

亞 驪 企 業 股 份 有 限 公 司
ARISTOTLE ENTERPRISES

承 認 申 請 書

ROHS COMPLIANCE

客戶名稱: 永洋科技股份有限公司
Customer
廠商料號: RFA-25-F17M3-B-10069
Part No.
品名: Dual Band
Description
圖號: RFA-25-F17M3-B-10069
Drawing No.
客戶料號: 11320Y11232A1
Drawing No.

出廠簽章:

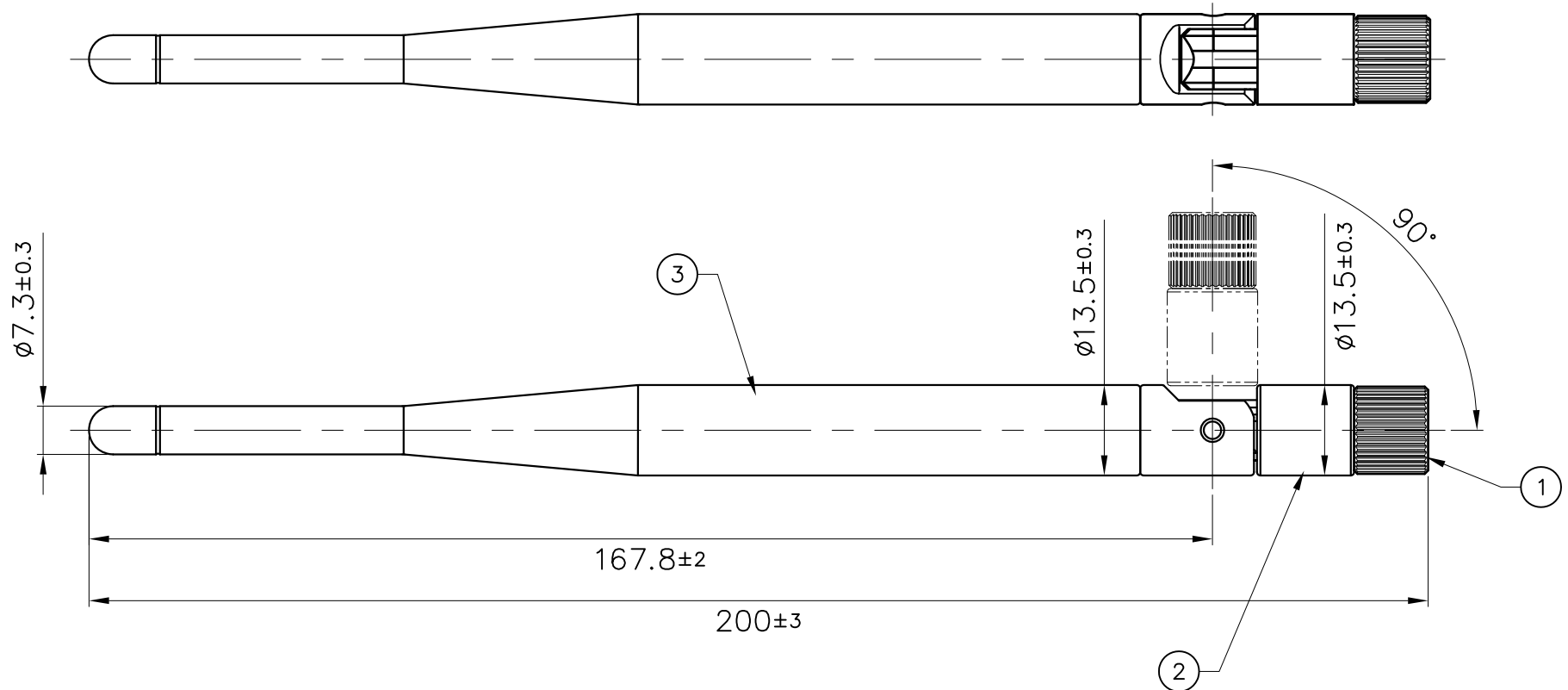
檢 查 TEST BY	核 對 CHECK BY	承 認 APPROVE BY
周沂珮	黃秋芳	廖煥文

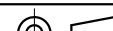
承認簽章:

檢 查 TEST BY	核 對 CHECK BY	承 認 APPROVE BY
		

地址:新北市中和區莒光路 63 號 8 樓
電話:02-2225-8209
傳真:02-2225-7523

NO.	NAME	FINSH	MAT'L	Q'TY	MEMO
1.	Connector	BLACK	Brass	1	RP SMA PLUG
2.	Hinge	BLACK	ABS	1	
3.	Tube	BLACK	ABS	1	



PROJECTION		TOLERANCE UNLESS OTHERWISE SPECIFIED				亞驪企業股份有限公司 ARISTOTLE ENTERPRISES INC.	
		LINER		ANGLE			
UNITS		. ±0.20		X° ±1.0°		TITLE RFA-25-F17M3-B-10069	
MM		.X ±0.10					
		.XX ±0.05					
REV.	A	APPD.				DWG NO. RFA-25-F17M3-B-10069	
SHEET	1/1	CHKD.					
SIZE	A4	DESIGN					
SCALE	--	DRAW	吳浩南	2019/7/31			

3.				REV.	A	APPD.		
2.				SHEET	1/1	CHKD.		
1.				SIZE	A4	DESIGN		
REV.	ECN.	NAME	DATE	SCALE	--	DRAW	2019/7/31	

RFA-25-F17M3-B-10069

Specifications

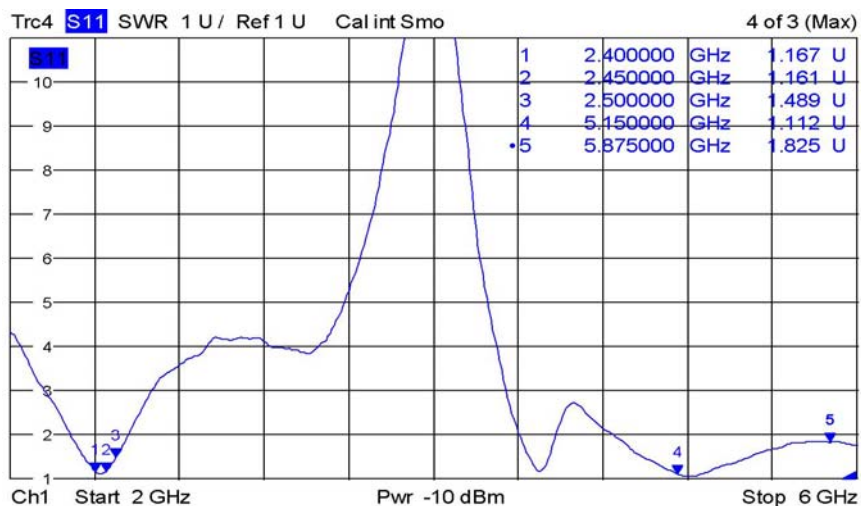
Frequency range	2400 –2500 MHz	5150 –5875 MHz
Peak gain	2.5 dBi	3.5 dBi
Average gain	1 dBi	0.25 dBi
VSWR	2.0 : 1 Max.	2.5 : 1 Max.
Polarization	Linear, vertical	
Impedance	50 Ω	
Connector	RP SMA PLUG	

Environment & Mechanical Characteristics

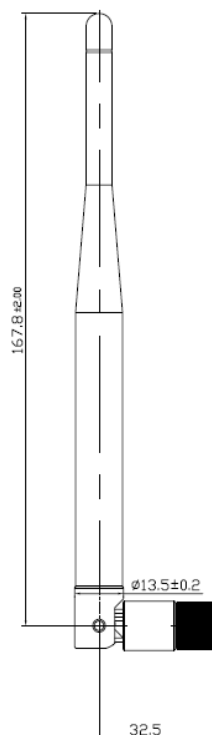
Temperature	- 10°C to +55°C
Humidity	95% @ 25°C



VSWR

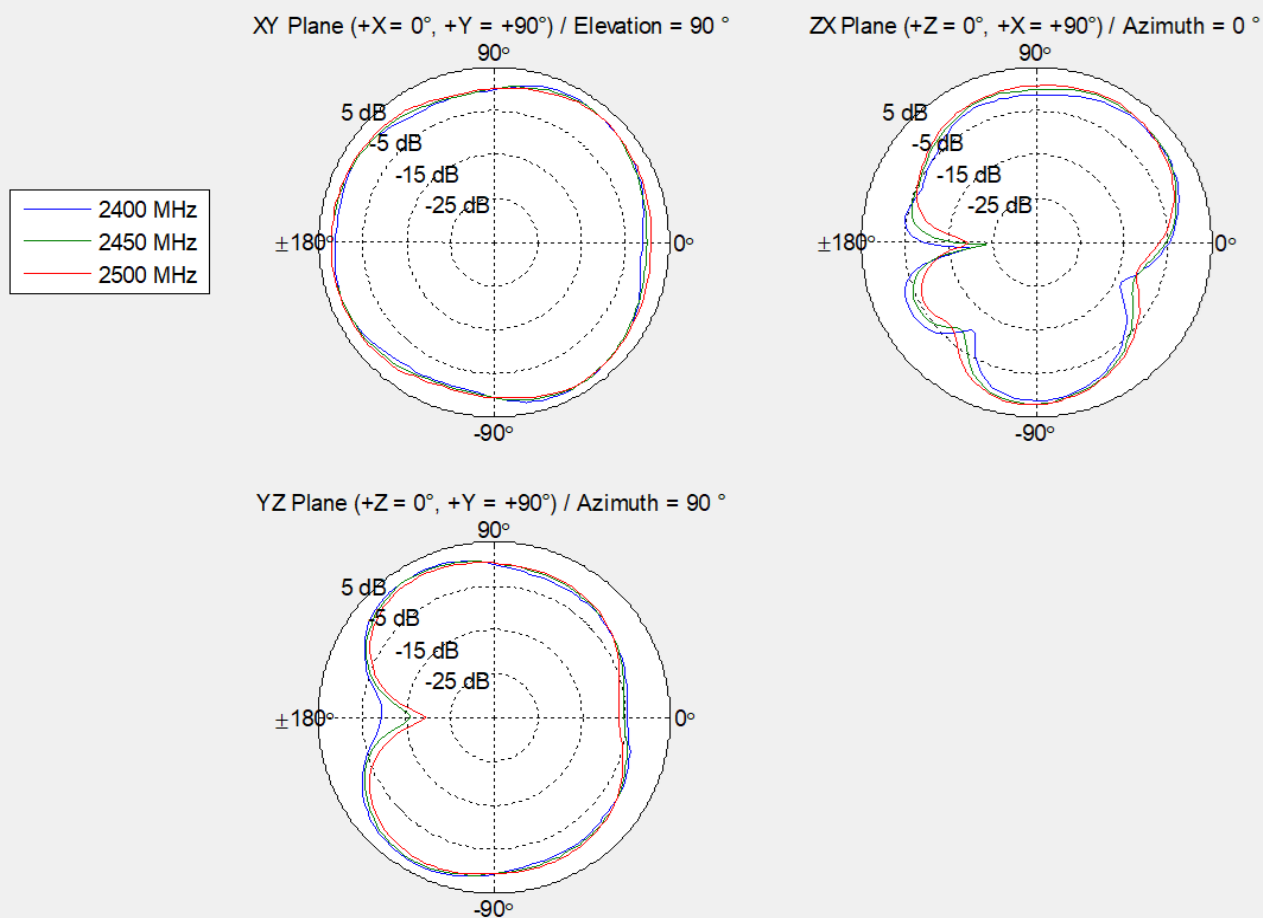


Date: 28.NOV.2018 15:18:49



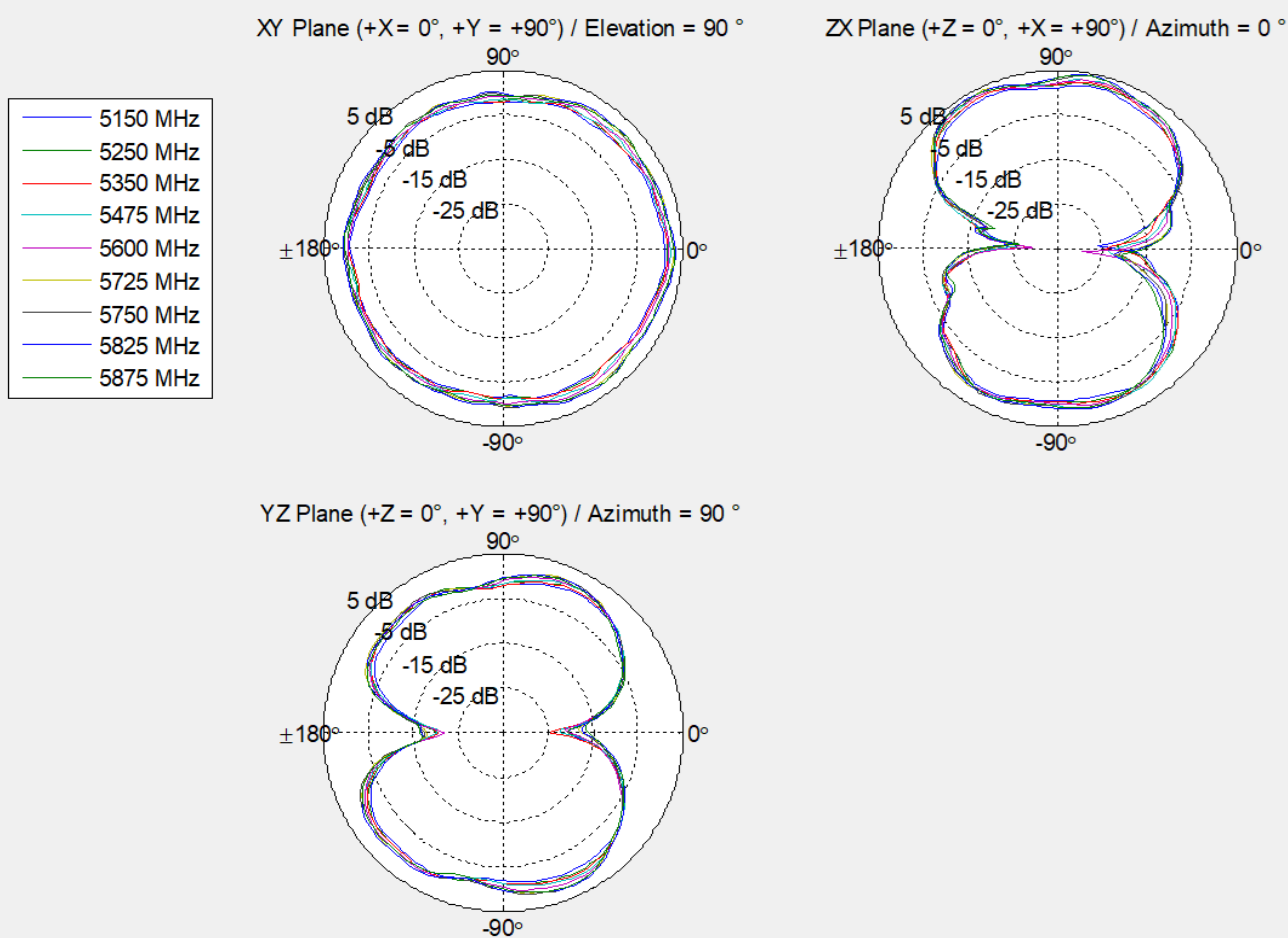
Radiation Pattern

2G Band = 2400 - 2500 MHz % 2G Band



Radiation Pattern

5G Band = 4400 - 5975 MHz % 5G Band



亞驪企業股份有限公司

文件 編號		文件 名稱	C066_RFA-25-F17M3-B-10069				發行 版本	A	頁次	1/1
客戶代號：		C066				最小包裝	PCS	10		
客戶料號/品名：		11320Y11232A1				中包裝	PCS	50		
亞驪料號/品名：		RFA-25-F17M3-B-10069				大包裝	PCS	500		
相關配件						備註				

1. 最小包裝(10pcs-夾鏈袋)		2. 中包裝(50PCS-PE 袋)	
 示意圖		 示意圖	
3. 最大包裝(500PCS-1 箱)		4.	
 示意圖			

General ABS POLYLAC[®] Characteristics PA-757

特性 PROPERTIES	測試方法 ASTM TEST METHOD	測試條件 TEST CONDITION	單位 UNIT	通用級 GENERAL
				PA-757
熔融指數 Melt Flow Index	D1238	200 °C, 5 Kg	g/10 min	1.6
		220 °C, 10 Kg		-
比重 Mass Density	D792	23 °C	-	1.05
硬度 Hardness	D785	-	R Scale	116
拉伸強度 (屈服) Tensile Strength (Yield)	D638	6 mm/min	Kg/cm ²	470
			lb/in ²	6660
延伸率 Tensile Elongation	D638	6 mm/min	%	25
彎曲強度 Flexural Strength	D790	2.8 mm/min	Kg/cm ²	790
			lb/in ²	11660
彎曲彈性模數 Flexural Modulus	D790	2.8 mm/min	10 ⁴ Kg/cm ²	2.7
			10 ⁵ lb/in ²	3.8
IZOD 衝擊強度 Izod Impact Strength	D256 (Notched)	6.4 mm, 23°C	Kg-cm/cm	20
			ft-lb/in	3.7
		3.2 mm, 23°C	Kg-cm/cm	21
			ft-lb/in	3.9
維氏軟化溫度 Vicat Softening Temp.	D1525	1 Kg, 50 °C/hr	°C	105
			°F	221
熱變形溫度 Heat Distortion Temp.	D648	1.8 MPa Annealed	°C	95
			°F	203
		1.8 MPa Unannealed	°C	85
			°F	186
UL 燃燒等級 UL Flammability	UL 94	-	-	1.5 mm HB

May 2, 2013

Notes : These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

The above statement is based on our current level of knowledge and covers the above products directly manufactured and supplied by CHI MEI CORPORATION at the date of issue. CHI MEI CORPORATION makes no warranties, whether express or implied, and assumes no liability in connection with any use of above information. Notwithstanding the foregoing, CHI MEI CORPORATION shall in no event be held obligated or liable for any claims due to or arising from (i) any customer provided, consigned, materials and/or parts, which are incorporated or adopted in the products; (ii) any combination of the products with material not provided or authorized by our company; (iii) any modifications to the products which are made or directed by customer; (iv) our compliance with the specifications, instructions, and/or designs provided by customer; (v) any anti-trust, unfair competition and/or other unlawful actions effected by customer; or (vi) any defects, infringement, breach and/or violation which are arising out of customer's faults or otherwise not solely and directly attributable to CHI MEI CORPORATION. In no event will CHI MEI CORPORATION be liable for any indirect, special, exemplary, punitive, or consequential damages (including lost profits) of any nature whatsoever whether arising out of the purchase, shipment, unloading, handling, or use of any product or otherwise.

CHENG FU METAL IND. CO., LTD.

No. 102, Lane 46, Fongjiang Rd., Taishan Dist., New Taipei City 24343, TAIWAN

FAX : (02)2900-3899

E-Mail: chengfu.metal@msa.hinet.net

材質證明書 Certificate Of Analysis

客 戶 名 稱 (Title of customer)			出 貨 日 期 (Date of delivery)	
國 際 標 準 International standard	材 質 名 稱 (Spec.)	證 明 書 號 碼 (Certificate NO)	試 材 規 格 (Size)	
JIS	C3604 BD		R 7.0~7.5 m/m	

化學分析 (Chemical Analysis)

使用儀器 instrument	X 光 電 腦 分 析 儀 (VACUUM X RAY SPECTROGRAPH)								
元 素 名 稱 Element	銅 (Cu)	鉛 (Pb)	鋅 (Zn)	鐵 (Fe)	鎘 (Cd)	矽 (Si)	鋁 (Al)	磷 (P)	鐵+錫 (Fe) +(Sn)
標 準 規 範 % specification	57.0~61.0	1.8~3.7	REM	≤0.50	0.0075 ↓	—	—	—	≤1.0
實 際 含 量 % Actual composition	58.4	3.3	REM	0.38	0.004	—	—	—	0.72

外觀及物理性質(Exteriority Check And Physical Properties)

外觀(Exteriority)	外觀檢驗(Exteriority Appear)	OK	直度檢驗(Camber)	OK
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以上材質樣本經測試後核對無誤,符合標準規範.

The above material sample has been tested and check correct to comply with the specification.

原料成份表

一、物品名稱	低密度聚乙烯 (LDPE)
物品編號：	NA207-66;NA112-27;NA205-15;NA208; NA248;NA248A
製造商或供應商名稱：	台灣聚合化學品股份有限公司
地址及電話 / 傳真：	台北市內湖區基湖路37號12樓 886-2-87516888 / 886-2-26599599
二、成分辨識資料	
中英文名稱：	低密度聚乙烯 (LDPE) LOW DENSITY POLYETHYLENE RESINS
化學文摘社登記號碼(CAS No.)：	09002-88-4
三、物質成分	成分百分比
乙烯 (ETHYLENE)：	99.70%
添加劑 (ADDITIVE)：	0.30%
製表單位	名稱：台灣聚合化學品股份有限公司 地址：台北市內湖區基湖路37號12樓
製表日期	2007年11月27日

REPORT OF MATERIAL TEST 材料測試報告

MINCHALI

DATE: OCT.13,2011

Customer 顧客名稱 : 國慶精密股份有限公司
 Commodity 商品名稱 : C5210R PHOSPHOR BRONZE FOR SPRING (H)
 Applied Standard 引用標準 : CNS 9503 Phosphor Bronze Sheets, Plates and Strips

ISO 9001
 ISO/TS 16949
 IECQ QC080000
 ISO 14001
 OHSAS 18001 & TOSHMS

Test Item 測試項目	Standard 標準值	Test Value 1 測試值一	Test Value 2 測試值二	Test Value 3 測試值三	Test Value 4 測試值四
Size of Product) Manufacture No. Thickness (mm) Width (mm) Length (mm)	產品規格 銅捲編號 產品厚度 產品寬度 產品長度		08M033A 0.120 621.000		
Chemical Analysis Test)) (%) Sn+P(%)	化學測試 磷 錫 銅錫磷	0.030 - 0.350 7.000 - 9.000 min. 99.700	0.150 8.022 99.943		
Mechanical & Physical Test) Thickness Test (mm) Width Test (mm) Tensile Strength (kgf/mm2) Elongation (%) Hardness Test (Hv) Grain Size (mm) Electric Conductivity (%)	物性測試 厚度測試 寬度測試 抗拉強度 伸長率 硬度 結晶粒度 導電率	-0.010 +0.005 -0.10 +0.00 58.00 - 65.00 25.00 - 999.00 185.0 - 200.0 - -	0.122 GOOD 63.40 28.10 197.0 - 198.0 0.010 11.80		
Other Information) Delivery No.	其他資訊 出貨單號		0A0279		

2843



QA Supervisor: 周建偉

A780601 0A0437

MINCHALI METAL INDUSTRY CO., LTD.
 名佳利金屬工業股份有限公司
 11, Pei Yuan Road, Chung Li City, Taiwan, R.O.C.
 Tel : (03)4526141-5 (03)4526017-9
 Fax : (03)4529112 (03)4629625



REPORT OF MATERIAL TEST 材料測試報告

ISO 9001
ISO/TS 16949
IECQ QC080000
ISO 14001
OHSAS 18001 & TOSHMS

No.: 131245

DATE: MAR.21,2012

Customer 顧客名稱: 國慶精密股份有限公司

Commodity 商品名稱: C5210R PHOSPHOR BRONZE FOR SPRING (H)

Applied Standard 引用標準: CNS 9503 Phosphor Bronze Sheets, Plates and Strips

Manufacture No.	銅捲製號		12M027B	12M027A
(Specification)	產品規格	Standard		
Thickness (mm)	產品厚度		0.200	0.200
Width (mm)	產品寬度		305.000	305.000
Length (mm)	產品長度			
(Chemical Analysis Test)	化性測試			
P(%)	磷	0.030 - 0.350	0.132	0.132
Sn(%)	錫	7.000 - 9.000	7.616	7.616
Cu+Sn+P(%)	銅錫磷	min. 99.700	99.966	99.966
(Mechanical & Physical Test)	物性測試			
Thickness Test (mm)	厚度測試	-0.010 +0.000	0.199	0.199
Width Test (mm)	寬度測試	-0.10 +0.00	GOOD	GOOD
Tensile Strength (kgf/mm ²)	抗拉強度	58.00 - 65.00	59.60	59.60
Elongation (%)	伸長率	25.00 - 999.00	35.92	35.92
Hardness Test (Hv)	硬度	185.0 - 195.0	185.0 - 187.0	185.0 - 187.0
Grain Size (mm)	結晶粒度	-	0.010	0.010
Electric Conductivity (%)	導電率	-	11.80	11.80
(Other Information)	其他資訊			
Delivery No.	出貨單號		130518	130518

QA Supervisor: 周建偉

A901005 R1215003MH

MINCHALI METAL INDUSTRY CO., LTD.
名佳利金屬工業股份有限公司
11, Pei Yuan Road, Chung Li City, Taiwan, R.O.C.
Tel : (03)4526141-5 (03)4526017-9
Fax : (03)4529112 (03)4629625

SPECIFICATION FOR APPROVAL

DOCUMENT: A30178B007

STYLE : RG-178B/U

SIZE: 7/0.102 SCCS

RECOGNIZED: UL 1979



WONDERFUL HI-TECH CO.,LTD

OFFICE : 72WU KONG 6TH ROAD,
WU KU IND. DISTRICT
TAIPEI HSIEN,TAIWAN

FACTORY : 17 PEI YUAN ROAD,
CHUNG-LI IND. PARK
TAIWAN, R.O.C.

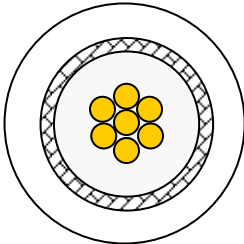
TEL : (02)22988033
FAX : (02)22988031-2

TEL : (03)4527777
FAX : (03)4517214



WONDERFUL HI-TECH CO., LTD

SPECIFICATION

STYLE	105°C 30V UL1979	DOCUMENT NO : A30178B007
SIZE	RG-178B/U	ESTABLISHED DATE: 2008/11/18
STANDARD : MIL-C-17		
Conductor	Size	AWG 30
	Material	Silver-Coated Copper Clad Steel
	Conductors No.	7
	Conductors Size	mm 0.102
	O.D.	mm 0.31
Insulation	Average Thickness	mm 0.28
	Diameter	mm 0.86 ±0.03
	Material	---- FEP
	Color	---- Clear
Braid	Material	---- Tinned Copper
	Construction	mm 16 / 3 / 0.1
	Coverage	% 95.3
Jacket	Average Thickness	mm 0.25
	Diameter	mm 1.80 ±0.05
	Material	---- FEP
	Color	---- ACCORDING TO CUSTOM
Marking	Non	
Drawing		



WONDERFUL HI-TECH CO., LTD.

SPECIFICATION

Electrical & Physical Properties					
Item			RG-178B/U		
Rating Temperature			105°C 30V		
Conductor Resistance			838 OHM/KM/20°C MAX.		
Insulation Resistance			3000 MEGA OHM-KM MIN.		
Dielectric Strength			AC 1.0 KV/Minute		
Spark Test			2.5 KV		
Insulation	Unaged	Tensile Strength	2500 PSI MIN.(1.76 Kg / m m ²)		
		Elongation	200% MIN.		
	Aged	Tensile Strength	UNAGED MIN 75%(168HRS×232°C)		
		Elongation	UNAGED MIN 75%(168HRS×232°C)		
Jacket	Unaged	Tensile Strength	2500 PSI MIN.(1.76 Kg / m m ²)		
		Elongation	200% MIN.		
	Aged	Tensile Strength	UNAGED MIN.75%(168HRS×232°C)		
		Elongation	UNAGED MIN.75%(168HRS×232°C)		
Nom. Impedance			50±5 Ohms		
Nom. Capacitance			95.8 pF/m		
Nom. Vel. of Prop.			69.5%		
VSWR (0 – 6 GHZ)			Max 1.3		
THERMAL SHOCK			Max 1mm at 232°C/1HR		
BEND RADIUS			Min 9mm		
Attenuation (dB/1m)	1GHz	1.8GHz	2.4GHz	5.2GHz	6GHz
	1.8	2.6	2.9	4.5	4.9

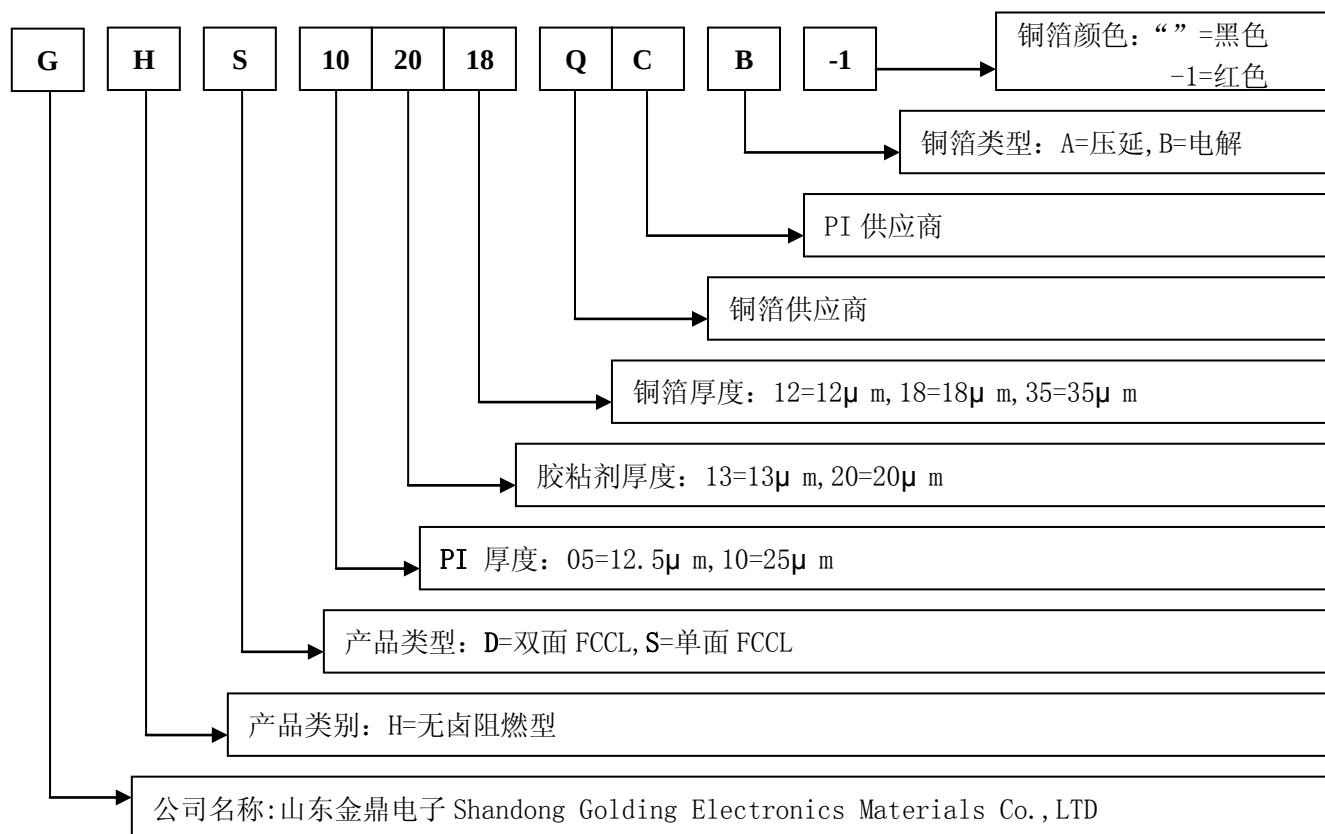
一、产品结构

产品规格	单位	厚度
总厚度	μm	63
Cu 厚度	μm	18
AD 厚度	μm	20
PI 厚度	μm	25



结构图

二、编码原则



三、质量规格

项目	单位	质量规格	实测	测试方法
厚度	μm	63±5	63±3	JIS C 6471-1995 6.2
剥离强度	N/mm	≥1.0	≥1.0	IPC-TM-650 2.4.9
耐焊性	\	300°C×10sec	PASS	IPC-TM-650 2.4.13
尺寸稳定性	%	TD : ±0.15	PASS	IPC-TM-650 2.2.4
		MD : ±0.15	PASS	IPC-TM-650 2.2.4
体积电阻率	Ω.cm	≥1.0×10 ¹³	≥2.0*10 ¹³	JIS C 6471-1995 7.1
表面绝缘电阻	Ω	≥1.0×10 ¹¹	≥2.0*10 ¹¹	JIS C 6471-1995 7.2
表面耐电压 AC500V	\	无飞弧	PASS	JIS C 6471-1995 7.3
层间耐电压 AC500V	\	无绝缘层破坏	PASS	JIS C 6471-1995 7.4
介电常数	\	≤4.0	3.2-3.5	JIS C 6471-1995 7.5
耐酸 2mol/LHCl	\	10min	PASS	IPC-TM-650 2.3.2
耐碱 2mol/L NaOH	\	10min	PASS	IPC-TM-650 2.3.2
耐溶剂 (MEK、IPC)	\	10min	PASS	IPC-TM-650 2.3.2

四、保存环境及保存期限

- 1、保存环境：温度：(25±10) °C，湿度：(50±20) %，无化学腐蚀气体。
- 2、保存期限：一年