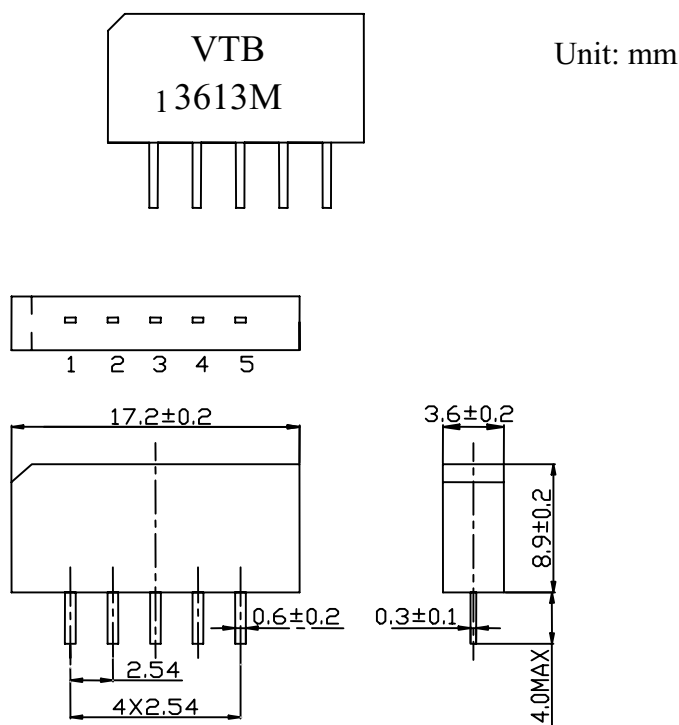


## SPECIFICATION

MODEL VTB3613M  
SURFACE ACOUSTIC WAVE FILTER

## 1. Package Dimension



Pin No.	Functions
1.	Input
2.	Input
3.	Ground
4.	Output
5.	Output

## 2. Marking

VTB3613M

## 3. Performance

3.1 Part Number: VTB3613M

3.2 Use: IF Filter for digital TV

3.3 MAXIMUM RATINGS

ITEM	TEST ENDS	MAX.	NOTE
DC Voltage	Input . Output	3V	
	Others	15V	
Instant DC Voltage	Every end	10V	
Alternating Voltage	Input . Output	10Vp-p	
Instant Pulsating Voltage	Input . Output	100V	
Input signal oscillation	Input	5Vp-p	
Operating Temperature Range		-20~70	
Storage Temperature Range		-40~85	

## 3.4 Electronic Characteristics(Ta=25 )

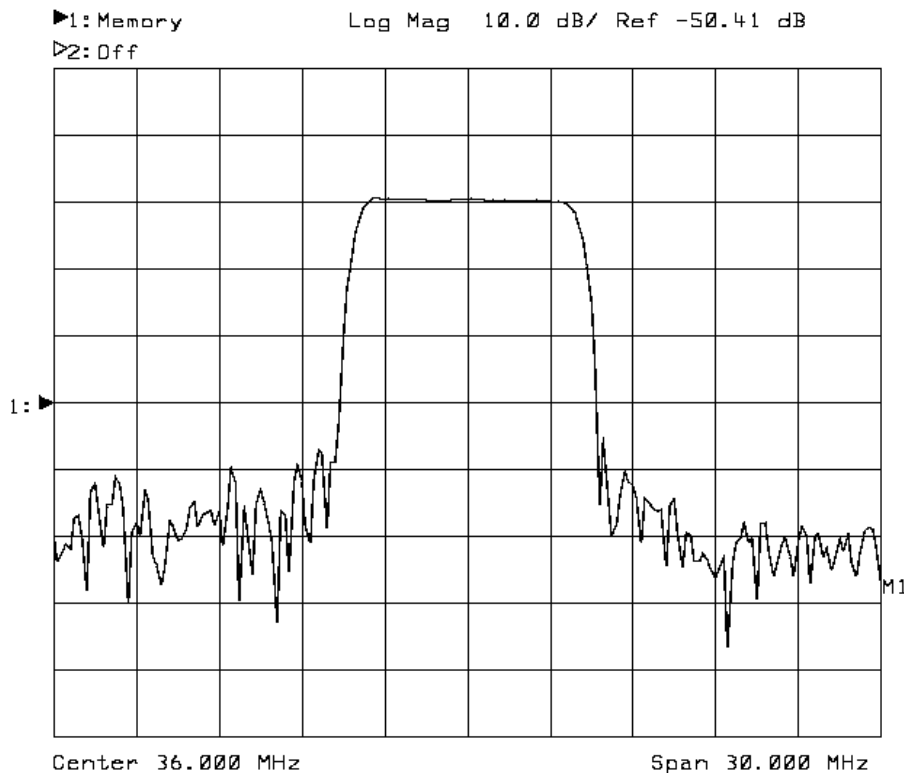
### 3.4.1. Amplitude Characteristics

1dB Pass Bandwidth	7.3 MHz (typical value)			
3dB Pass Bandwidth	7.8 MHz (typical value)			
30dB Pass Bandwidth	9.3 MHz (typical value)			
Attenuation ( ref. : 36.125 MHz):				
FREQUENCY(MHz)	VALUE(dB)			
	MAX.	TYP.	MIN.	
31.25 MHz	-35.0	-48.0	-	dB
32.13 MHz	-1.6	-3.1	-4.6	dB
32.32 MHz	-	-1.2	-	dB
39.93 MHz	0.4	-1.1	-2.6	dB
40.13 MHz	-1.7	-3.2	-4.7	dB
47.25 MHz	-42.0	-47.0	-	dB
25.00 to 29.50 MHz	-36.0	-41.0	-	dB
29.50 to 31.25 MHz	-32.0	-38.0	-	dB
40.90 to 43.50 MHz	-32.0	-38.0	-	dB
43.50 to 50.00 MHz	-36.0	-43.0	-	dB

### 3.4.2. Other Characteristics

ITEM	VALUE	NOTE
Insertion loss(Db) Ref: 36.125 MHz	STD 1.5dB STD: 20.3dB	Input SAWF on Fig2. output strength of f=ref is V1,output strength is V2,when stand (fig3)product instead SAWF f=ref. Insertion Loss=-20Log(V2/V1)dB
Input Impedance	2.3KΩ//14.7pF	*1 f=1.0MHz
Output Impedance	2.4KΩ//3.9pF	*1 f=1.0MHz
Temperature Coefficient(ppm/ )	-72 max.	*2 Ta=-20~70

## 3.5 Frequency Characteristics



3.6 Test Circuit

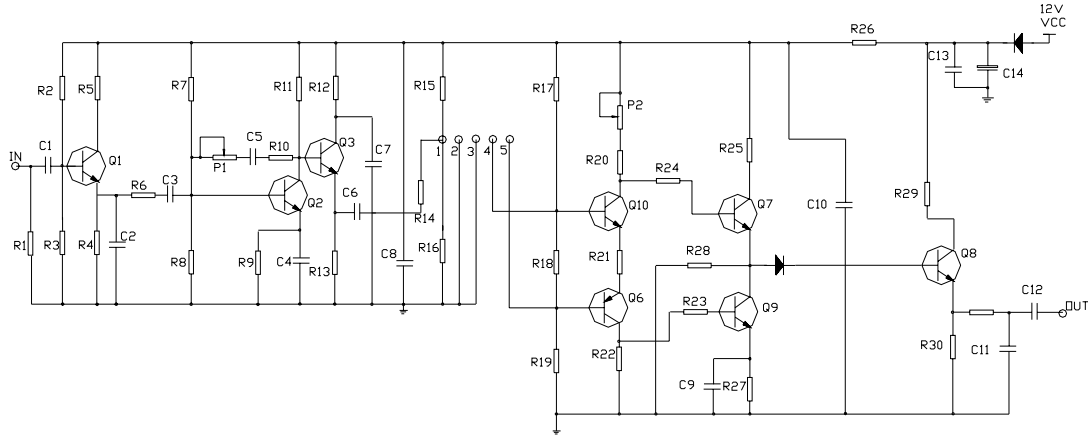


Fig.1 Test Circuit

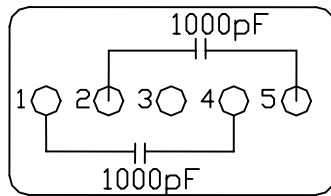


Fig.2 Standard Products(Insertion Loss)

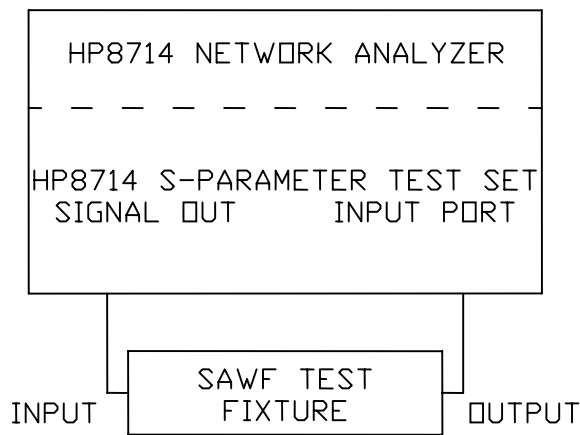
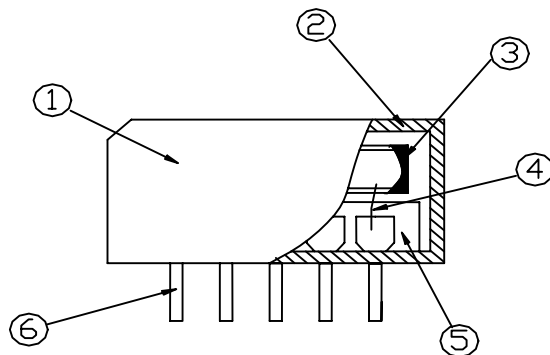


Fig.3 Test System

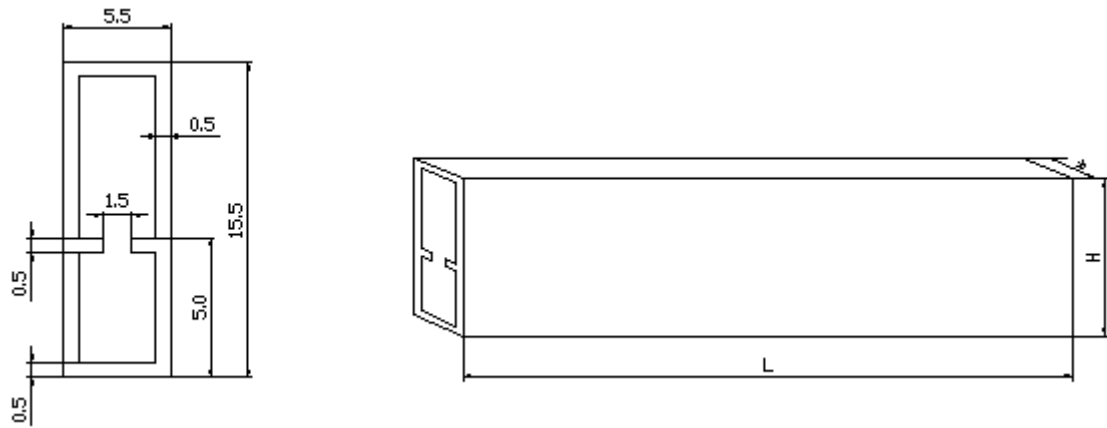
4. Inside Structure



No.	PART NAME	MATERIAL
1	Shell	PPS
2	Tube Pedestall	Cu+Au
3	Base Board	LiNbo3
	Sound-absorbing material	Resin
	Binder	Epoxy
	Electrode	Al
4	Joint wire	Si+Al
5	Insulation Material	Epoxy
6	Lead	Cu+Au

5. Packing

Inside package:

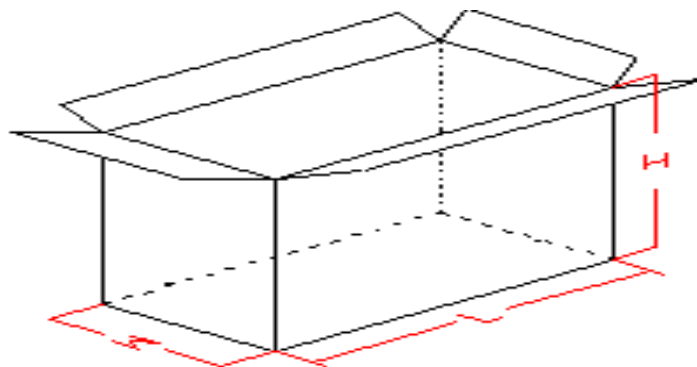


Dimensions of inside package:

Unit: mm

L	W	H	Products contained
452	5.50	15.50	25pcs

Outside packing:



Dimensions of outside box:

Unit: mm

L	W	H	Inside box contained
490	260	190	8000PCS

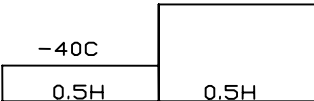
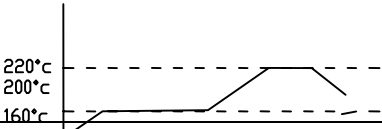
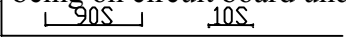
Product name, lot number, qualified seal, allotted time of keeping and quantity should be marked on the side of outside box. The product shall be packed properly not to be damaged during transportation and storage.

## 6 ENVIRONMENTAL CHARACTERISTICS

### 6.1 Humidity, temperature Test

#### 6.2 Temperature Cycle, Soldering heat Test

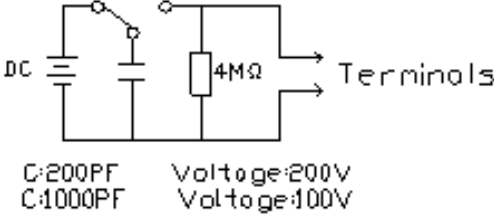
ITEM	REQUIREMENT	JUDGEMENT
High Temperature	T=Max 85 500H T=60 ,RH=90~95% 500H Being placed in natural condition for 1 hour	Insertion Loss should be within 1dB whether before testing or after testing
Humidity	T=60 , RH=90~95% 500H Being placed in natural condition for 2 hours	
Low Temperature	T=Min -40 500H Being placed in natural condition for 1 hour	
High Temperature Shock	T=80 , DC3V, 500H	
Humidity Electrify	T=60 ,RH=90~95% DC3V 500H Being placed in natural condition for 2 hours	
Salt Water Spaying	Density 5%, 24 hours	

ITEM	REQUIREMENT	JUDGEMENT
Temperature Shock	<p>It shall be placed at temperature of -40 for 30 minutes, then replaced at temperature of +85 for 30 minutes. It shall be placed in natural condition for 1 hour.</p> 	Same as judgement of 6.1
Soldering Heat	<p>1 . Lead terminal are immersed up to 1mm from it's body in solder of 260 5 for 10 seconds. And then it shall be measured after being placed in natural condition for 1 hour.</p> <p>2 . Lead terminals are immersed in soldering bath of 350 10 for 3 seconds. And then it shall be measured after being placed in natural condition for 1 hour.</p>	Same as judgement of 6.1
Soldering Ability	<p>Lead terminals are immersed in soldering bath of 230 5 for 5 seconds.</p> 	The solder shall coat at least 95% of the lead terminal
Repeatedly Heat	<p>Repeated 3 times after being on circuit board under following condition:</p> 	Same as judgement of 6.1

6.3 Mechanical Test

ITEM	REQUIREMENT	JUDGEMENT
Vibration	It shall be measured after being applied vibration of amplitude of 1.5mm with 600 to 3300 rpm of vibration frequency to each of 3 perpendicular directions for 2 hours.	Same as judgement of 6.1
Random	It shall be measured after 3 times random drop from the height of 0.75 m on maple floor.	
Terminal Pulling	Force 10 seconds of 1 kg applied to each terminal in axial direction.	No unusual
Terminal Bending	Lead terminals shall be folded up to 45 with 3 kg force, then folded back to their axial direction 2 times	

## 6.4 Other Test

ITEM	REQUIREMENT	JUDGEMENT
Amplitude Test	<p data-bbox="472 221 979 327">Link following circuit, use capacitance after being charged to discharge between terminals</p>  <p data-bbox="501 591 836 645">C:200PF      Voltage:200V C:1000PF     Voltage:100V</p>	Same as judgement of 6.1