客户 CUSTOMER: 日期 DATE:

规格书
SPECIFICATION

产 品 名 称 PRODUCT NAME: Power Divider 功分器
贵 司 料 号 YOUR PART NO.:
敝 司 料 号 OUR PART NO.: MPD18M2150P69-PD02
版 本 号 VERSION.: V2.0

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
FAX：86-755-28085605

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	2019.03.13	初稿 Constitute	梁启新
1.1	2019.06.27	修改器件脚位 Modify Pin Configuration	Jack
1.2	2019.11.25	修改材料 Modify Material 修改电性性能 Modify Electrical Characteristics 增加包装 Add Packaging	刘月泳
1.3	2020.02.22	修改 Mark 图示 Modify Mark Display	刘月泳
1.4	2020.05.05	修改包装材料 Modify Packaging Material	刘月泳
2.0	2023.12.19	增加典型值 Add the typical value 增加 ESD 规格和潮敏等级 Add ESD SPEC.&MSL	付迎华

目录 CATALOG

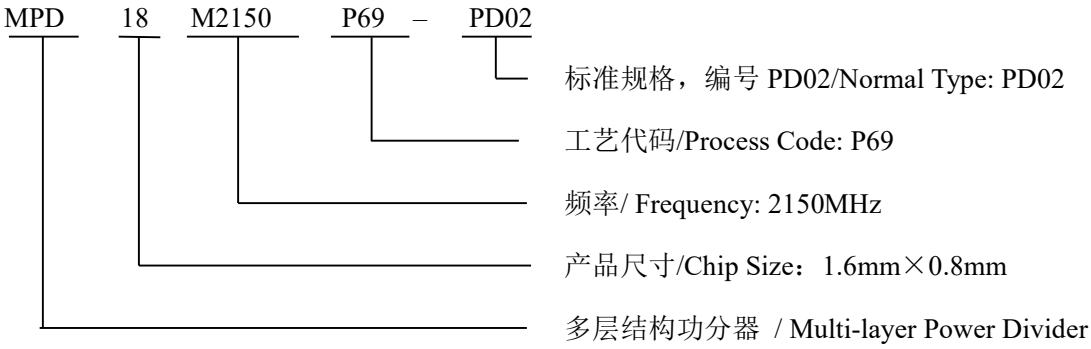
1 适用范围 Scope 4
2 品名构成 Product Identification 4
3 形状、尺寸和材料 Appearance, Dimensions and Material 4
4 测试条件 Testing Conditions 5
5 电气性能 Electrical Characteristics 5
6 特性曲线 Characteristic Curve 6
7 焊接条件 Recommended Soldering Conditions 7
8 包装 Packaging 8

1 适用范围 Scope

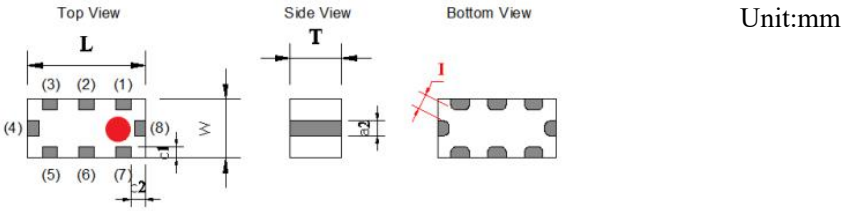
麦捷 Power Divider（MPD 系列）产品设计用于 LTE、WiFi、Bluetooth、PDA 和无绳电话中，具有低的插入损耗、小体积 SMD 片式设计，能减少复杂的调校工作，可以简化电路设计。

"Microgate" Microwave Power Divider series are designed to be used in LTE、WIFI、Bluetooth、PDA & Cordless phones etc. with low insertion loss and small size SMD chip design, which can simplify your complex tuning and circuit design.

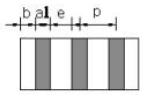
2 品名构成 Product Identification



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



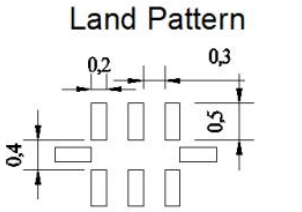
Unit:mm

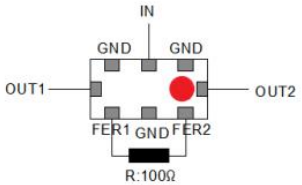


Mark	Meaning
A	Directional Input Mark

Mark	Dimension	Mark	Dimension	Mark	Dimension
L	1.6±0.1	a2	0.2±0.1	e	0.3±0.1
W	0.8±0.1	b	0.20±0.15	p	0.5±0.05
T	0.7 max.	c1	0.15±0.10	l	0.125 min
a1	0.2±0.1	c2	0.15±0.10	-	-

Terminal No.	Terminal Name	Terminal No.	Terminal Name
(1)	GND	(5)	FER1
(2)	IN	(6)	GND
(3)	GND	(7)	FER2
(4)	OUT1	(8)	OUT2





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+ Ni 镍/Sn 锡
Ground Base 接地面	Ag 银+ Ni 镍/Sn 锡

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℃

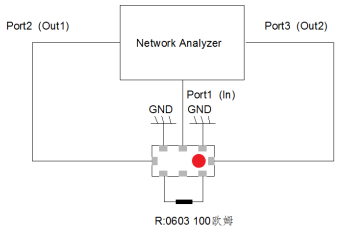
保存温度范围 Storage Temperature Range : -40 to +85℃

Parameter		Spec.	Conditions
Human Body Model ： HBM	@Each Port (V)	±1000	100pF/1500ohm
Machine Model : MM	@Each Port (V)	±150	200pF/0ohm
Charged Device Model : CDM	@Each Port (V)	+/-500	Humidity:60%RH max
Moisture Sensitivity Levels		MSL1	

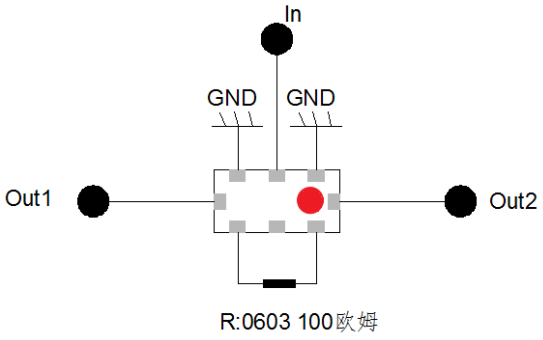
No.	规格参数 Parameter	单位 Unit	下限值 Min.	典型值 Typ.	上限值 Max.
5.1	频率范围	MHz	1400	/	2900
5.2	几路	/		2	
5.3	隔离度(@1700-2700MHz)	dB	16	18.4	/
5.4	隔离度(@1400-2700MHz)	dB	12.5	14.6	/
5.5	隔离度(@1400-2900MHz)	dB	11	14.6	/
5.6	插入损耗	dB	/	0.6	0.9
5.7	幅度不平衡度	dB	-0.85	0.11	+0.85
5.9	相位不平衡度	degrees	-4	0.6	+4
5.10	端口驻波	:1	/	1.66	1.8
5.11	最大输入功率	W	/	/	1
5.12	输入阻抗	ohm	50		
5.13	输出阻抗	ohm	50		

6 特性曲线 Characteristic Curve

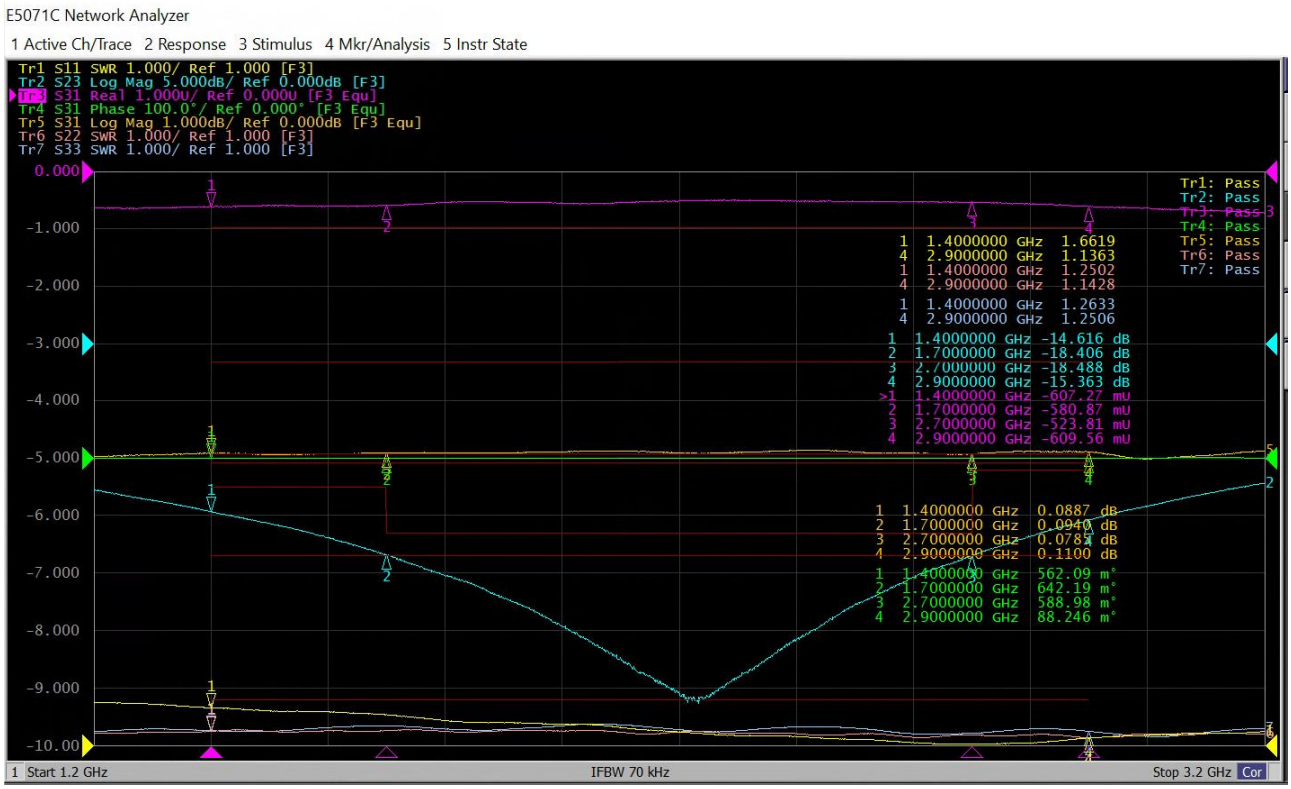
Measuring Diagram



* 100 ohm external resistor is required between OUT 1 and OUT 2.
* Insertion loss is defined as the S-parameter S21 and S31.



* Isolation can be fine tuned by external resistor R1(0603 100Ω±1%), and this components depend on the client's PCBA layout and stack-up.



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).

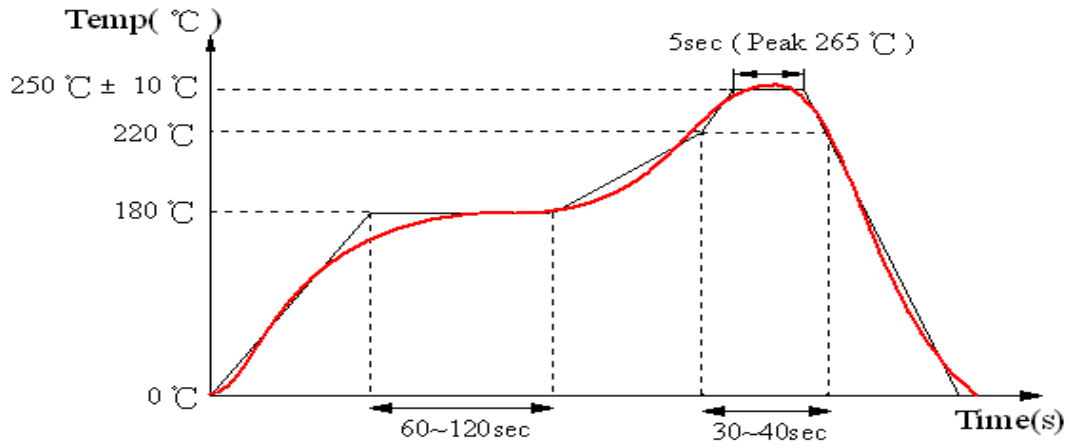
② 使用纯锡焊料 Use Sn solder.

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.



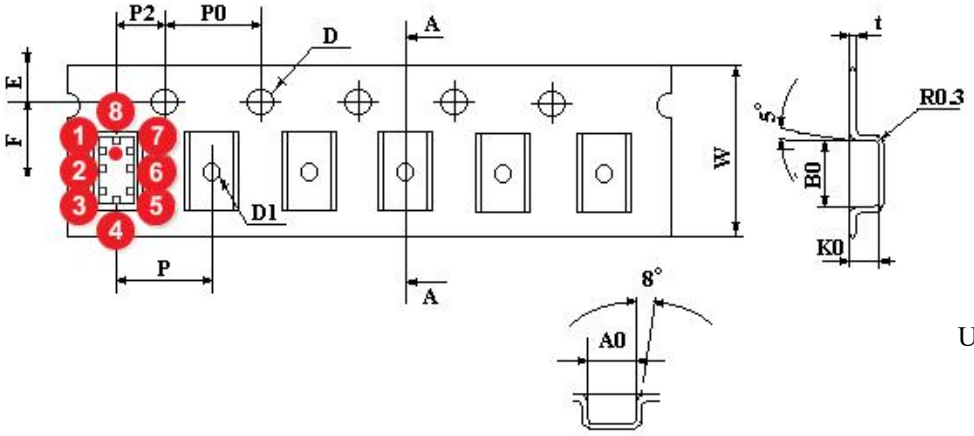
3、手工返工 Reworking with soldering iron

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:

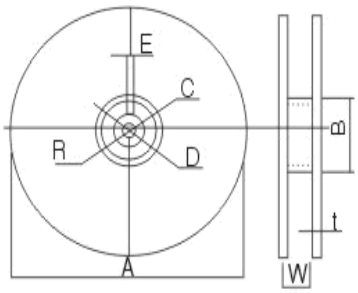


Unit: mm

W	P	E	F	P2	D	D1
8.00+0.30/-0.10	4.00±0.10	1.75±0.10	3.50±0.05	2.00±0.05	1.50+0.10/-0.00	0.70+0.25/-0.10
P0	10P0	A0	B0	K0	T	Tape Material
4.00±0.10	40.00±0.20	0.95±0.10	1.82±0.10	0.75±0.10	0.22±0.05	塑带 plastic carrier tape

② 带轮尺寸 Dimensions of Reel

Unit: mm



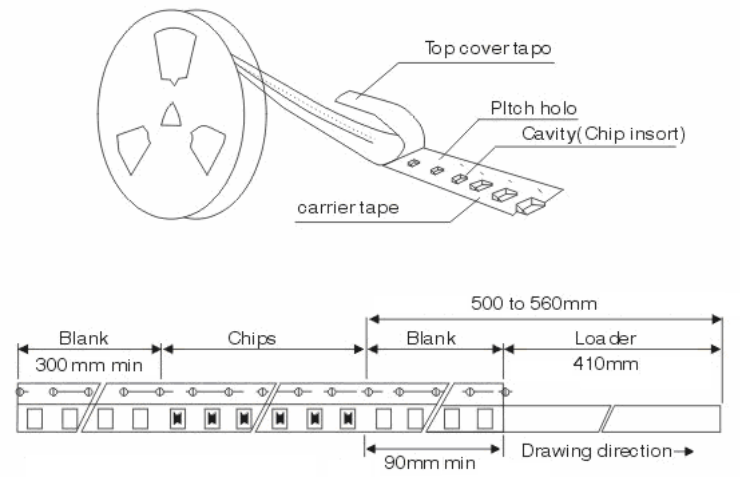
Reel material: PS (Polystyrene)

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:



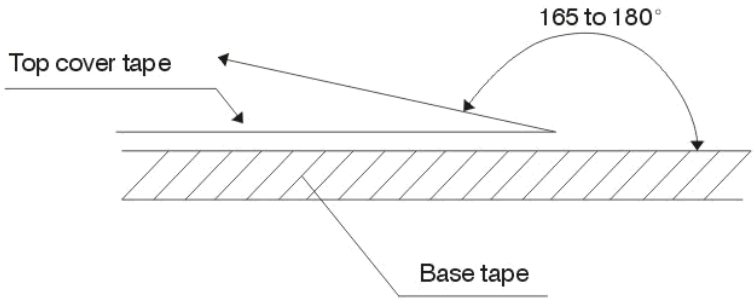
编带材料 Tape material:

基带 Base tape: 塑带 plastic carrier tape

盖带 Cover tape: 聚乙烯 polyethylene

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: 4000 PCS / Reel