产品规格书

Sample Approval Sheet

敬　呈：　To:

客 户 料 号:

Customer P/N:

产 品 名 称:

Description: FAKRA HORIZONTAL TYPE CONNECTOR

规 格 型 号:

Spec: ANY TYPE

钿 威 料号:

DIANWEI P/N 7.03AW.00082X

客　户　确　认 Customer Approve		
承　办 Draft	审　核 Confirm	审　核 Approve

钿　威　科　技 DIANWEI Technology		
承　办 Draft	工　程 Engineer	审　核 Approve

东莞市钿威电子科技有限公司

DONGGUAN DIANWEI Electronic Technology CO.,LTD

厂址:东莞市塘厦镇沙湖社区大岭边路 22 号　邮编：523725

Address:NO.22, DALINGBIAN ROAD,SHAHU COMMUNITY,TANGXIA TOWN,DONGGUAN CITY CHINA

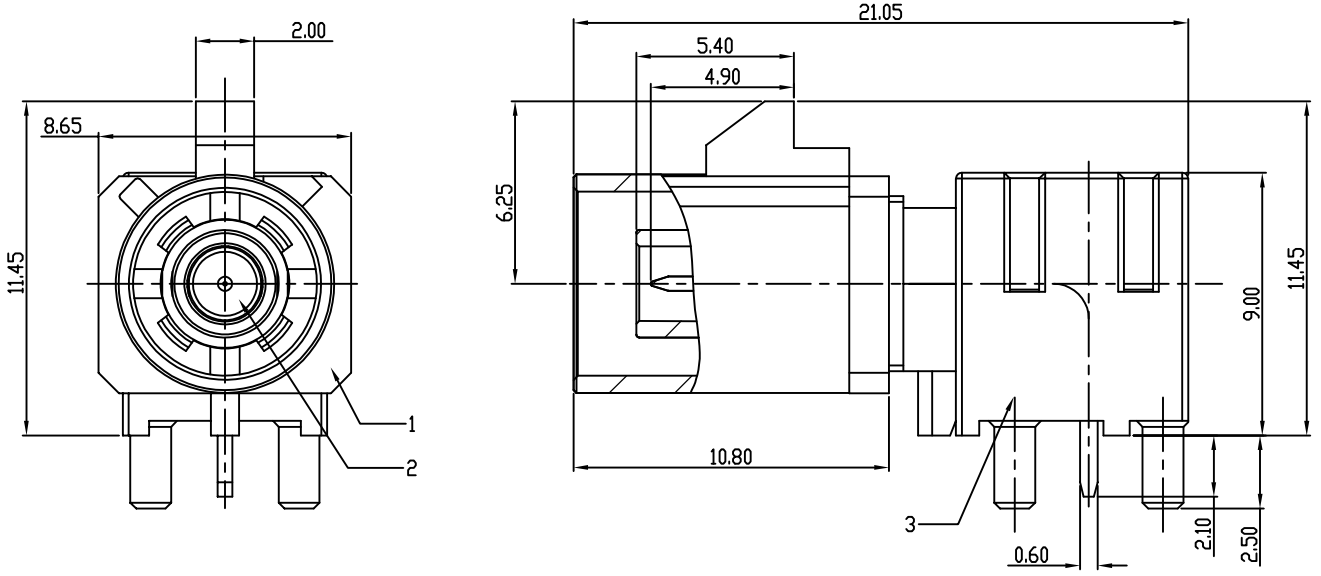
Tel:+86-769-8788 8322　Fax:+86-769-8788 8321

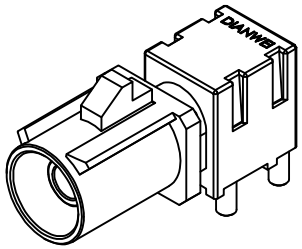
E-Mail:sales@dianwei.cn　Http://www.dianwei.cn

■国家级高新技术企业 ■IATF16949 ■ISO9001:2015 ■ISO14001

DRAWING TYPE	CUSTOMER DRAWING

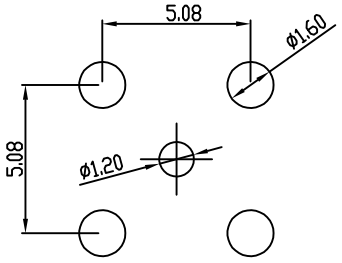
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A	2026.06.05	PROPOSAL	Rao



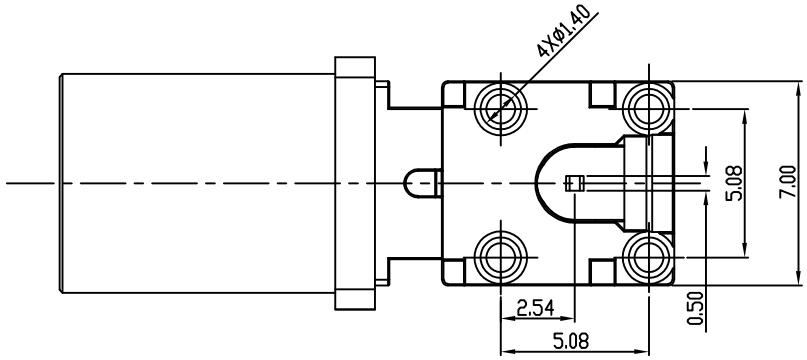


1. PART NO. LEGEND:
   7.03AW .000 8 2 X
   - TYPE
   - CONTACT AREA PLATING SPEC:GOLD PLATING: 8=30u″
   - SOLDER AREA PLATING SPEC: Tin PLATING: 8=80u″

2. PERFORMANCE:
2.1: CONTACT RESISTANCE: INITIAL VALUE 50mOHM Max,
2.2: FREQUENCY RANGE:DC to 6GHz
2.3 VSWR: 0-6GHz 1.60Max
2.4 VOLTAGE RATING: 50V (AC/DC).
2.5: CURRENT RATING: 1A/PIN.
2.6: INSULATION RESISTANCE: 100MOHM Min.
2.7: MATING CYCLES: 25 TIMES Min.
2.8: OPERATING TEMPERATURE:-40℃～+105℃



P.C.B LAYOUT



NO.	COMPONENTS	MATERIALS	FINISH/COLOR SPECIFICATION	QUANTITY
3	MOLDING	THERMOPLASTIC+BRASS	BLACK+PLATING GOLD	1
2	BODY	ZINC ALLOY	PLATING Sn	1
1	HOUSING	THERMOPLASTIC UL94V-0	ACCORDANCE WITH THE REQUIREMENTS	1

装配BOM表	序号	名 称	料 号	材 质	数量	表面处理
	③	成型	7.03B2.000010	LCP+C2680	1	黑色+端子镀金30u″
	②	压铸	7.03Z2.000160	锌合金	1	镀锡
	①	塑胶	7.03M0.0000XX	PA46	1	依要求

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UNLESS OTHERWISE SPECIFIED TOLERANCE			
ANG	TOL	DIM	TOL
.X	±3.0°	.X	±0.30
.XX	±2.0°	.XX	±0.20
.XXX	±1.0°	.XXX	±0.10

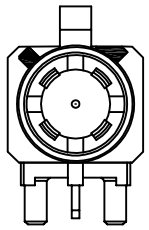
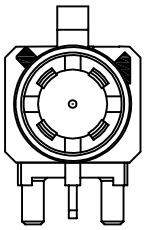
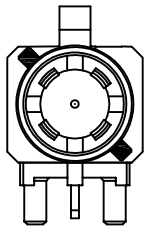
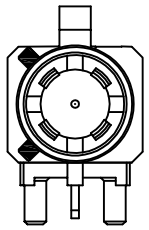
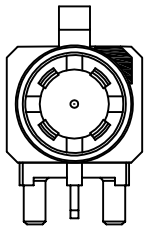
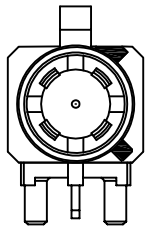
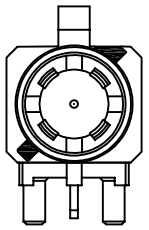
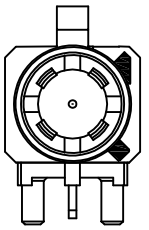
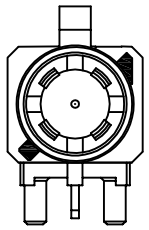
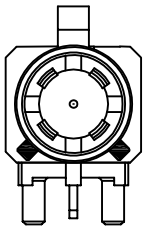
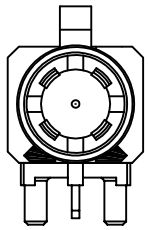
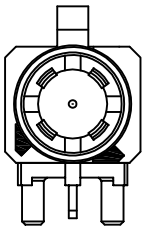
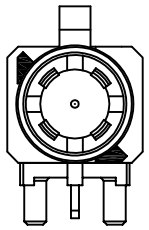
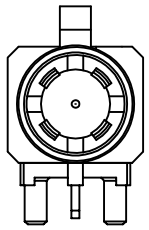
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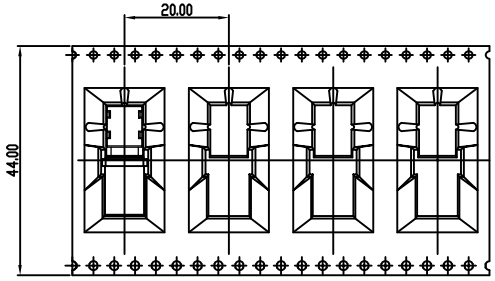
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APPROVED	VERIFIED	DESIGN	DRAWING NO	PART NAME:	FAKRA HORIZONTAL TYPE CONNECTOR CUSTOMER DRAWING				
		Rao	7.03AW-C	PART NO.	7.03AW.00082X				
				DATE	UNITS	SCALE	PAGE	REV	
				2023.11.13	mm	4:1	1/2	A	

DRAWING TYPE	CUSTOMER DRAWING

MARK	DATE	DESCRIPTION	DESIGN
A	2026.06.05	PROPOSAL	Rao

									
7.03AW.000820 A TYPE Black 黑色/9005	7.03AW.000821 B TYPE White 白色/9001	7.03AW.000822 C TYPE Blue 蓝色/5005	7.03AW.000823 D TYPE Bordeaux 枣红色/4004	7.03AW.000824 E TYPE Green 绿色/6002	7.03AW.000825 F TYPE Brown 棕色/8011	7.03AW.000826 G TYPE Grey 灰色/7031	7.03AW.000827 H TYPE Violet 紫罗兰/4003	7.03AW.000828 I TYPE Beige 米黄色/1001	7.03AW.000829 K TYPE Curry 咖喱色/1027
									
7.03AW.00082A L TYPE Camine Red 深红/3002	7.03AW.00082B M TYPE Pastel Orange 粉橙色/2003	7.03AW.00082C N TYPE Pastel Green 粉绿色/6019	7.03AW.00082D Z TYPE Water Blue 水蓝色/5021						



PULL OUT DIRECTION

NOTE:
1.PER REEL:220PCS

UNLESS OTHERWISE SPECIFIED TOLERANCE			
ANG	TOL	DIM	TOL
.X	±3.0°	.X	±0.30
.XX	±2.0°	.XX	±0.20
.XXX	±1.0°	.XXX	±0.10

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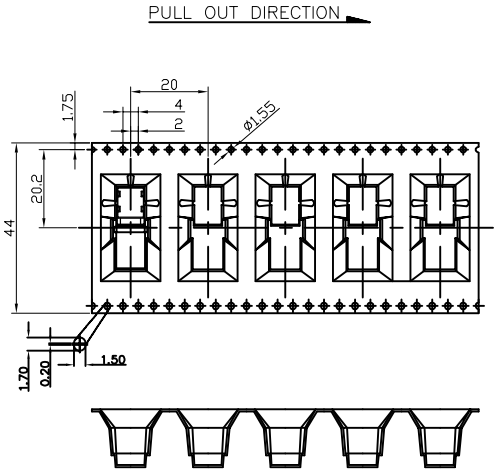
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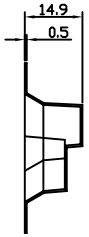
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7.03AW-C	PART NO.	7.03AW.00082X			
APPROVED / VERIFIED / DESIGN	DATE	UNITS	SCALE	PAGE	REV
Rao	2023.11.13	mm	4:1	2/2	A

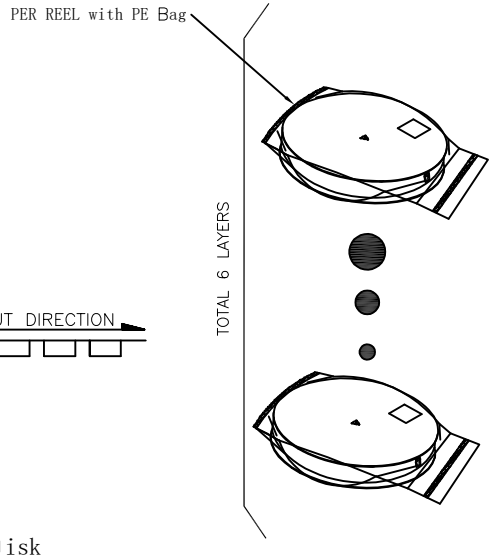
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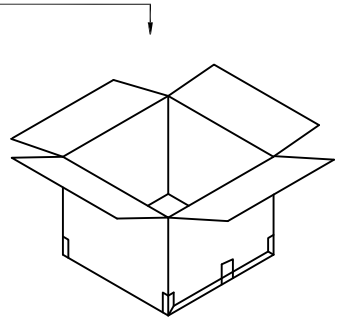
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A	2026.06.08	NEW	RAO

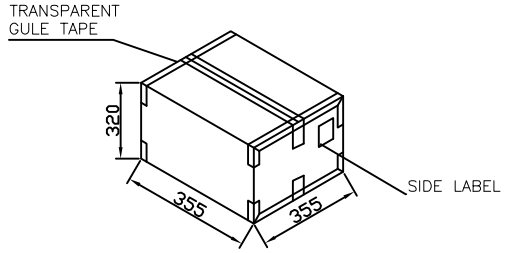
NOTES:
1. MATERIAL:
   1.1 CARRY TAPE:HIPS,T=0.50±0.05mm,BLACK
   1.2 REEL:HIPS,
   1.3 SHIM:PE,CLEAR.
2. PRIMARY PACKING:220PCS/REEL.另外空格20PCS,总长4.8米.
3. SECONDARY PACKING:SEE PACKING LIST
4. PEELING RESISTANCE: 0.2~1.2N(20~120gf); PEELING ANGLE: 165°~180°; PEELING SPEED: 300mm/minutes.

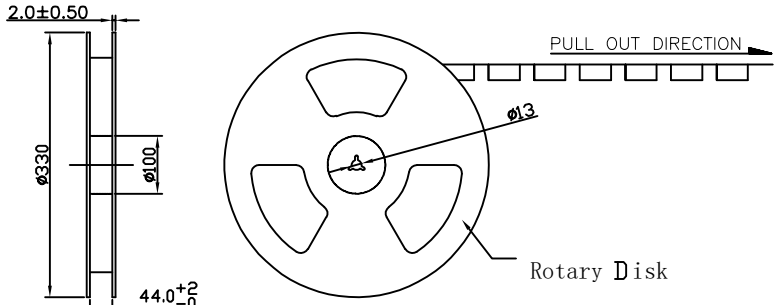












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ANG	TOL	DIM	TOL
.X	±3.0°	.X	±0.20
.XX	±2.0°	.XX	±0.10
.XXX	±1.0°	.XXX	±0.05

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APPROVED	VERIFIED	DESIGN
		RAO

DRAWING NO	7.03AW-P
PART NAME:	FAKRA HORIZONTAL TYPE CONNECTOR PACKING DRAWING
PART NO.	7.03AW.0008XX

DATE	UNITS	SCALE	PAGE	REV
2026.06.08	mm	1:1	1/1	A

Draft Dept. (制订部门)： Engineering Dept.

Applicable Dept. (适用部门)： QA Dept. (品保部) Eng. Dept. (工程部) MFG Dept. (制造部)

Rev. 版本	Issued Date 发行日期	Revised (制订、修订摘要)
A	2019.03.20	Released 新制定

Approve： Check： Draft：CHEN

This specification contains the design performance requirements that DIANWEI want to achieve, but the product described in this document has not been fully tested to ensure conformance to the requirements outlined below. Further, DIANWEI may change these requirements based on the results of additional testing and evaluation. Contact DIANWEI Engineering for further details.
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1. Scope 文件范围

1.1 Content 内容

This specification covers performance, tests, quality & application requirements of DIANWEI FAKRA printed circuit board (PCB) connectors.

本规范涵盖钿威 FAKRA 印刷电路板(PCB)连接器的性能、测试、质量和应用要求

1.2 Qualification 认证

When tests are performed on the subject product line, procedures specified in Figure 1 shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

当进行测试验证时，请按照图表 1 的内容进行测试验证

2. Applicable documents适用标准

2.1 Industry Documents 行业标准

SAE/USCAR-2 Rev 6	Automotive testing specification
SAE/USCAR-17 Rev 4	FAKRA testing specification
JEDEC JESD22-B102E	Test Methods and Procedures for Solid State Devices Used in transportation/Automotive Applications

3. Requirements 具体要求

3.1 Design and construction 产品结构

Product shall be of the design, construction, materials and physical dimensions specified on the applicable product drawing.

在产品对应的图纸中定义产品的设计、结构、材料及物理尺寸等

3.2 Ratings 等级

Voltage耐压	Current电流	Temperature使用温度
800V AC	1A max	-40 to 105℃

4. Test Requirements and Procedures Summary 测试要求及规程：

一、Visual Inspection 产品检查			
Item 项目	TEST DESCRIPTION 测试项目	REQUIREMENT 设计要求	PROCEDURE 参考规程
1	Visual Inspection 外观检查	Inspected using 10X scope and should be without crack,oxidation,pollution and burrs during previous processes 使用 10X 放大镜，检查产品在材料、加工、组装、后续存放等环节是否存在开裂、氧化、脏污、毛刺等不良	SAE/USCAR-2 Rev 6, 5.1.8.3
二.Electrical 电性能			
Item 项目	TEST DESCRIPTION 测试项目	REQUIREMENT 设计要求	PROCEDURE **参考规程**

1	Contact Resistance 接触阻抗	40m Ω maximum for signal and ground contacts. 信号及接地接触阻抗≦40m Ω	SAE/USCAR-17 Rev 4, 4.3.1.2
2	Circuit Continuity Monitoring 瞬断	No loss of electrical continuity for >1us 无大于 1 微秒的瞬断	SAE/USCAR-2 Rev 6, 5.1.9.3
3	Dielectric Withstanding Voltage 耐压	≧800VAC	SAE/USCAR-17 Rev 4, 4.3.2.2
4	VSWR 驻波比	SWR≦1.5 0 to 3 GHZ SWR≦1.6 6 to 6 GHZ	SAE/USCAR-17 Rev 4, 4.4.2.2
三．MECHANICAL 机械性能			
Item 项目	TEST DESCRIPTION 测试项目	REQUIREMENT 设计要求	PROCEDURE **参考规程**
1	Solderability Dip Test 沾锡测试	Examined at 8X with 95% solder coverage 8X 放大镜下观察，95%以上面积吃锡	JEDEC JESD22-B102E,Method 1
2	Polarization Effectiveness 极化特征效果	Force to achieve center contact continuity≧80N 中心导体导通前配合力≧80N	SAE/USCAR-2 Rev 6, 5.4.4.3
3	Connector Engagement Force 公母端插入力	Mating Force≦45N 插入力≦45N	SAE/USCAR-2 Rev 6, 5.4.2.3-A
4	Connector Disengage with Lock enabled 公母端分离力（卡扣发挥作用）	Force to disengage≧110N 分离力≧110N	SAE/USCAR-2 Rev 6, 5.4.2.3-B
5	Force to Disengage Lock 卡扣释放力	Force to Disengage Lock≧6N and ≦51N 6N ≦分离力≦ 51N	SAE/USCAR-2 Rev 6, 5.4.2.3-C
6	Connector Disengage Force with Lock Disabled 公母端分离力 （卡扣不发挥作用）	Force ≦75N 分离力≦75N	SAE/USCAR-2 Rev 6, 5.4.2.3-B
7	Drop Test 跌落测试	Meets visual requirements 满足外观要求	SAE/USCAR-2 Rev 6, 5.4.8.3
8	Mechanical Pull and Sideload 抗拉	Force≧110N Axial Force≧75N Sideload	SAE/USCAR-17 Rev 4, 4.2.1.2
四．ENVIRONMENTAL 环境性能			
Item 项目	TEST DESCRIPTION 测试项目	REQUIREMENT 设计要求	PROCEDURE **参考规程**
1	Vibration/Mechanical Shock 振动测试&机械冲击测试	No loss of electrical continuity VSWR check before and after 无大于 1 微秒的瞬断，测试前后驻波比测试符合要求	SAE/USCAR-2 Rev 6, 5.4.6.3

2	Thermal Shock 冷热冲击	Group test compliance 符合群组测试要求	SAE/USCAR-17 Rev 4, 4.5.1.4 Cycle from -40℃ to +105℃
3	Temperature/Humidity Cycling 温湿度循环	Group test compliance 符合群组测试要求	SAE/USCAR-2 Rev 6, 5.6.2.3 Cycle from -40℃ to +85℃
4	High Temperature Exposure 高温寿命	Group test compliance 符合群组测试要求	SAE/USCAR-2 Rev 6, 5.6.3.3 Hold at +105℃
5	Salt spray test 盐雾测试	Group test compliance 符合群组测试要求	中心针镀金区域 48H 无腐蚀

5. Group Test

产品认证及再认证顺序：

A. Sampling 样品选择：

Sampling requested by below table shall be applicable to the principle of randomness

样品选择应按照结构栏要求符合随意性原则

B. Sequence 测试顺序：

Below is test sequence

下列是群组检测顺序：

Test Content/sequence 测试认证顺序		Test Group 测试项目										
		B	F	G	H	K	N	O	Q	R	S	T
1	Visual Inspection 外观检查	Step1 Step4	Step1 Step3	Step1 Step4	Step1 Step3	Step1 Step4	Step1 Step5	Step1 Step7	Step1 Step7	Step1 Step7	Step1 Step7	Step1 Step3
2	Pin insert and withdraw force 端子与 Housing 的装入力及拔出保持力											
2.1	Inserting force ≦30N 端子装入 Housing，插入力≦30N	Step2										
2.2	Withdraw force ≧10N 端子拔出 Housing，保持力≧10N	Step3										
3	Withdraw force ≧10N Humidity conditioned 端子拔出 Housing，保持力≧10N (温湿度预处理)		Step2									
4	Male and female engage and disengage force 连接器公母互配插入力&拔出力											
4.1	Male and female engage force≦45N 公母互配插入力≦45N			Step2								
4.2	Male and female engage and disengage force≧110N（With lock enabled） 公母互配分离力（卡扣发挥作用）≧110N			Step3								
5	Lock arm released force 6N≦F≦51N 卡扣释放力 6N≦F≦51N			Step3								

6	Male and female engage and disengage force≦75N（With lock disabled） 公母互配分离力（卡扣不发挥作用）≦75N			Step3								
7	Polarization Effectiveness 极化特性效果				Step2							
8	Circuit Continuity Monitoring 电路导通监控				Step2		Step3	Step4	Step4			
9	Drop test 跌落测试					Step2						
10	VSWR&IR 驻波比及插损测试						Step2 Step4	Step2 Step5	Step2 Step5	Step2 Step5	Step2 Step5	
11	Mechanical Pull 抗拉测试						Step3					
12	Durability 插拔寿命							Step3	Step3	Step3	Step3	
13	Contact resistance 接触阻抗 初始值：LLCR≦25mΩ 测试后：LLCR≦40mΩ							Step2 Step5	Step2 Step5	Step2 Step5		
14	Isolation resistance>100MΩ 绝缘电阻>100MΩ									Step2 Step5		
15	Thermal shock 冷热冲击								Step4			
16	Temperature/Humidity Cycling 温湿度循环									Step4		
17	High Temperature Exposure 高温曝露										Step4	
18	Dielectric Withstanding Voltage 耐压							Step6	Step6	Step6	Step6	
19	Vibration/Mechanical Shock 振动/机械冲击							Step4				
20	Salt spray test 盐雾测试											Step2