

客户 CUSTOMER:

日期 DATE:

纳入仕様书 SPECIFICATION

产品名称 PRODUCT NAME: Triplexer

贵司料号 YOUR PART NO.:

敝司料号 OUR PART NO.: MTPX22M091444P69-T09 Preliminary

版本号 VERSION.: V1.0

接受 RECEPTION

THE SPECIFICATION HAS BEEN ACCEPTED.

该纳入仕様书已被我司接受

日期:
DATE:

公司:
COMPANY:

批准
CFMD

审核
CHKD

接收
RCVD

本纳入仕様书共 8 页

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纳入仕様书改定履历 MODIFY HISTORY OF SPECIFICATION

Ver.	DATE	CONTENT	APPROVED
1.0	2019.07.25	初稿 Constitute	梁启新

目录 CATALOG

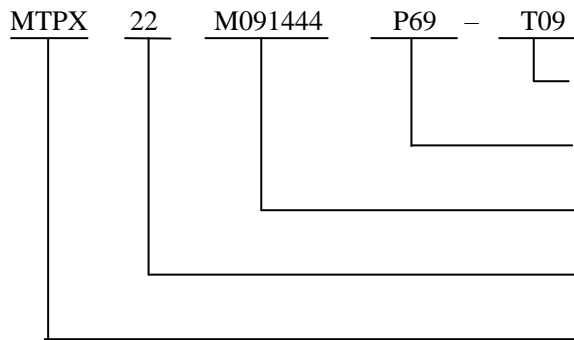
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1 适用范围 Scope

麦捷 Triplexer (MTPX 系列) 产品设计用于 5G、LTE、WiFi、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。

“Microgate” Microwave Triplexer series are designed to be used in 5G、LTE、WiFi、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 品名构成 Product Identification



标准规格, 编号 T09/Normal Type: T09

平面结构/Plane Design Series: P69

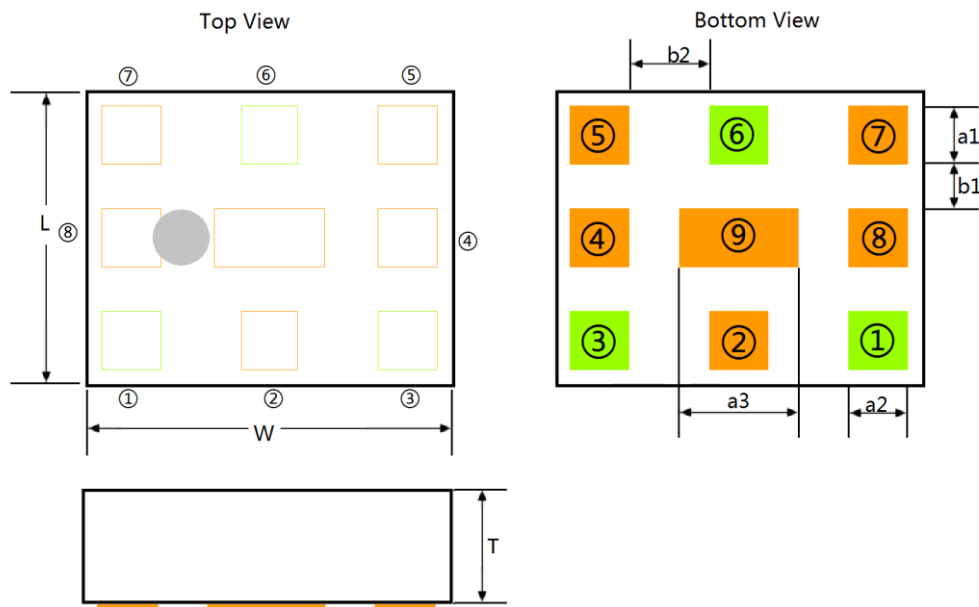
频率/ Frequency: 960MHz/1427MHz/4400MHz

产品尺寸/Chip Size: 2.5mm×2.0mm

多层结构三工器 /Triplexer

3 形状、尺寸和材料 Appearance, Dimensions and Material

Unit: mm



Pin Configuration

①	②	③	④	⑤	⑥	⑦	⑧	⑨
High Band	GND	Middle Band	GND	Low Band	GND	Common	GND	GND

Dimension

W	L	T	a1	a2	a3	b1	b2
2.50±0.20	2.00±0.20	0.65 max	0.40±0.10	0.40±0.10	0.90±0.15	0.30±0.10	0.55±0.15

Part Name 名称	Structure and Material 结构及材料
Resonator 谐振体	Dielectric Material LTCC 介质材料
In/Output Terminals 输入/输出	Ag 银
Ground Base 接地面	Ag 银

4 测试条件 Testing Conditions

除非另有规定，否则在以下条件下测试 <Unless otherwise specified>

温度 Temperature : Ordinary Temperature (5 to 35℃)
湿度 Humidity : Ordinary Humidity (25 to 85% RH)

大气压强 Atmospheric Pressure : 86 to 106 kPa

当对测量结果有疑问时<In case of doubt>

温度 Temperature : 20±2℃
湿度 Humidity : 60 to 75% RH
大气压强 Atmospheric Pressure : 86 to 106 kPa

5 电气性能 Electrical Characteristics

操作温度范围 Operating Temperature Range : -40 to +85℃

保存温度范围 Storage Temperature Range : -40 to +85℃

LB:Low Band Port MB: Middle Band Port HB: High Band Port ANT: Common Port

Low Band Port

No.	Item	Specifications (dB)
1	Insertion Loss (ANT-LB)	617 ~ 894 MHz
2		880~ 960 MHz
3	Attenuation (ANT-LB)	1427.00 ~ 1463.00 MHz
4		1463.00 ~ 1496.00 MHz
5		1496.00 ~ 1511.00 MHz
6		1554.00 ~ 1605.00 MHz
7		1695.00 ~ 1710.00 MHz
8		1710.00 ~ 1850.00 MHz
9		1760.00 ~ 1850.00 MHz
10		1850.00 ~ 2108.00 MHz
11		2109.00 ~ 2200.00 MHz
12		2300.00 ~ 2400.00 MHz
13		2401.00 ~ 2496.00 MHz

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14		2496.00 ~ 2586.00 MHz	30.7 typ.
15		2620.00 ~ 2745.00 MHz	29.6 typ.
16		3400.00 ~ 3800.00 MHz	41.7 typ.
17		5150.00 ~ 5925.00 MHz	31.9 typ.
18		5926.00 ~ 12750.00 MHz	11.3 typ.
19	Return Loss (ANT)	617~ 960 MHz	19.9 typ.
20	Return Loss (LB)	617~ 960 MHz	20.6 typ.

Middle Band Port

No.	Item	Specifications (dB)
1	Insertion Loss (ANT-MB)	1427.00 ~ 1511.00 MHz
2		1559.00 ~ 1563.00 MHz
3		1574.00 ~ 1576.00 MHz
4		1597.00 ~ 1605.00 MHz
5		1710.00 ~ 1785.00 MHz
6		1805.00 ~ 1885.00 MHz
7		1930.00 ~ 1990.00 MHz
8		2300.00 ~ 2496.00 MHz
9		2496.00 ~ 2690.00 MHz
10	Attenuation (ANT-MB)	617.00 ~ 960.00 MHz
11		3300.00 ~ 3700.00 MHz
12		3400.00 ~ 3600.00 MHz
13		3420.00 ~ 3960.00 MHz
14		3700.00 ~ 3800.00 MHz
15		3800.00 ~ 4200.00 MHz
16		4400.00 ~ 5000.00 MHz
17		5150.00 ~ 5925.00 MHz
18		5925.00 ~ 12750.00 MHz
19	Return Loss (ANT)	1427.00 ~ 2690.00 MHz
20	Return Loss (MB)	1427.00 ~ 2690.00 MHz

High Band Port

No.	Item		Specifications (dB)
1	Insertion Loss (ANT-HB)	4400.00 ~ 5000.00 MHz	0.65 typ.
2		500.00 ~ 1606.00 MHz	28.6 typ.
3	Attenuation (ANT-HB)	1606.00 ~ 2400.00 MHz	30.5 typ.
4		2400.00 ~ 2500.00 MHz	30.9 typ.
5		2500.00 ~ 2690.00 MHz	28.4 typ.
6		2700.00 ~ 3150.00 MHz	21.5 typ.
7		3300.00 ~ 3600.00 MHz	18.1 typ.
8		3600.00 ~ 3800.00 MHz	9.7 typ.
9		3800.00 ~ 4200.00 MHz	0.9 typ.
10		5150.00 ~ 5925.00 MHz	0.7 typ.
11		6250.00 ~ 6550.00 MHz	18.0 typ.
12		6600.00 ~ 8400.00 MHz	22.4 typ.
13		8800.00 ~ 10000.00 MHz	28.8 typ.
14		13200.00 ~ 15000.00 MHz	17.6 typ.
15	Return Loss (ANT)	4400.00 ~ 5000.00 MHz	18.4 typ.
16	Return Loss (HB)	4400.00 ~ 5000.00 MHz	21.9 typ.

Isolation

No.	Item		Specifications (dB)	
1	Isolation	LB-MB	617.00 ~ 960.00 MHz	32.9 typ.
2			1427.00 ~ 1606.00 MHz	31.6 typ.
3			1695.00 ~ 1710.00 MHz	31.7 typ.
4			1710.00 ~ 2690.00 MHz	30.4 typ.
5		LB-HB	617.00 ~ 960.00 MHz	32.0 typ.
6			4400.00 ~ 5000.00 MHz	31.9 typ.
7		MB-HB	617.00 ~ 960.00 MHz	45.6 typ.
8			1427.00 ~ 1606.00 MHz	28.9 typ.
9			1695.00 ~ 1710.00 MHz	30.7 typ.
10			1710.00 ~ 2690.00 MHz	29.2 typ.
11			4400.00 ~ 5000.00 MHz	34.9 typ.

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6 焊接条件 Recommended Soldering Conditions

1、焊剂 Flux, Solder

① 使用松香助焊剂，禁止使用卤化物含量超过 0.2wt% 的强酸性助焊剂。

Use rosin-based flux. Don't use highly acidic flux with halide content exceeding 0.2wt% (chlorine conversion value).

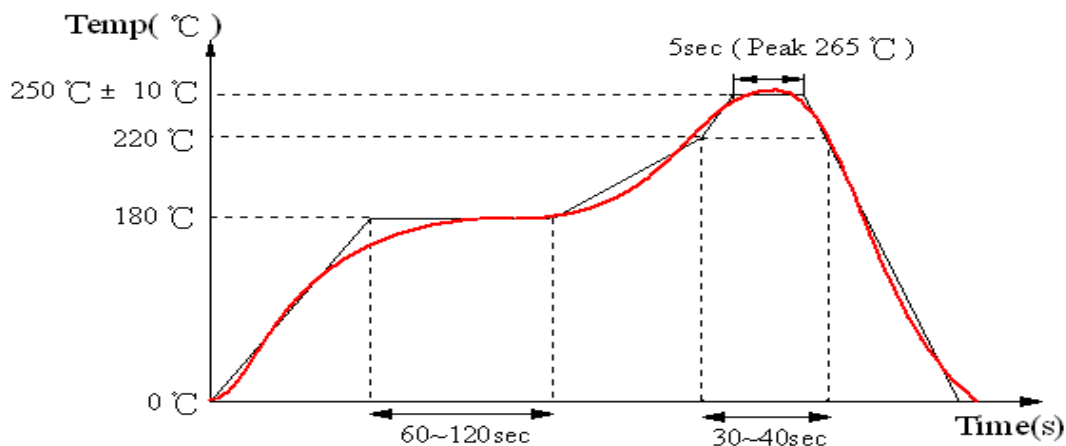
② 使用纯锡焊料 Use Sn solder.

2、回流焊条件 Reflow soldering conditions

● 预热时，产品表温与焊料温度的温差最大不允许超出 150℃，焊接完后冷却时，产品表温与溶剂温度之间的温差最大不允许超出 100℃。预热不足有可能引发产品表面裂纹，导致产品品质下降。

Pre-heating should be in such a way that the temperature difference between solder and product surface is limited to 150℃ max. Cooling into solvent after soldering also should be in such a way that temperature difference is limited to 100℃ max. Unwrought pre-heating may cause cracks on the product, resulting in the deterioration of products quality.

● 标准回流焊曲线 Standard soldering profile.



3、手工返工 Reworking with soldering iron

当使用电烙铁进行手工焊接时，以下条件必须严格遵守 The following conditions must be strictly followed when using a soldering iron.

预热 Pre-heating	150°C, 1 minute
尖端温度 Tip temperature	350°C max
输出功率 Soldering iron output	80w max
电烙铁头尖端尺寸 End of soldering iron	φ3mm max
焊接时间 Soldering time	3 seconds max