客户 CUSTOMER: 日期 DATE:

规格书
SPECIFICATION

产 品 名 称 PRODUCT NAME: Triplexer	
贵 司 料 号 YOUR PART NO.:	
敝 司 料 号 OUR PART NO.:	MTPX21H152450P69-T02M
版 本 号 VERSION.:	V3.4

接受 RECEPTION THE SPECIFICATION HAS BEEN ACCEPTED. 该规格书已被我司接受 日期: DATE： 公司： COMPANY：		
批准 CFMD	审核 CHKD	接收 RCVD

本规格书共 9 页

MANUFACTURING NAME

深圳市麦捷微电子科技股份有限公司
SHENZHEN MICROGATE TECHNOLOGY CO。，LTD
TEL：86-755-28085000

CFMD. 批准	CHKD. 审核	DSGD. 担当
梁启新	付迎华	曾艳峰

规格书改定履历 MODIFY HISTORY OF SPECIFICATION

Ver.	DATE	CONTENT	APPROVED
1.0	2013.09.20	初稿 Constitute	梁启新
1.1	2015.10.22	变更 Mark　Modify Mark	梁启新
2.0	2019.12.10	更新低频通带 Update Lowband pass band	梁启新
3.0	2020.09.18	更新电性参数 Update Electrical Characteristics	付迎华
3.1	2020.10.19	增加器件 pin1 脚在包装中的位置位置 Add Positition of conmponent Pin1 in Packing	付迎华
3.2	2021.04.30	更新 Mark 颜色 Update the mark	付迎华
3.3	2023.06.16	更改低频通带频率范围 698~1610 MHz →DC~1610MHz Modify the LB Frequency Range 698~1610MHz →DC~1610MHz	付迎华
3.4	2023.06.25	增加典型值 Add the Typical Value	付迎华

目录 CATALOG

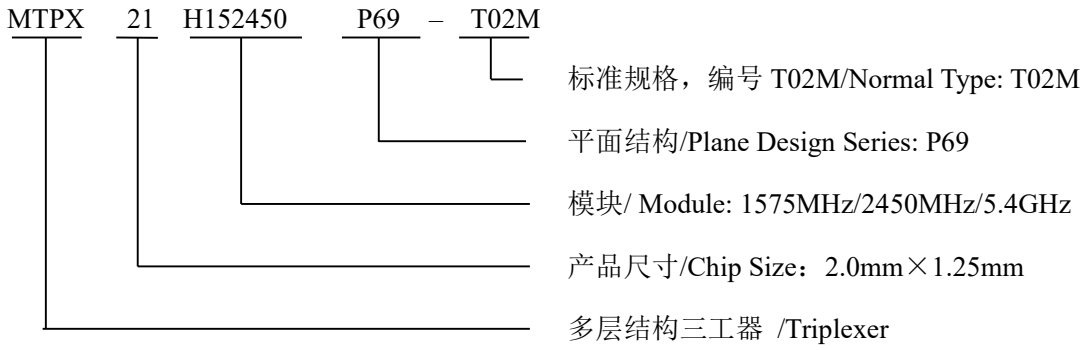
1 适用范围 Scope..... 4
2 品名构成 Product Identification..... 4
3 形状、尺寸和材料 Appearance, Dimensions and Material..... 4
4 测试条件 Testing Conditions..... 5
5 电气性能 Electrical Characteristics..... 5
6 特性曲线 Characteristic curve..... 6
7 焊接条件 Recommended Soldering Conditions..... 7
8 包装 Packaging..... 8

1 适用范围 Scope

麦捷 Triplexer（MTPX 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。

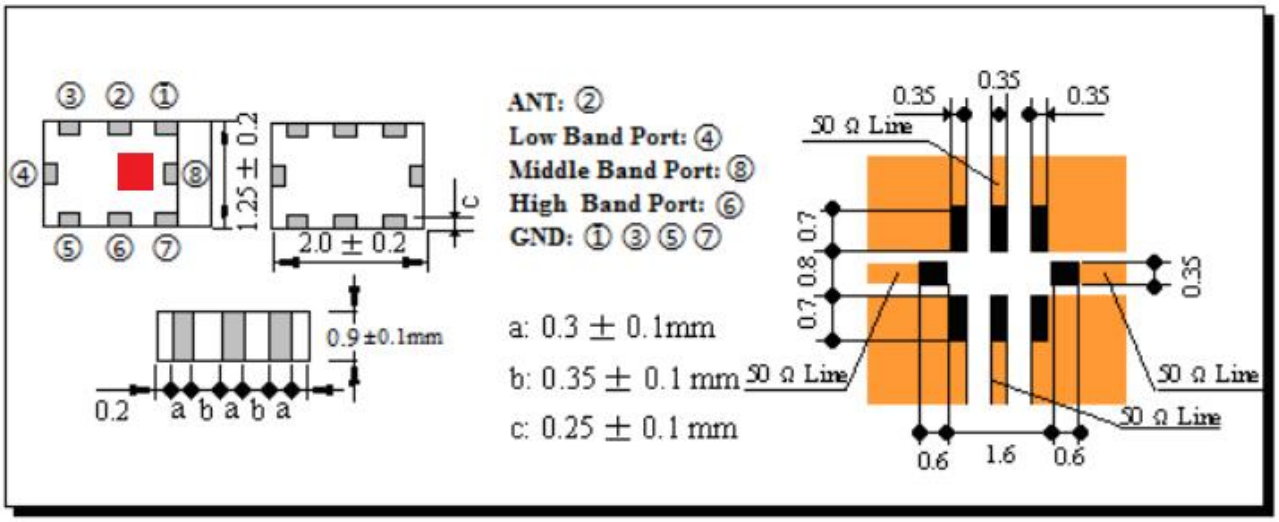
"Microgate" Microwave Triplexer series are designed to be used in PHS, WLAN, GSM, Bluetooth, PDA & Cordless phones with low insertion loss and high attenuation as well as small size SMD chip design, which can simplify your complex tuning and circuit design.

2 品名构成 Product Identification



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

Unit：mm



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 (-40 to +85℃)

湿度 Humidity : Ordinary Humidity (25 to 85% RH)

大气压强 Atmospheric Pressure : 86 to 106 kPa

5 电气性能 Electrical Characteristics

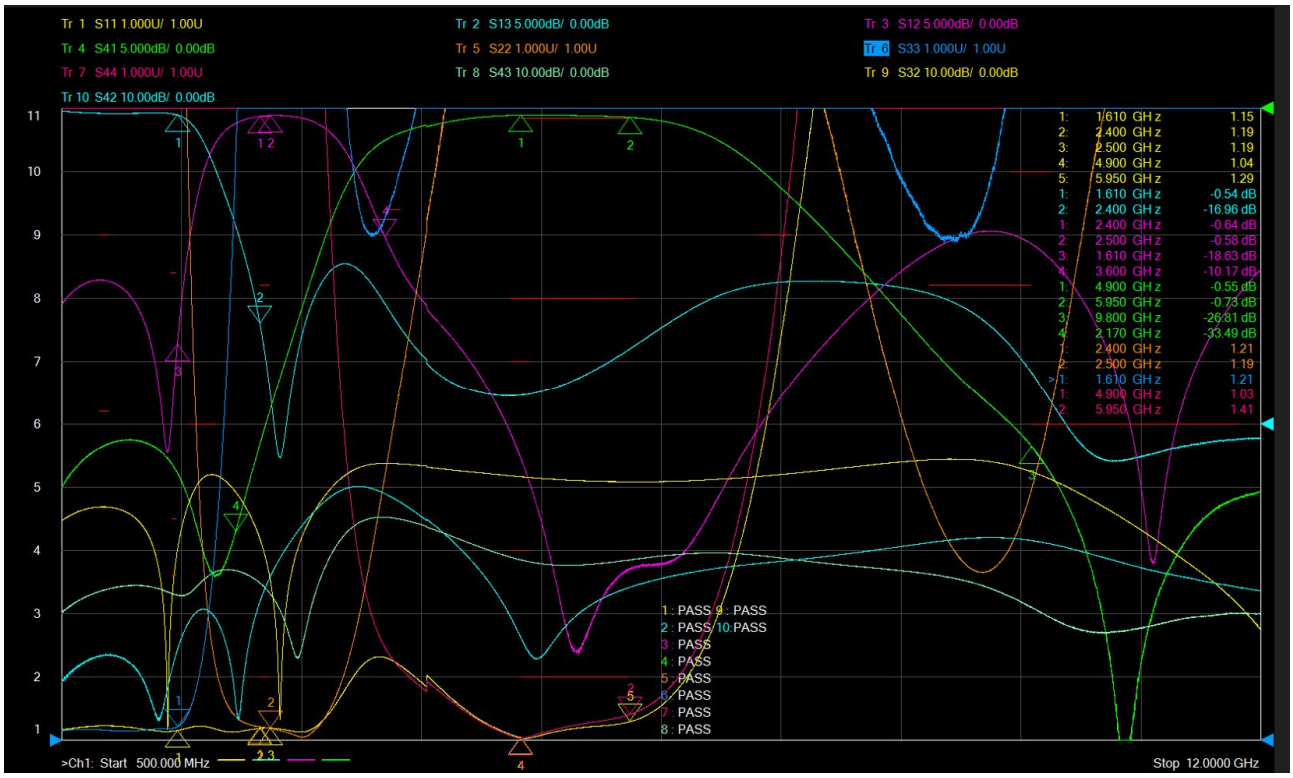
操作温度范围 Operating Temperature Range : -40 to +85℃

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

序号	Item （项目）			Specifications （特性）		
				Min.	Typ.	Max.
1	Port Impedance	Low Band Port impedance		50 Ohm		
2		Middle Band Port impedance		50 Ohm		
3		High Band Port impedance		50 Ohm		
4		ANT Port		50 Ohm		
5	Pass band Frequency Range	Low Band Port		DC~1610 MHz		
6		Middle Band Port		2400~2500 MHz		
7		High Band Port		4900~5950 MHz		
		Low Band Port	@25℃		0.54dB	0.60 dB
			@-40 to +85℃		-	0.70 dB
9		Middle Band Port	@25℃		0.64dB	0.73 dB
			@-40 to +85℃		-	0.83 dB
10		High Band Port	@25℃		0.73dB	0.80 dB
			@-40 to +85℃		-	0.92 dB
11	Low Band Port (P4-P2)					
12	Return Loss	DC~1610 MHz		10 dB	20.36dB	
13	Attenuation	2400~2500MHz		14 dB	16.96dB	
14		4800~6000MHz		15 dB	18.72dB	
15	Middle Band Port (P8-P2)					
16	Return Loss	2400~2500MHz		10 dB	20.38dB	
17	Attenuation	3600~3750MHz		8 dB	10.17dB	
18		4800~5000MHz		20 dB	25.63dB	
19		7200~7500MHz		10 dB	25.71dB	
20		9600~10000MHz		10 dB	10.13dB	

21	High Band Port (P6-P2)				
22	Return Loss	4900~5950 MHz	10 dB	15.40dB	
23	Attenuation	860~960MHz	24 dB	26.51dB	
24		1545~1605MHz	24 dB	28.01dB	
25		1710~1990MHz	25 dB	30.82dB	
26		2170MHz	30 dB	33.49dB	
27		8100~8800 MHz	10 dB	12.13dB	
28		8820~9800 MHz	14 dB	18.83dB	
29		9800~11800MHz	20 dB	26.81dB	
30	Isolation	Middle to High 4800~5000MHz	20 dB	30.35dB	
31		Middle to Low 1559~1606MHz	15 dB	20.34dB	
32		High to Low 1559~1606MHz	24 dB	26.84dB	
33	Power Capacity		3W max.		

6 特性曲线 Characteristic Curve



7 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起过 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).

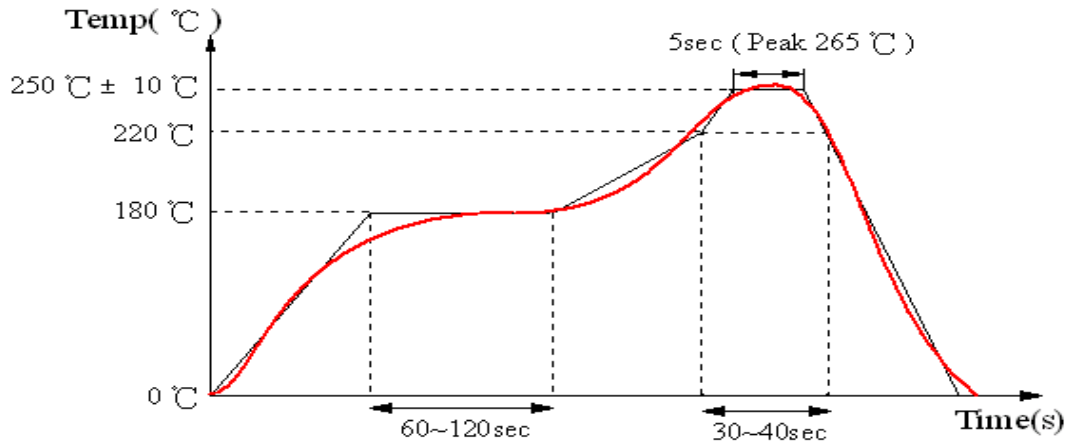
② 使用纯锡焊料 Use Sn solder.

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

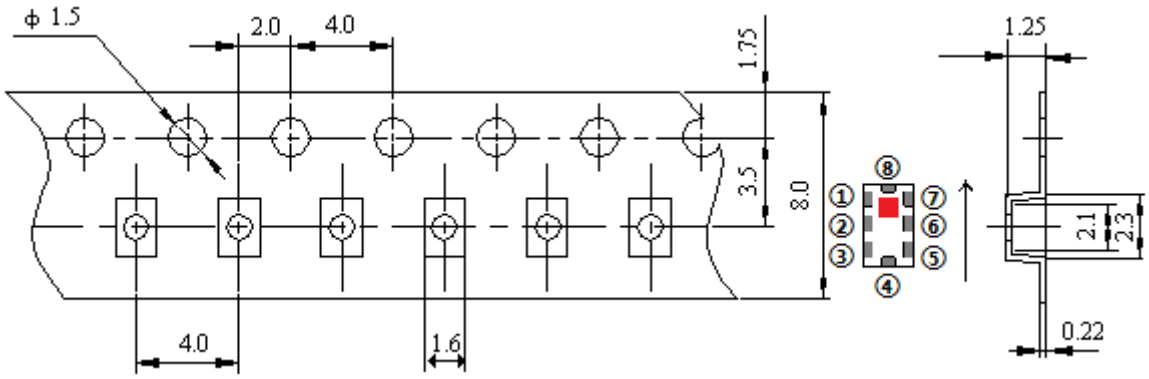
当使用电烙铁进行手工焊接时，以下条件必须严格遵守 The following conditions must be strictly followed when using a soldering iron.

预热 Pre-heating	150℃, 1 minute
尖端温度 Tip temperature	350℃ 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

8 包装 Packaging

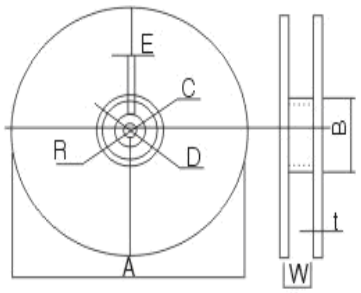
①编带尺寸 Dimensions of Tape:

Unit: mm



②带轮尺寸 Dimensions of Reel

Unit: mm



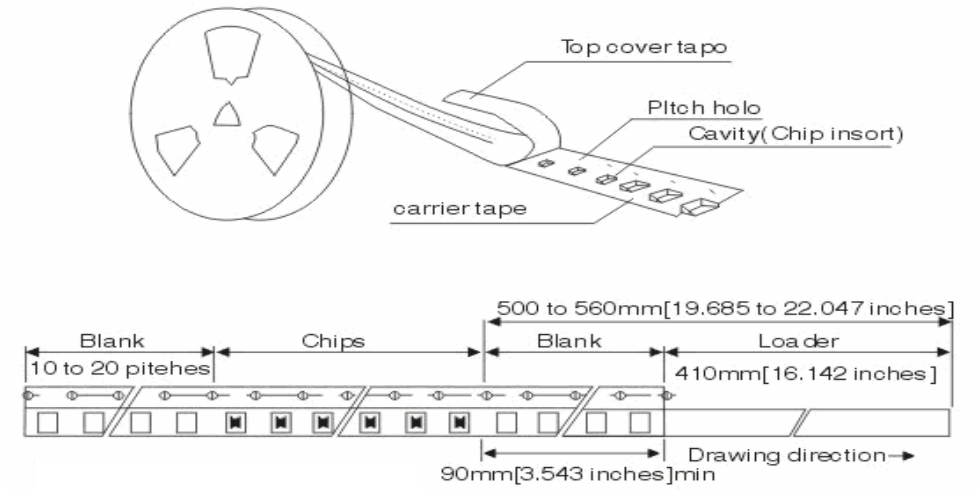
Reel material: PS (Polystyrene)

A	178±2
B	60±2
C	13.0±0.5
D	21.0±0.8
E	2.0±0.5
W	8.5±1.0
t	1.2±0.2
R	1.0±0.25

③编带抗拉强度 Pulling strength of tapes:

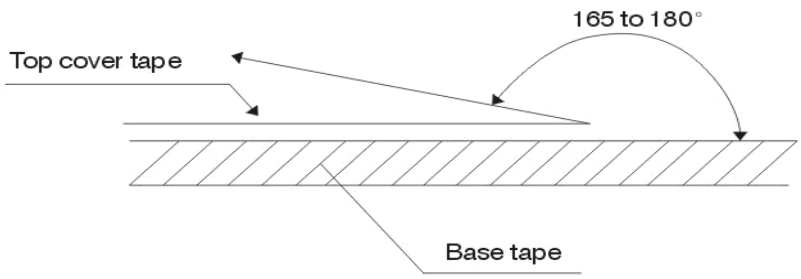
载带 Carrier tape	10N or more (1kgf or more)
上盖带 Cover tape	5N or more (1kgf or more)

④编带简图及拉伸方向 Taping figure and drawing direction:



⑤ 盖带的剥离强度 Peeling strength of cover tape:

盖带 Cover tape	0.2~0.6N (20gf~60gf)



测试条件 Test condition:

1) 剥离角度 peel angle: 165°~180° vs. carrier tape.
2) 剥离速度 peel speed: 300mm/min±10%.

⑥ 包装数量 Packaging quantities: 3000 PCS / Reel