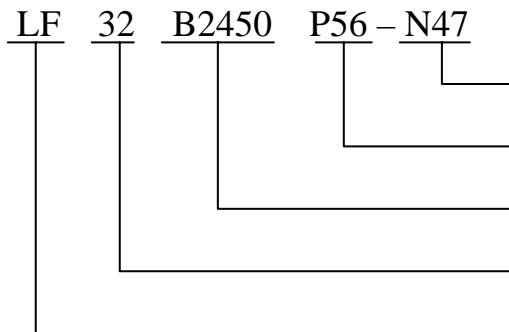


1. 概述 INTRODUCTION

微波带通滤波器 LF 系列产品设计用于 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 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



标准规格, 编号 N47/Normaling Type: N47

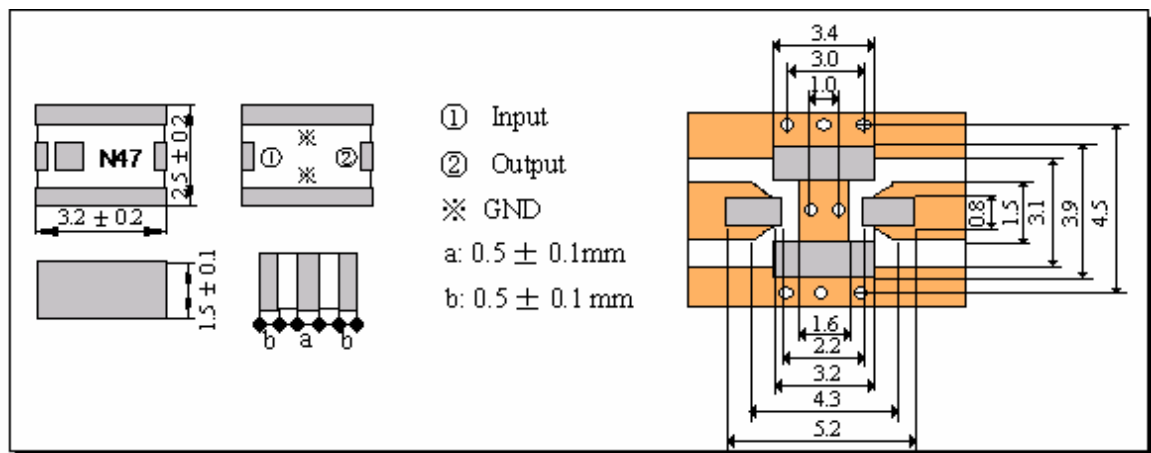
平面设计结构/Planar Design Series: P56

带通滤波器/Band Pass Filter: 2450MHz

产品尺寸/Size: 3.2×2.5×1.5

多层结构滤波器/Multi-layer Filter

3. 外型尺寸 Dimensions (Unit: mm)



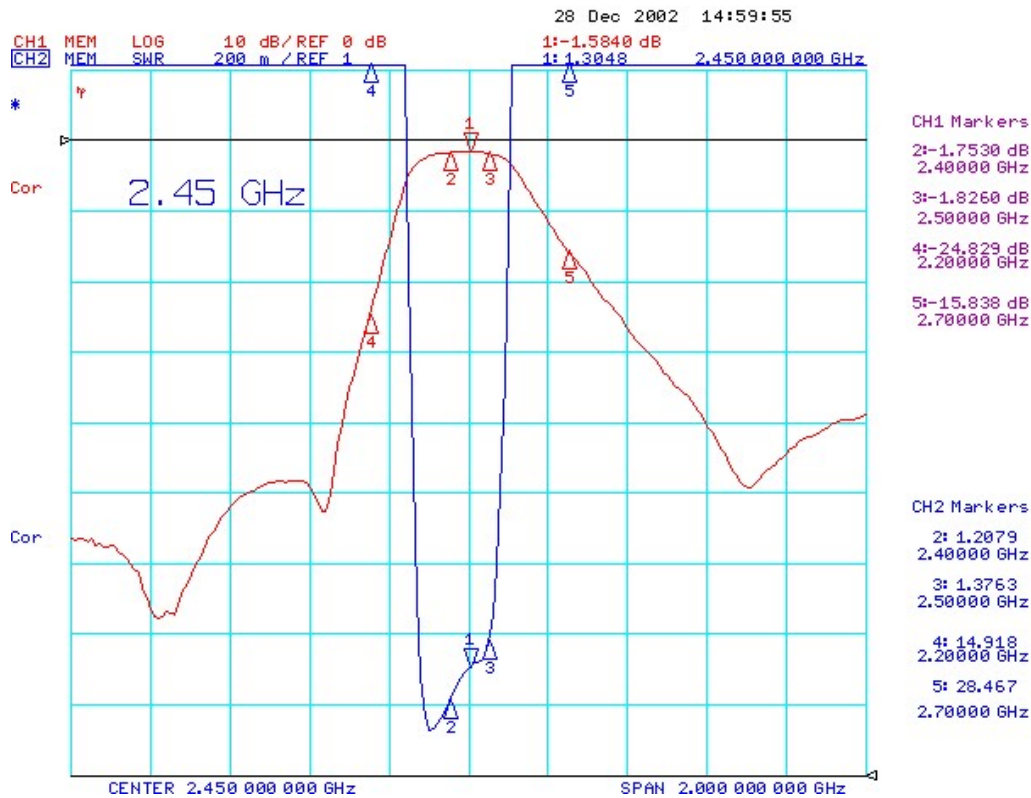
4. 结构及材料 Structure and Material

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 fo	2450 MHz	±2.0 MHz
5.2	Insertion Loss 插入衰耗	≤2.5dB (at 25°C ±5°C)	±0.5 dB
		≤3.0dB (at -40°C ~85°C)	
5.3	Band Width 通带宽度	fo ± 50 MHz	±1.0 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 阻带衰耗	≥40dB (at 1950MHz) ≥36dB (at 2100MHz) ≥9.5dB (at 2700MHz) ≥24dB (at 2950MHz) ≥24dB (at 4900MHz)	±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 Ω	—

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°C±5°C
 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°C
 相对湿度范围 Relative Humidity range 55~75%RH
 工作温度 Operating Temperature range -40°C ~+85°C
 贮藏温度 Storage Temperature range -40°C ~+85°C

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。

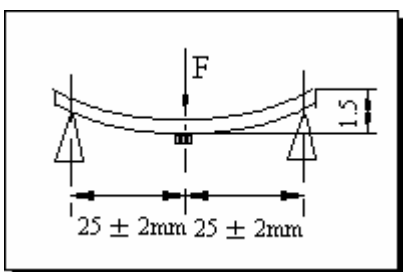
The device should be satisfied after preheating at 120℃~150℃ for 120 seconds and dipping in soldering Sn at 230℃+5℃ for 5 ± 0.5 seconds.

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 ± 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 ± 2℃，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 ± 2℃ and the relative humidity 90~95% RH for 96 hours and 1~2 hours recovery time under normal condition.

8.7 高温特性 High Temperature Endurance

在温度为 85 ± 5℃ 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 ± 5℃ 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℃ ± 5℃ 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℃ ± 5℃ for 24 ± 2 hours and to 2 hours

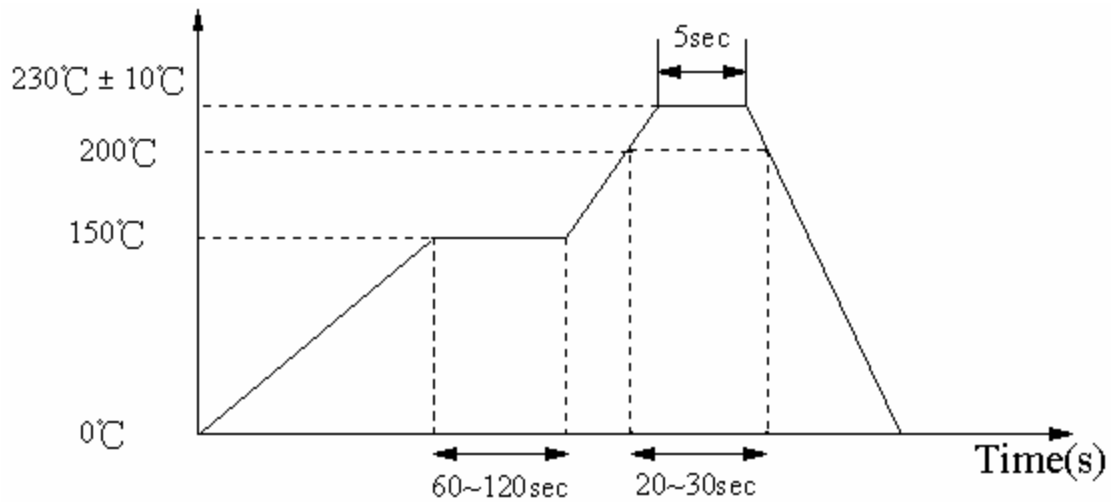
recovery time under normal temperature.

8.9 温度循环 Temperature Cycle Test

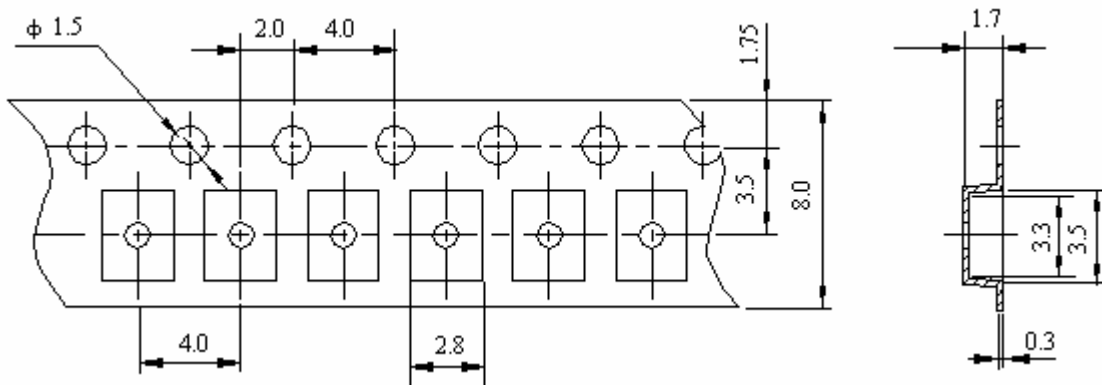
在-25℃温度中保持 30 分钟，再在+85℃温度中保持 30 分钟，共循环 5 次后在常温中恢复 1~2 小时后测试符合表 5.1~5.6 规定。

The device should also satisfy the electrical characteristics specified in paragraph 5.1~5.6 after exposed to the low temperature -25℃ and high temperature +85℃ 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



● Plastic Tape



● Reel (2000 pcs/Reel)

