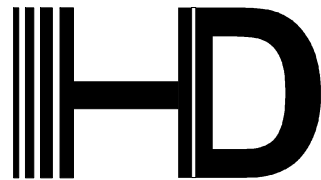
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# ***SPECIFICATION***

**MODEL: HDF869ANF11**

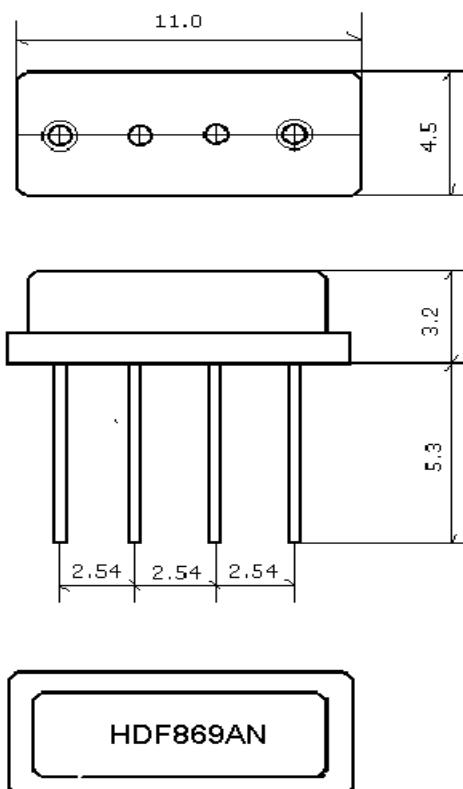


**SHOULDER ELECTRONICS LIMITED**

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## 1. Package Dimension

Unit:mm



## 2. Marking HD F869AN

- 2.1 Color: Black or Blue
- 2.2 869.: Center Frequency(MHz)

## 3. Performance

### 3.1 Application

Low-Loss SAW Filter of cordless system.

Center Frequency:869 MHz

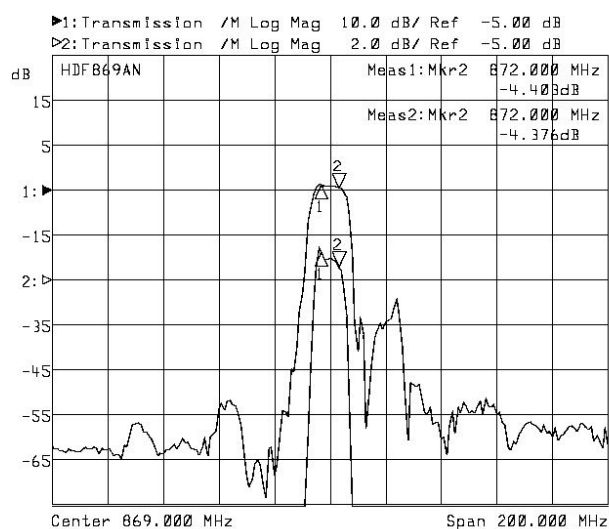
### 3.2 Maximum Rating

Operation Temperature Range	-20°C to +50°C
Storage Temperature Range	-40°C to +85°C
DC. Permissive Voltage	0 V DC. max.
Maximum Input Power	11dBm

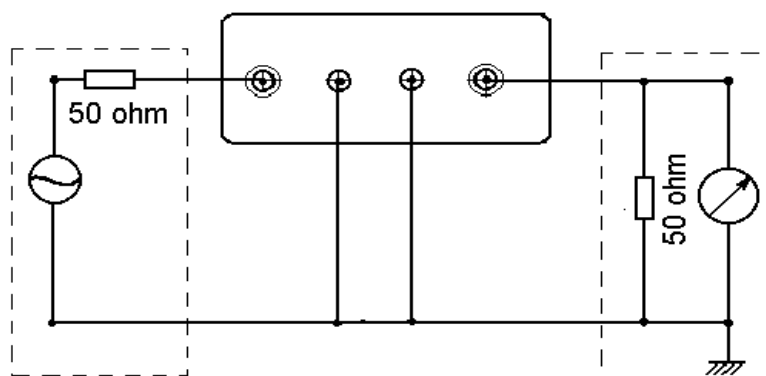
### 3.3 Electronic Characteristics

Item	Frequency	Specification
Center Frequency( $f_0$ )	869MHz	
Pass Band Width	$f_0 \pm 3.0\text{MHz}$	
Insertion Loss	Passband	6.5dB max.
Stop Band Rejection	$f_0 - 400 \sim -40.8\text{MHz}$ $f_0 + 50 \sim +400\text{MHz}$	47dB min. 47dB min.
Terminating Impedance		$50 \Omega // < 10\text{nH}$
Operating Temperature Range		$-10^\circ\text{C}$ To $+70^\circ\text{C}$

### 3.4 Frequency Characteristics



### 3.5 Test Circuit



## 4. ENVIRONMENTAL CHARACTERISTICS

### 4-1 High temperature exposure

Subject the filter to +80°C for 96 hours. Then release the filter into the room conditions for 1 to 2 hours prior to the measurement. It shall fulfill the specifications .

### 4-2 Moisture

Keep the filter at 40°C and 95% Rh. for 96 hours . then release the filter into the room conditions for 1 to 2 hours prior to the measurement. It shall fulfill the specifications .

### 4-3 Low temperature exposure

Subject the filter to -20°C for 96 hours. Then release the filter into the room conditions for 1 to 2 hours prior to the measurement. It shall fulfill the specifications.

### 4-4 Temperature cycling

Subject the filter to a low temperature of -55°C for 30 minutes. Following by a high temperature of +85°C for 30 Minutes. Then release the filter into the room conditions for 1 to 2 hours prior to the measurement. It shall meet the specifications.

### 4-5 Resistance to solder heat

Dip the filter terminals no closer than 1.5mm into the solder bath at 27°C  $\pm 10^\circ\text{C}$  for  $10 \pm 1$  sec. Then release the Filter into the room conditions for 1 to 2 hours. The Filter shall meet the specifications.

### 4-6 Mechanical shock

Drop the filter randomly onto the concrete floor from the height of 30cm 3 times .the filter shall fulfill the specifications.

### 4-7 Vibration

Subject the filter 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 filter shall fulfill the specifications.

### 4-8 Lead fatigue

#### 4-8-1 Pulling test

Weight along with the direction of lead without an shock 3 kg. The filter shall satisfy all the initial Characteristics.

#### 4-8-2 Bending test

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

## **5. REMARK**

### 5.1 Static voltage

Static voltage between signal load & ground may cause deterioration & destruction of the component. Please avoid static voltage.

### 5.2 Ultrasonic cleaning

Ultrasonic vibration may cause deterioration & destruction of the component. Please avoid ultrasonic cleaning

### 5.3 Soldering

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