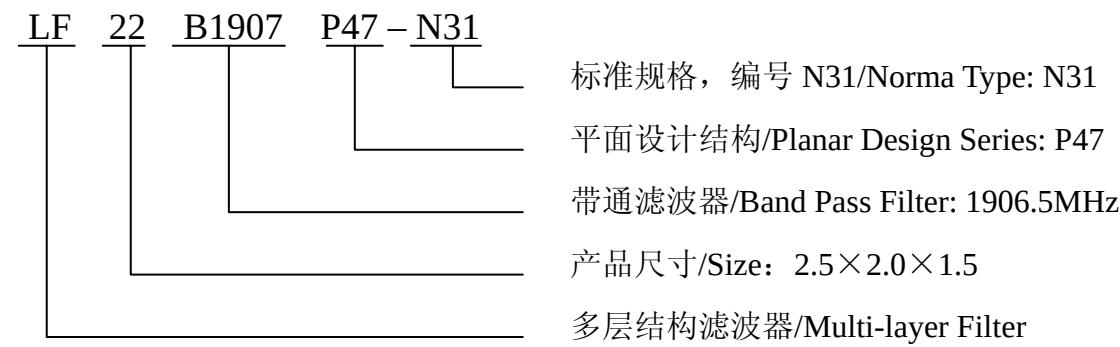


1. 概述 INTRODUCTION

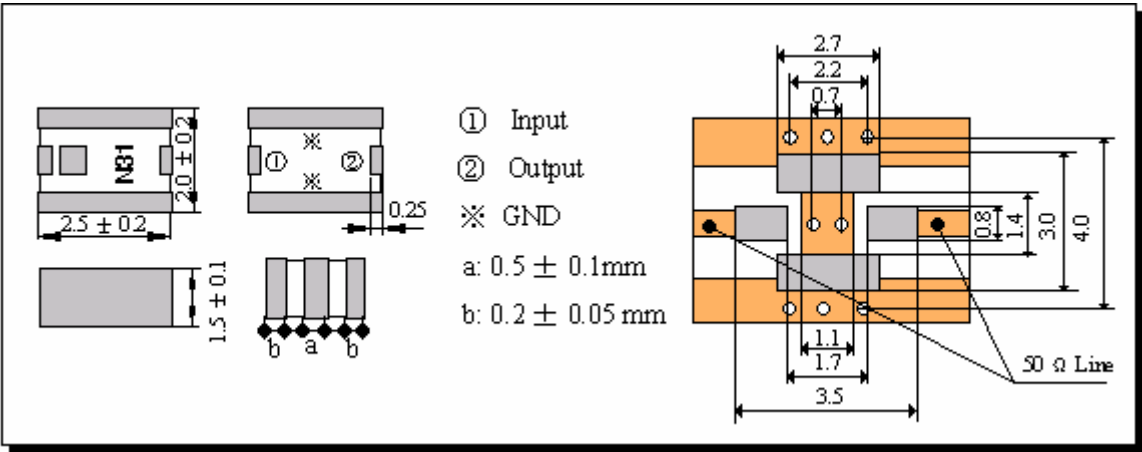
微波带通滤波器 LF 系列产品设计用于 PHS、WLAN、GSM、Bluetooth、PDA 和无绳电话机中，具有低的插入损耗、高的衰减和小体积 SMD 片式设计，能减少复杂的调校工作，可以简化电路设计。

Microwave Band-Pass filter LF series are designed to be used in PHS、WLAN、GSM、Bluetooth、PDA & cordless phones with low insertion loss and high attenuation as well as small size SMD chip design , which can simplify your complex tuning and circuit design .

2. 型号 Part Number



3. 外型尺寸 Dimensions (Unit: mm)



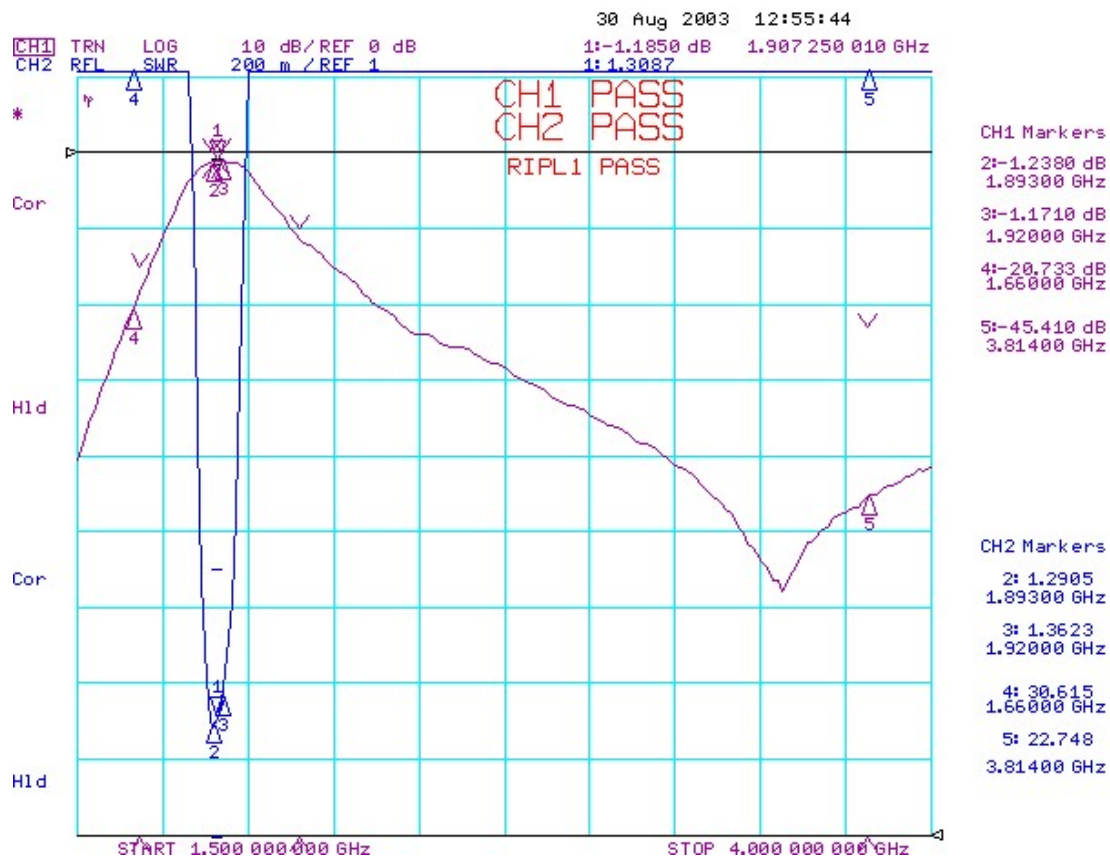
4. 结构及材料 Structure and Material

No	Part Name 名称	Structure and Material 结构及材料
4.1	Resonator 谐振体	Dielectric Material LTCC 介质材料
4.2	In/Output Terminals 输入/输出	Ag 银
4.3	Ground Base 接地面	Ag 银

5. 电气性能 Electrical Characteristics

No.	Item (项目)	Specifications (特性)	Post Environmental Tolerance (环境试验后允许附加误差)
5.1	Center Frequency 中心频率 f_0	1906.50 MHz	± 5.0 MHz
5.2	Insertion Loss 插入损耗	$\leq 1.5\text{dB}$ (at $25^\circ\text{C} \pm 5^\circ\text{C}$)	± 0.5 dB
		$\leq 2.0\text{dB}$ (at $-40^\circ\text{C} \sim 85^\circ\text{C}$)	
5.3	Band Width 通带宽度	$f_0 \pm 13.5$ MHz	± 5.0 MHz
5.4	Ripple (in BW) 通带波动	≤ 1.0 dB	± 0.5 dB
5.5	V.S.W.R (in BW) 驻波比	≤ 2.0	± 0.2
5.6	Attenuation 阻带衰减	≥ 15 (1660~1680 MHz) ≥ 10 (2130~2150 MHz) ≥ 23 (at 3814 MHz)	± 2.0 dB
5.7	Permissible Input Power 输入功率 (MAX)	1 W	——
5.8	In/Output Impedance 输入/输出阻抗	$50\ \Omega$	——

6. 特性曲线 Characteristic curve



7. 可靠性 **Reliability:** MTBF=1×10⁶/pc.hr

试验条件: 温度 Temperature: 40℃±5℃

负荷 Load: DC=5V±0.5V

数量 Quantity: 2000 pcs

持续时间 Sustained Time: 480 h

8. 环境试验 **Environmental Test**

经环境试验后允许比起始读数偏差见表 2

Post Environmental Tolerance (Refer to the table 2)

基准条件: 温度范围 Temperature range 25 ± 5℃

相对湿度范围 Relative Humidity range 55~75%RH

工作温度 Operating Temperature range -40℃~+85℃

贮藏温度 Storage Temperature range -40℃~+85℃

8.1 耐振动 **Vibration Resist**

在振动频率为 10~55Hz 振幅为 1.5mm 沿 X.Y.Z 方向各振动 2 小时后测试符合表 5.1~5.6 规定。

The device should satisfy the electrical characteristics specified in paragraph 5.1~5.6 after applied to the vibration of 10 to 55Hz with amplitude of 1.5mm for 2 hours each in X, Y and Z directions.

8.2 耐跌落冲击 **Drop Shock**

在 100cm 高度处按 X, Y, Z 三个面分别自由跌落在木制地板上共 3 次后测试符合表 5.1~5.6 规定。

The device should satisfy the electrical characteristics specified in paragraph 5.1~5.6 after dropping onto the hard wooden board from the height of 100cm for 3 times each facet of the 3 dimensions of the device.

8.3 耐焊接热 **Solder Heat Proof**

能承受经 120~150℃ 的温度预热 120 秒后, 在 230℃+10℃ 的焊锡浸 5 ± 0.5 秒。

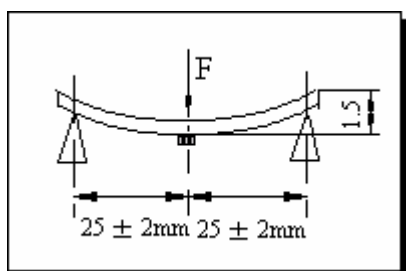
The device should be satisfied after preheating at 120℃~150℃ for 120 seconds and dipping in soldering Sn at 230℃+5℃ for 5 ± 0.5 seconds.

8.4 结合力试验 **Tensile Strength of Terminal**

在产品电极端子上或表面上应能承受 1kg 垂直拉力 10 ± 1 秒。

The device should not be broken after tensile force of 1.0kg is slowly applied to pull a lead pin of the fixed device in the lead axis direction for 10 ± 1 seconds.

8.5 耐弯曲试验 **Bending Resist Test**



将产品按图焊在 1.6 ± 0.2mm 的 PCB 板中间, 由箭头方向施力: 1mm/S, 弯曲距离: 1.5mm, 保持 5 ± 1S, 产品金属层无脱落。

Weld the product to the center part of the PCB with the thickness 1.6 ± 0.2mm as the illustration shows, and

keep exerting force arrow-ward on it at speed of :1mm/S , and hold for $5\pm 1S$ at the position of 1.5mm bending distance , so far , any peeling off of the product metal coating should not be detected .

8.6 耐湿热特性 Moisture Proof

在温度为 $60\pm 2^{\circ}\text{C}$,相对湿度 90~95%的恒温湿箱中放置 96 小时,在常温中恢复 1~2 小时后测试,符合表 5.1~5.6 规定。

The device should satisfy the electrical characteristics specified in paragraph 5.1~5.6 after exposed to the temperature $60\pm 2^{\circ}\text{C}$ and the relative humidity 90~95% RH for 96 hours and 1~2 hours recovery time under normal condltion.

8.7 高温特性 High Temperature Endurance

在温度为 $85\pm 5^{\circ}\text{C}$ 的恒温箱中放置 24 ± 2 小时,在常温中恢复 1~2 小时后测试。符合表 5.1~5.6 规定。

The device should satisfy the electrical characteristics specified in paragraph 5.1~5.6 after exposed to temperature $85\pm 5^{\circ}\text{C}$ for 24 ± 2 hours and 1~2 hours recovery time under normal temperature.

8.8 低温特性 Low Temperature Endurance

在温度为 $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 低温箱中放置 24 ± 2 小时后恢复 1~2 小时测试符合表 5.1~5.6 规定。

The device should also satisfy the electrical characteristics specified in paragraph 5.1~5.6 after exposed to the temperature $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ for 24 ± 2 hours and to 2 hours recovery time under normal temperature.

8.9 温度循环 Temperature Cycle Test

在 -25°C 温度中保持 30 分钟,再在 $+85^{\circ}\text{C}$ 温度中保持 30 分钟,共循环 5 次后在常温中恢复 1~2 小时后测试符合表 5.1~5.6 规定。

The device should also satisfy the electrical characteractics specified in paragraph 5.1~5.6 after exposed to the low temperature -25°C and high temperature $+85^{\circ}\text{C}$ for 30 ± 2 min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.

9. 回流焊温度 Reflow Soldering Standard Condition

