1. 概述 INTRODUTION

微波双工器，也称合路器，英文 Diplexer,它是由低通滤波器和高通滤波器（或带通滤波器）组成，从而实现对无线通讯信号进行高低分频，因而适用于带双频的无线通讯系统，比如 GSM/DCS，GSM/PCS，GSM/PHS 或 WLAN 的 2.4GHz/5GHz 等。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。

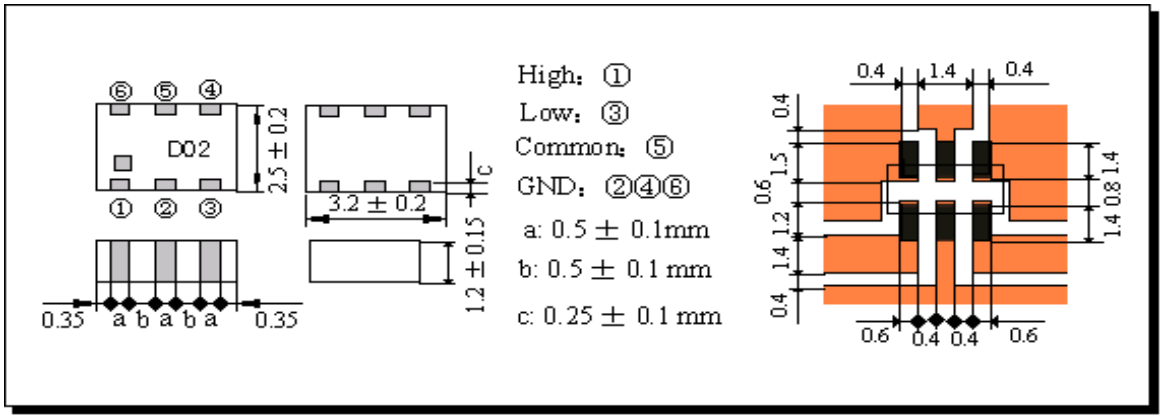
Microwave Diplexer (also called band separator) is formed with LP and HP (or BPF) to be applied for band separator, especially for dual-band system, such as GSM/DCS , GSM/PCS, GSM/PHS or WLAN 2.4GHz/5GHz, etc. with low insertion loss and high attenuation as well as small size SMD chip design , which can simplify your complex tuning and circuit design .

2. 型号 Part Number

LD 32 GSM 1G7 H93 – D02/W

- D02/W：规格，编号 D02/Normaling Type: D02/W
- H93：过孔设计结构/ Via Design Series: H93
- 1G7：High 高频率：DCS/PHS/PCS：1710~1990MHz
- GSM：Low 低频率：GSM/AMPs: 810~960MHz
- 32：产品尺寸/Size：3.2×2.5×1.2
- LD：多层结构双工器/Laminated Diplexer

3. 外型尺寸 Dimensions（Unit：mm）



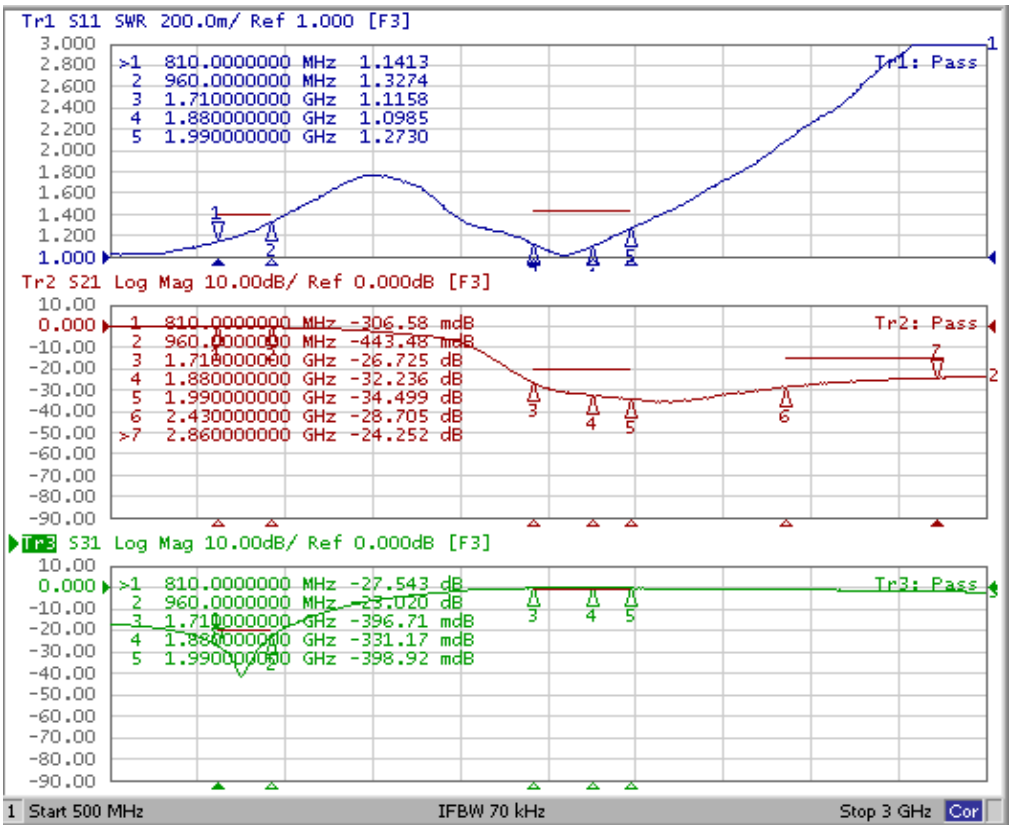
4. 结构及材料 Structure and Material

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

No.	Item （项目）	Specifications （特性）
5.1	Frequency Range 通带范围	Low 低端： 810MHz~960MHz
		High 高端：1710Mhz~1990Mhz
5.2	Insertion Loss 插入衰耗	Low 低端： 0.5dB Max. at 25℃±5℃ (0.6dB Max. at -20℃~70℃)
		High 高端：0.6dB Max. at 25℃±5℃ (0.7dB Max. at -20℃~70℃)
5.5	V.S.W.R (in BW) 驻波比	Low 低端：1.4 Max. (810MHz~960MHz)
		High 高端：1.43 Max.（1710Mhz~1990Mhz）
5.6	Attenuation 阻带衰耗	Low 低端：20dB Min.(1710Mhz~1990Mhz)
		High 高端：20dB Min.(810MHz~960MHz)
5.7	Permissible Input Power 输入功率（MAX）	5W Max. and 10 W for 5 minutes
5.8	In/Output Impedance 输入/输出阻抗	50 Ω

5. 电气性能 *Electrical Characteristics*

6. 特性曲线 *Characteristic curve*



7 环境试验后允许误差 Post Environmental Tolerance

经环境试验后允许比起始读数偏差见下表

No.	Item （项目）	Post Environmental Tolerance (环境试验后允许附加误差)
7.1	Center Frequency 中心频率 fo	±2.0 MHz
7.2	Insertion Loss 插入衰耗	±0.5 dB
7.3	Band Width 通带宽度	±5.0 MHz
7.4	Ripple (in BW) 通带波动	±0.5 dB
7.5	V.S.W.R (in BW) 驻波比	±0.2
7.6	Attenuation 阻带衰耗	±2.0 dB

Post Environmental Tolerance (Refer to the table)

8 环境试验 *Environmental Test*

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 7.1~7.6 规定。

The device should satisfy the electrical characteristics specified in paragraph 7.1~7.6 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 7.1~7.6 规定。

The device should satisfy the electrical characteristics specified in paragraph 7.1~7.6 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 255℃+10℃的焊锡浸 5±0.5 秒，或 300℃-10℃的电烙铁焊接 3±0.5 秒，焊接面无损伤。

The device should be satisfied after preheating at 120℃~150℃ for 120 seconds and dipping in soldering Sn at 255℃+10℃ for 5±0.5 seconds，or electric iron 300℃-10℃ for 3±0.5 seconds，without damnify.

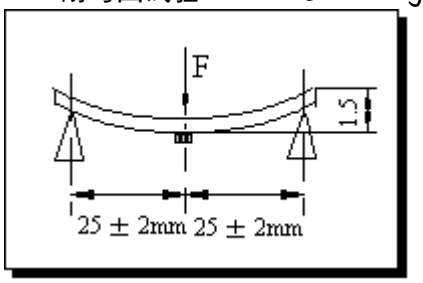
8.4 结合力试验 *Tensile Strength of Terminal*

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 7.1~7.6 规定。

The device should satisfy the electrical characteristics specified in paragraph 7.1~7.6 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 condlition.

8.7 高温特性 *High Temperature Endurance*

在温度为 85±5℃的恒温箱中放置 96±2 小时，在常温中恢复 1~2 小时后测试。符合表 7.1~7.6 规定。

The device should satisfy the electrical characteristics specified in paragraph 7.1~7.6 after exposed to temperature 85±5℃for 96±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 96±2 小时后恢复 1~2 小时测试符合表 7.1~7.6 规定。

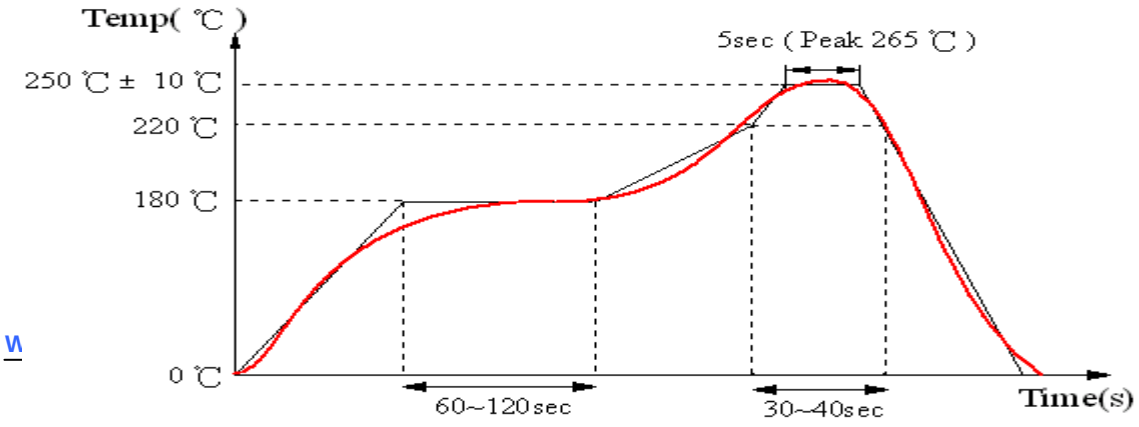
The device should also satisfy the electrical characteristics specified in paragraph 7.1~7.6 after exposed to the temperature -40℃±5℃ for 96±2 hours and to 2 hours recovery time under normal temperature.

8.9 温度循环 *Temperature Cycle Test*

在-40℃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 7.1~7.6 规定。

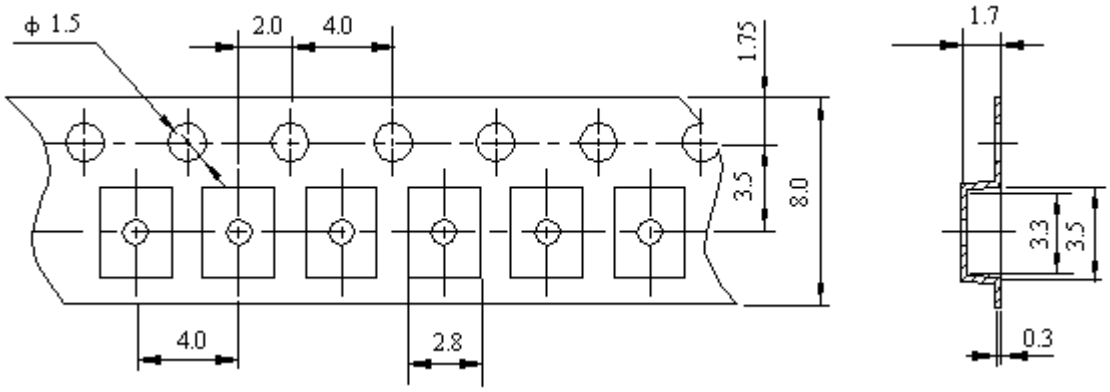
The device should also satisfy the electrical characteractics specified in paragraph 7.1~7.6 after exposed to the low temperature -40℃ and high temperature +85℃ for 30±2 min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.

9 回流焊温度 *Reflow Soldering Standard Condition*



10 包装尺寸(3225) Packaging and Dimensions

10.1 Plastic Tape



包装说明： Remarks for Package

载带尾部空穴长度 150～200mm，载带头部空穴长度 250～300mm，头部的盖带加长 250mm。

Reserve a length of 150~200mm for the trailer of the carrier and 250~300 mm for the leader of the carrier and further 250mm of cover tape at the leading part of the carrier.

10.2 Reel（2500 pcs/Reel）