



SPRING CONTACT PROBES

To be world-class in micro precision
manufacturing industry

Suzhou UIGreen Micro & Nano Technologies Co., Ltd.

A GLIMPSE AT UIGREEN

关于和林微纳



Founded in 2007 in Suzhou Industrial Park, Suzhou UIGreen Micro & Nano Technologies Co., Ltd. is a state high-tech company, specializing in providing one-stop micro precision manufacturing solution.

Since the establishment, UIGreen team has been dedicating in the research and development in micro manufacturing fields. With over 10 years' growth and accumulation, as of today, UIGreen is a team of over 700 team members, including about 100 engineers, and our micro precision components and piece parts are widely used in MEMS, Sensors, Testing contacts and Connectors, medical device, lens module of mobile phone, ABS of automobile, etc. Through cutting-edge technologies, highly automated production line and professional quality management, UIGreen team is now serving customers in over 16 countries and areas, such as USA, Switzerland, Germany, Malta, Austria, Malaysia, Philippines.

Meanwhile, UIGreen takes over social responsibilities through environmental protection and occupational safety and health.

苏州和林微纳科技股份有限公司, 于2007年成立于苏州工业园区, 是一家专注于提供一站式精微制造解决方案的国家高新技术企业。

自成立以来, 和林团队一直致力于微型精密制造领域的研究。经过10多年的成长和积累, 如今和林已发展成一支拥有700多人的团队, 其中包括100多名技术人员, 和林的微型精密产品广泛应用于MEMS、微型传感器、测试探针和连接器、医疗器件、智能手机镜头模组、汽车ABS等领域。通过先进的技术, 高度自动化的生产线以及专业的品质管理, 和林团队服务的客户遍布于全球16个以上的国家和地区, 如美国、瑞士、德国、马耳他、奥地利、马来西亚、菲律宾。

同时和林微纳通过贯彻执行环保和职业健康安全以切实履行企业社会责任。



YoU | 你

I | 我

Grow & gratitude | 成长&感恩

Respect & reward | 尊敬&回报

Equality | 平等

Empowerment | 授权

Green environment | 绿色环保

MISSION 我们的使命

To provide one-stop micro precision manufacturing solution to create customer value, focusing on customer demand and customer feeling.

提供一站式精微制造解决方案，创造客户价值，关注客户需求和客户感受。

VISION 我们的愿景

To be world-class in micro precision manufacturing industry.

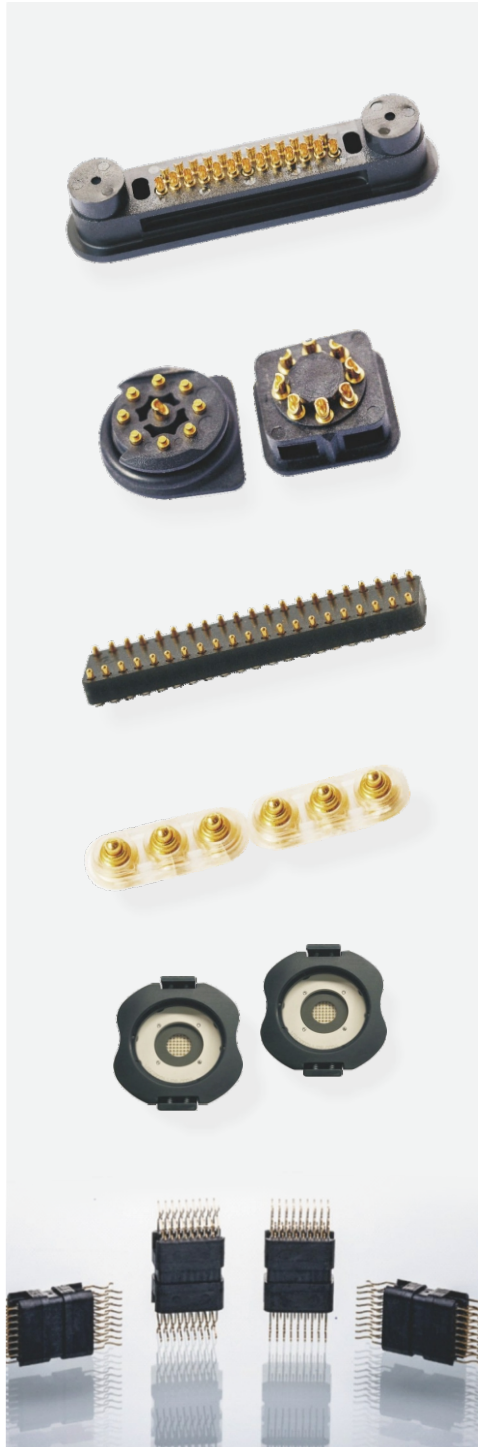
致力于成为世界级的精微制造企业。

UIGREEN INTRODUCTION

UIG has been making specialist in micro manufacturing and solutions for semiconductor and micro-electro-mechanical system industry in the world, founded in 2007 in Suzhou, China. We provide over 200 spring contact probes and OEM products since 2011 to worldwide customers, with highest quality and reliability in the marketplace because we do “know how”.

Our vision is “To be world class in micro manufacturing industry”-provide one stop micro manufacturing solutions and spring contact probe to create customer value, focus on customer demand and customer feeling.





• STABLE AND LOW CONTACT RESISTANCE

Our sophisticated internal design and fabrication process can make a difference on consistent, reliable connections when exposed to shoot, vibration and acceleration. 100% of our products are inspected to ensure the highest quality. Our manufacture capability and expertise are always ready for your application demands.

• LONG LIFE SPAN AND BEST TEST COST(BTC)

Starting from prototype to verification, our design simulations and tests accompanied with each critical step during development to final product delivery as a close circle, make sure the spring probe can easily sustain long life span and help customer reduce the down time due to frequent maintenance of test lines.

• FRONT-EDGE TECHNOLOGY, R&D RESEARCH

Newest technology of material and process application can make our product higher possible yield and cost effective than competitors. Our efforts on R&D research and higher efficiency will continue, never ended.

• ADHERE TO COMMITMENT AND KEEP A PROMISE ON QUICK TURN SERVICE

Customers can select our catalogue products, we can design the products by the specific requirements and different application as well from low to high volume.

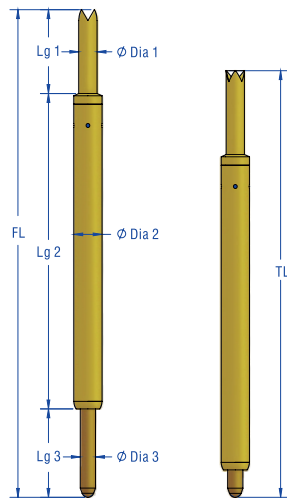
PORTFOLIO PRODUCT CATALOGUE

Product Code		MTSQS1362	MTSQS1214	MTSP0058	MTSP0005	MTSP0007	MTSQ0022	MTSP0023	MTSPS1099
Probe Type		Double-Ended	Double-Ended	Double-Ended	Single-Ended	Single-Ended	Single-Ended	Single-Ended	Single-Ended
MFG Assemble Process	Process	Rolling	Rolling	Dimple	Dimple	Dimple	Dimple	Dimple	Dimple
Pitch Range(≥)	mm	0.13	0.15	0.20	0.26	0.35	0.35	0.40	0.40
Plunger Design on Device Side	Tip shapes	Crown	Crown	Reduced Crown	Crown	Reduced Crown	Round	Reduced Crown	Reduced Crown
Plunger Design on PCB Side		Round	Round	Round	Round	Round	Round	Round	Round
Top Plunger Material		Pd/Ag/Cu	Pd/Ag/Cu	Pd/Ag/Cu	Pd/Ag/Cu	Pd/Ag/Cu	Hard Carbon Steel	Pd/Ag/Cu	Pd/Ag/Cu
-1dB Insert Loss Bandwidth Frequency	GHz	17.59	21.03	30.85	24.07	12.7	5.01	30.82	15.11
Self Inductance	nH	2.74	1.98	1.47	1.56	0.71	0.51	1.97	1.10
Current(DC) Carrying Capability	Amps	0.5	0.5	1.0	0.5	2.0	2.0	1.3	2.0
DC Resistance AVG@Lab Test	mΩ	300	260	150	100	70	70	70	70
Avg+2sigma@Lab Test		500	400	200	150	110	110	110	120
Operating Temperature Range	°C	-40~120	-40~120	-40~120	-40~120	-55~150	-55~150	-40~120	-40~120
Test Force(AVG)(@Lab Test)	gf	4.4	4.5	10.0	14.0	16.0	20.0	22.0	32.0
Spring probe PCB Preload Force		2.4	2.4	5.1	6.0	6.9	11.0	13.7	16.6
Force@Max Travel		5.0	5.2	11.3	17.5	18.1	23.0	30.2	38.2
Free Length-Total	mm	3.40	2.85	3.25	3.20	3.80	5.20	3.50	3.20
Test Length	mm	3.03	2.48	2.85	2.80	3.35	4.70	3.20	2.80
Recommended Preload	mm	0.12	0.12	0.17	0.15	0.15	0.20	0.15	0.15
Test Travel-(Lab Test Nominal)	mm	0.37	0.37	0.40	0.40	0.45	0.50	0.30	0.40
Pin Travel-Range	mm	0.32~0.45	0.32~0.45	0.35~0.46	0.35~0.51	0.40~0.52	0.45~0.60	0.25~0.45	0.35~0.50
Max Travel (Total Compliance)	mm	0.45	0.45	0.46	0.51	0.52	0.60	0.45	0.50
Diameter Top Plunger D1	mm	0.04	0.045	0.10	0.12	0.18	0.18	0.23	0.18
Diameter Barrel/Ring D2	mm	0.09	0.10	0.15	0.185	0.26	0.26	0.29	0.3
Diameter Btm Plunger D3	mm	0.04	0.045	0.07	0.10	0.11	0.12	0.11	0.16
Length Top Plunger L1	mm	0.45	0.45	0.83	0.55	0.60	0.85	/	0.60
Length Barrel/Ring L2	mm	2.70	2.15	2.10	2.07	2.47	3.6	2.85	2.05
Length Btm Plunger L3	mm	0.25	0.25	0.32	0.58	0.73	0.75	0.65	0.55

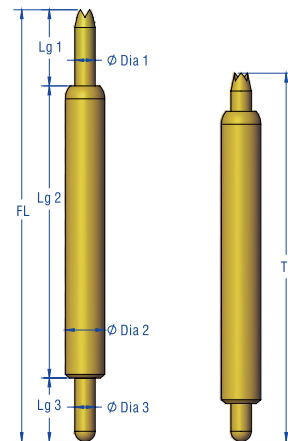
Condition:

*current measurement test time is 1 hour basically and duty cycle test conditions are 1.0ms-50,000 sec of setting time and 1.0ms-50sec of sloping time

*Frequency is measured with the ratio of 1:4 single to grounds while the measurement and dielectric constant is 3.15, in UIG design cavity.



Single-Ended Probe



Double-Ended Probe

MTSP0212-003	MTSZ0031-003	MTSZL1029	MTSP0010-002	MTSQ0295-004	MTSQ0020	MTSP0043-002	MTSP0085-005	MTSP0026-003	MTSQ0581
Single-Ended	Double-Ended	Double-Ended	Single-Ended	Double-Ended	Double-Ended	Single-Ended	Single-Ended	Single-Ended	Double-Ended
Dimple	Barrel Less Probe	Barrel Less Probe	Dimple	Rolling	Rolling	Dimple	Dimple	Dimple	Rolling
0.40	0.40	0.40	0.50	0.50	0.50	0.65	0.80	1.00	1.27
Round	Kelvin	Reduced Crown	Round	Reduced Crown	Crown	Reduced Crown	Reduced Crown	Reduced Crown	Crown
Round	Round	Round	Round	Round	Round	Round	Round	Round	Round
Pd/Ag/Cu	Hard Carbon Steel	Hard BeCu	Pd/Ag/Cu	Hard Carbon Steel	Hard BeCu	Pd/Ag/Cu	Pd/Ag/Cu	Hard BeCu	Hard BeCu
17.96	12.11	19.85	13.64	6.62	31.2	55.49	15.06	31.42	8.37
0.85	1.07	1.17	0.79	1.50	1.18	0.72	0.49	0.67	2.82
2.5	2.0	2.0	3.0	1.5	3.0	4.0	3.0	5.0	2.0
50	80	60	40	80	140	50	50	50	80
80	110	100	60	150	250	80	80	60	150
-40~120	-55~150	-55~150	-40~120	-40~120	-40~120	-40~120	-40~120	-55~150	-55~150
30.0	37.0	23.0	25.8	15.0	17.4	30.0	31.0	33.0	25.0
18.7	17.0	8.4	13.9	7.5	10.1	16.3	15.3	15.0	8.8
37.4	44.0	26.1	30.5	20.9	19.9	35.5	40.0	40.5	25.5
2.40	3.22	3.49	2.87	5.70	4.02	3.20	3.00	4.84	12.50
2.10	2.72	3.01	2.49	5.05	3.52	2.80	2.50	4.04	9.00
0.15	0.20	0.15	0.15	0.20	0.20	0.15	0.20	0.30	0.50
0.30	0.50	0.48	0.38	0.65	0.50	0.40	0.50	0.80	3.50
0.25~0.40	0.45~0.60	0.43~0.55	0.33~0.47	0.60~1.00	0.45~0.60	0.35~0.50	0.45~0.70	0.75~1.00	3.40~3.60
0.40	0.60	0.55	0.47	1.00	0.60	0.50	0.70	1.00	3.60
0.16	0.18	0.23	0.20	0.22	0.29	0.35	0.56	0.60	0.70
0.31	0.30	0.31	0.38	0.38	0.40	0.42	0.65	0.70	1.10
0.16	0.18	0.23	0.22	0.22	0.16	0.18	0.30	0.30	0.70
0.45	0.57	1.07	0.51	1.10	0.70	/	/	/	3.50
1.55	2.1	1.55	1.85	4.00	2.57	2.60	2.30	3.53	8.20
0.40	0.55	0.87	0.51	0.60	0.75	0.60	0.70	1.31	0.80



Crown



Round



6-Point Crown



Selfcleaning Crown



Concave



Flat



Reduced Crown



Spear Point



Cone



9-Point Serrated



Kelvin



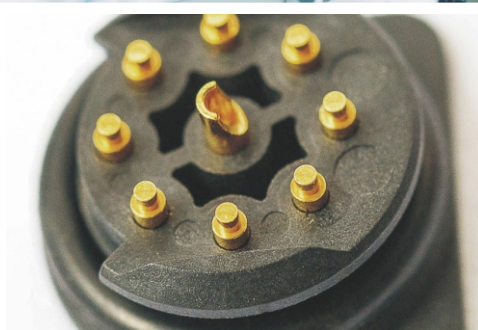
Pyramid Crown

Tip Shape Options
Contact with DUT Side

Tip Shape Options
Contact with PCB Side

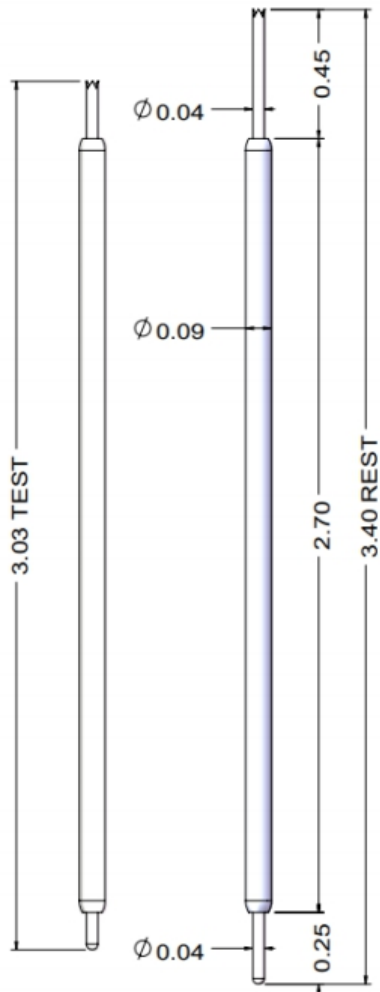
PRODUCT SPECIFICATION

产品详细规格



SPRING CONTACT PROBES SPECIFICATION

Pitch(mm)0.13



Spring Pin Part Number :

MTSQS1362

Modular 3 pieces design:

Modular 4 pieces design: Yes

One Moving Plunger Probe:

2 Moving Plunger Probe: Yes

1.1 Mechanical

Criteria	Specification
1. Cavity Preload Travel needed	0.12mm
2. Pin free length/Pointing accuracy	3.40mm/0.03mm
3. Spring Pin Working Travel	0.37mm
4. Spring Pin Full Travel	Total Travel 0.45mm
5. Spring Pin Force	4.4 gram
6. Spring Pin Life Time	>260,000 cycles
7. Spring Pin Pitch Application	0.13mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed

1.2 Electrical

Criteria	Specification
Current Rating	0.5A continuous
Spring Pin Working Contact Resistance	AVG<300 mOhms
Bandwidth	17.59 GHz@-1dB
Self Inductance	2.74nH

1.3 Thermal

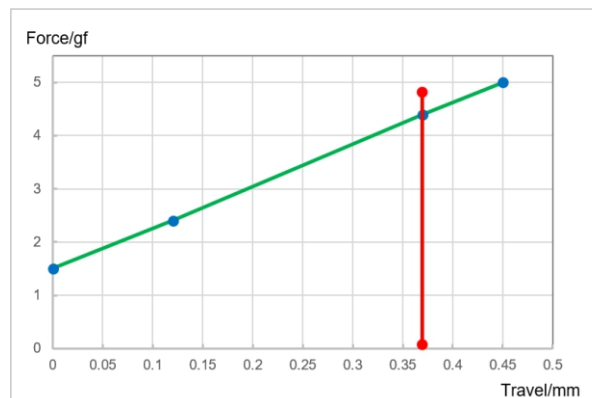
Criteria	Specification
Spring Pin Operating Temperature Range	-40 to 120°C

1.4 Material

Criteria	Specification
1. Spring Pin Barrel Material	Nickel Tube/Gold Plated
2. Spring Pin Plunger Material	Top plunger: Pd/Ag/Cu Alloy Bottom plunger: Pd/Ag/Cu Alloy
3. Spring Material	Music Wire/Gold Plated

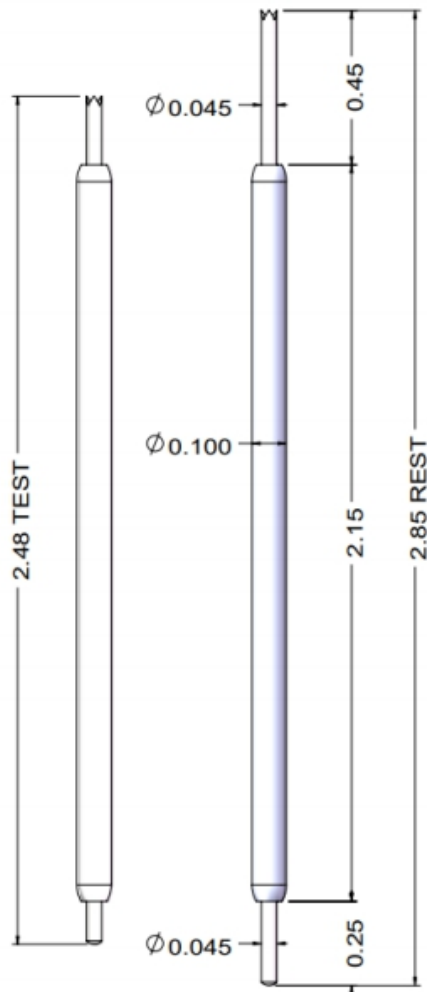
TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load



SPRING CONTACT PROBES SPECIFICATION

Pitch(mm)0.15



Spring Pin Part Number :

MTSQS1214

Modular 3 pieces design:

Modular 4 pieces design: Yes

One Moving Plunger Probe:

2 Moving Plunger Probe: Yes

1.1 Mechanical

Criteria	Specification
1. Cavity Preload Travel needed	0.12mm
2. Pin free length/Pointing accuracy	2.85mm/0.03mm
3. Spring Pin Working Travel	0.37mm
4. Spring Pin Full Travel	Total Travel 0.45mm
5. Spring Pin Force	4.5 gram
6. Spring Pin Life Time	>300,000 cycles
7. Spring Pin Pitch Application	0.15mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed

1.2 Electrical

Criteria	Specification
Current Rating	0.5A continuous
Spring Pin Working Contact Resistance	AVG<260 mOhms
Bandwidth	21.03 GHz@-1dB
Self Inductance	1.98nH

1.3 Thermal

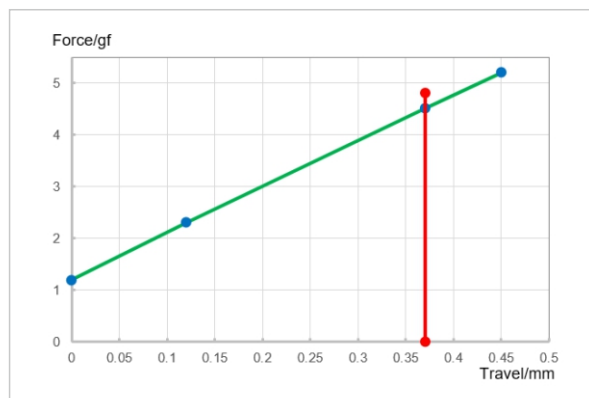
Criteria	Specification
Spring Pin Operating Temperature Range	-40 to 120°C

1.4 Material

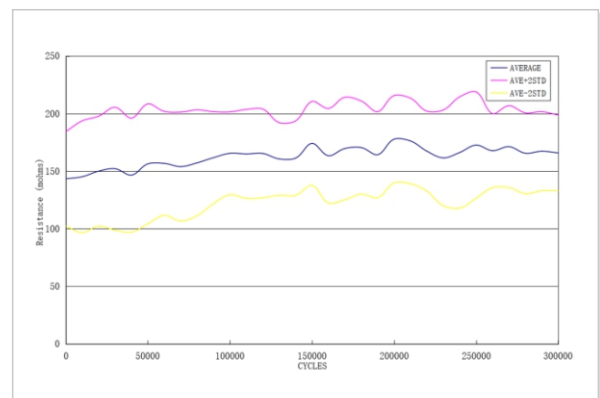
Criteria	Specification
1. Spring Pin Barrel Material	Nickel Tube/Gold Plated
2. Spring Pin Plunger Material	Top plunger: Pd/Ag/Cu Alloy Bottom plunger: Pd/Ag/Cu Alloy
3. Spring Material	Music Wire/Gold Plated

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load

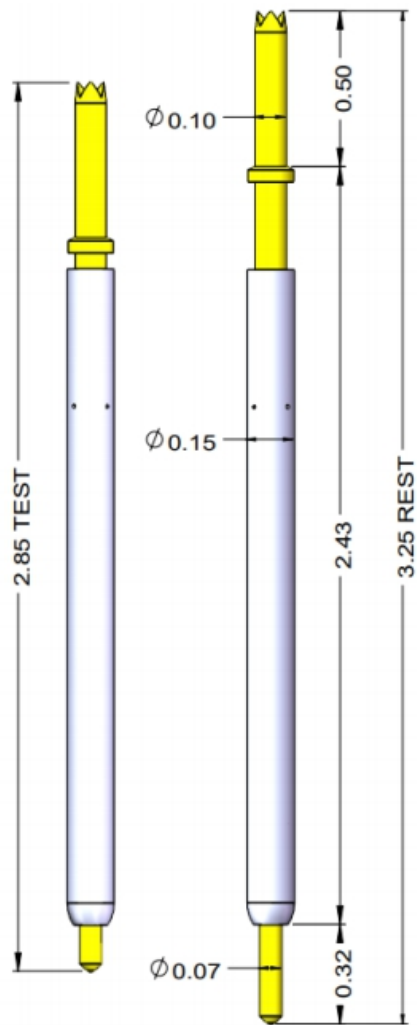


Resistance



SPRING CONTACT PROBES SPECIFICATION

Pitch(mm)0.20



Spring Pin Part Number :

MTSP0058

Modular 3 pieces design:

Modular 4 pieces design: Yes

One Moving Plunger Probe:

2 Moving Plunger Probe: Yes

1.1 Mechanical

Criteria	Specification
1. Cavity Preload Travel needed	0.17mm
2. Pin free length/Pointing accuracy	3.25mm/0.06mm
3. Spring Pin Working Travel	0.40mm
4. Spring Pin Full Travel	Total Travel 0.46mm
5. Spring Pin Force	10.0 gram
6. Spring Pin Life Time	>500,000 cycles
7. Spring Pin Pitch Application	0.20mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed

1.2 Electrical

Criteria	Specification
Current Rating	1.0A continuous
Spring Pin Working Contact Resistance	AVG<150 mOhms
Bandwidth	30.85 GHz@-1dB
Self Inductance	1.47nH

1.3 Thermal

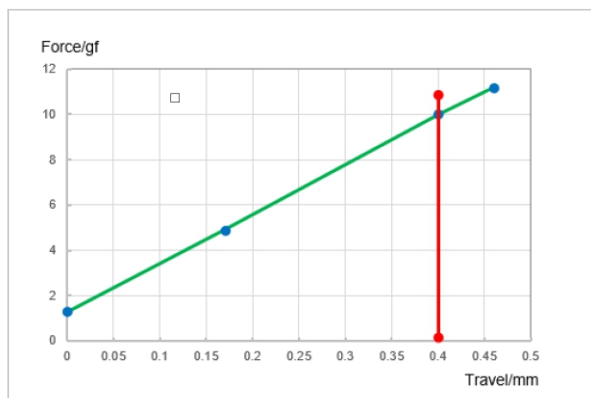
Criteria	Specification
Spring Pin Operating Temperature Range	-40 to 120°C

1.4 Material

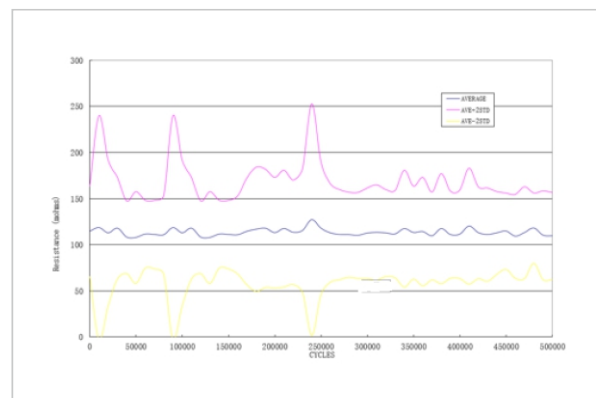
Criteria	Specification
1. Spring Pin Barrel Material	Nickel Tube/Gold Plated
2. Spring Pin Plunger Material	Top plunger: Pd/Ag/Cu Alloy/Gold Plated Bottom plunger: Pd/Ag/Cu Alloy/Gold Plated
3. Spring Material	Music Wire/Gold Plated

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load

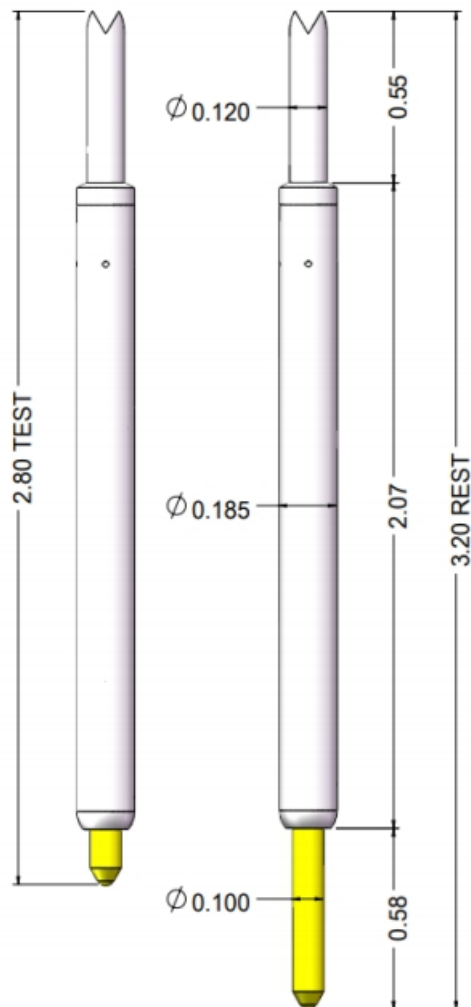


Resistance



SPRING CONTACT PROBES SPECIFICATION

Pitch(mm)0.26



Spring Pin Part Number :	MTSP0005
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Modular 3 pieces design:	Modular 4 pieces design: Yes
One Moving Plunger Probe: Yes	2 Moving Plunger Probe:

1.1 Mechanical

Criteria	Specification
1. Cavity Preload Travel needed	0.15mm
2. Pin free length/Pointing accuracy	3.20mm/0.06mm
3. Spring Pin Working Travel	0.40mm
4. Spring Pin Full Travel	Total Travel 0.51mm
5. Spring Pin Force	14.0 gram
6. Spring Pin Life Time	>500,000 cycles
7. Spring Pin Pitch Application	0.26mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed

1.2 Electrical

Criteria	Specification
Current Rating	0.5A continuous
Spring Pin Working Contact Resistance	AVG<100 mOhms
Bandwidth	24.07 GHz@-1dB
Self Inductance	1.56nH

1.3 Thermal

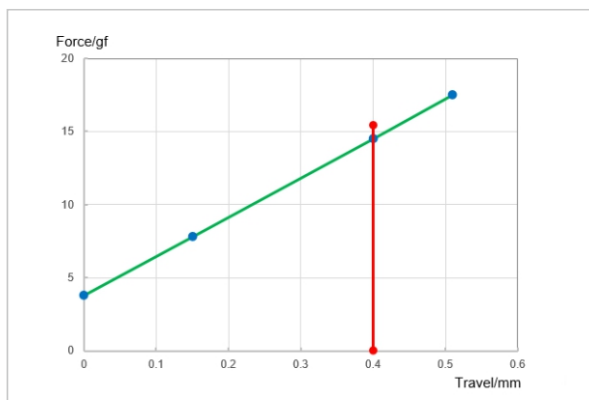
Criteria	Specification
Spring Pin Operating Temperature Range	-40 to 120°C

1.4 Material

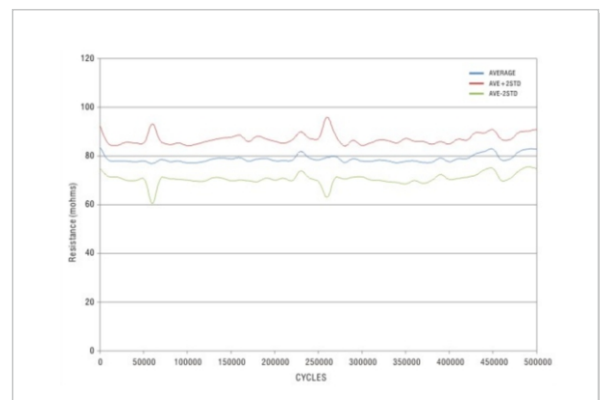
Criteria	Specification
1. Spring Pin Barrel Material	Nickel Tube/Gold Plated
2. Spring Pin Plunger Material	Top plunger: Pd/Ag/Cu Alloy Bottom plunger: Hardened Carbon Steel/Gold Plated
3. Spring Material	Music Wire/Gold Plated

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load

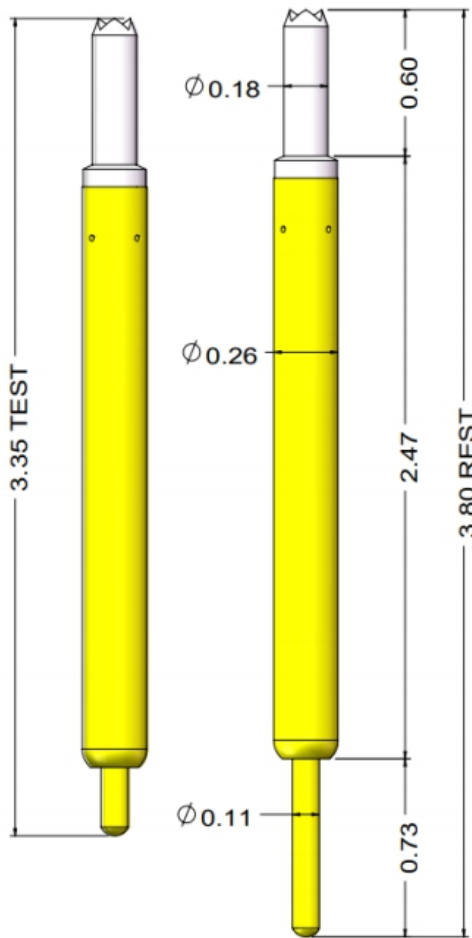


Resistance



SPRING CONTACT PROBES SPECIFICATION

Pitch(mm)0.35



Spring Pin Part Number :

MTSP0007

Modular 3 pieces design:

Modular 4 pieces design: Yes

One Moving Plunger Probe: Yes

2 Moving Plunger Probe:

1.1 Mechanical

Criteria	Specification
1. Cavity Preload Travel needed	0.15mm
2. Pin free length/Pointing accuracy	3.80mm/0.07mm
3. Spring Pin Working Travel	0.45mm
4. Spring Pin Full Travel	Total Travel 0.52mm
5. Spring Pin Force	16.0 gram
6. Spring Pin Life Time	>500,000 cycles
7. Spring Pin Pitch Application	0.35mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed

1.2 Electrical

Criteria	Specification
Current Rating	2.0A continuous
Spring Pin Working Contact Resistance	AVG<70 mOhms
Bandwidth	12.7 GHz@-1dB
Self Inductance	0.71 nH

1.3 Thermal

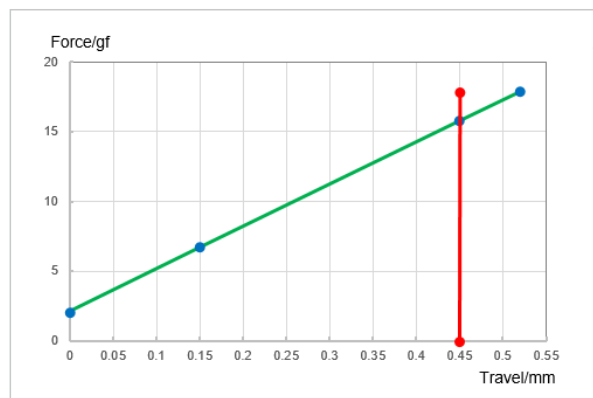
Criteria	Specification
Spring Pin Operating Temperature Range	-55 to 150°C

1.4 Material

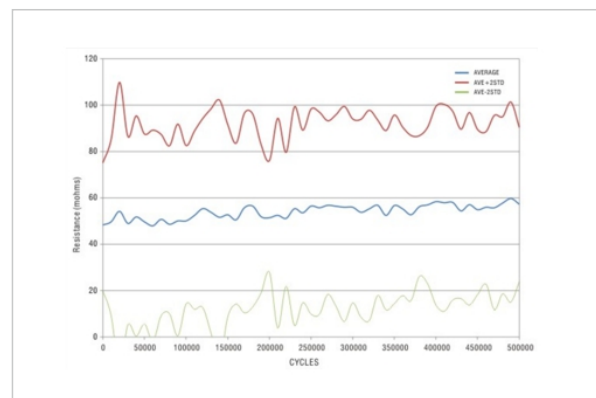
Criteria	Specification
1. Spring Pin Barrel Material	Nickel Tube/Gold Plated
2. Spring Pin Plunger Material	Top plunger: Pd/Ag/Cu Alloy Bottom plunger: Hardened Carbon Steel/Gold Plated
3. Spring Material	NAS/Gold Plated

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load

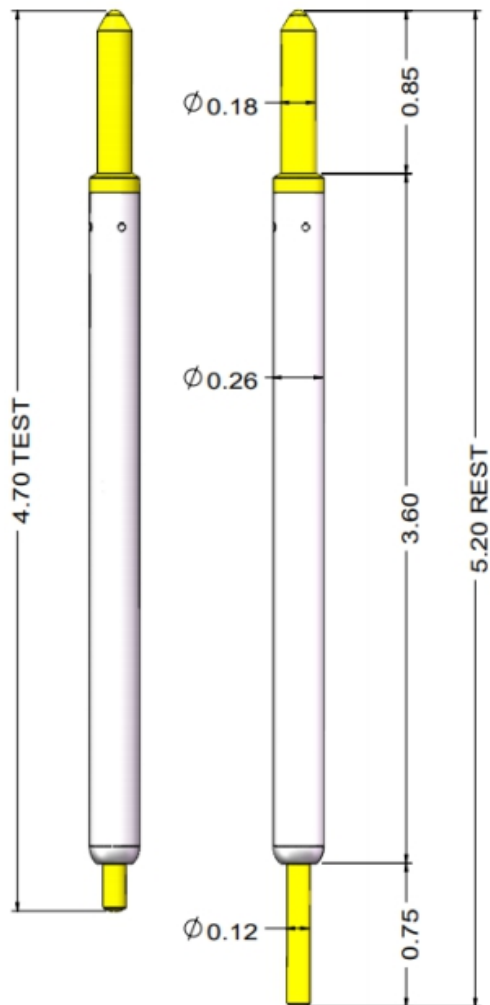


Resistance



SPRING CONTACT PROBES SPECIFICATION

Pitch(mm)0.35



Spring Pin Part Number :

MTSQ0022

Modular 3 pieces design:

Modular 4 pieces design: Yes

One Moving Plunger Probe: Yes

2 Moving Plunger Probe:

1.1 Mechanical

Criteria	Specification
1. Cavity Preload Travel needed	0.20mm
2. Pin free length/Pointing accuracy	3.60mm/0.06mm
3. Spring Pin Working Travel	0.50mm
4. Spring Pin Full Travel	Total Travel 0.60mm
5. Spring Pin Force	20.0 gram
6. Spring Pin Life Time	>300,000 cycles
7. Spring Pin Pitch Application	0.35mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed

1.2 Electrical

Criteria	Specification
Current Rating	2.0A continuous
Spring Pin Working Contact Resistance	AVG<70 mOhms
Bandwidth	5.01 GHz@-1dB
Self Inductance	0.51 nH

1.3 Thermal

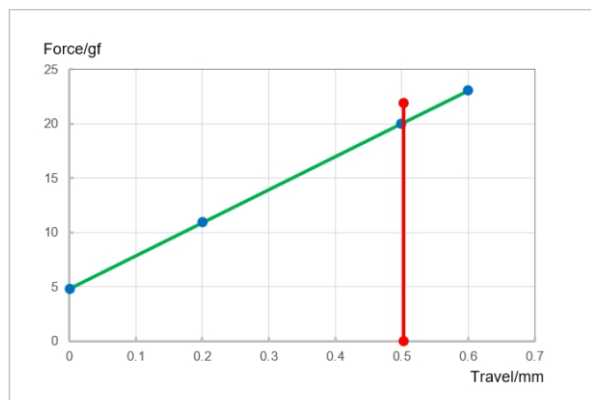
Criteria	Specification
Spring Pin Operating Temperature Range	-55 to 150°C

1.4 Material

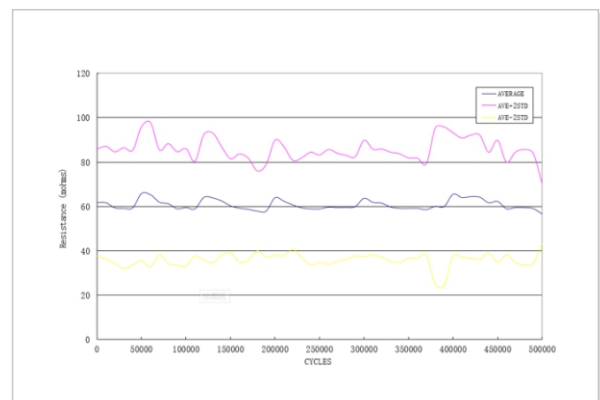
Criteria	Specification
1. Spring Pin Barrel Material	Nickel Tube/Gold Plated
2. Spring Pin Plunger Material	Top plunger:Hardened Carbon Steel/Gold Plated Bottom plunger:Hardened Carbon Steel/Gold Plated
3. Spring Material	NAS/Gold Plated

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load

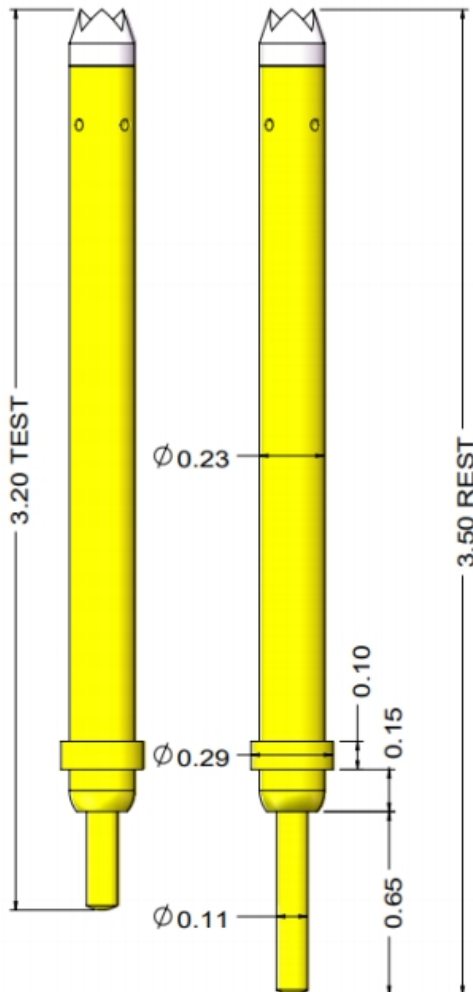


Resistance



SPRING CONTACT PROBES SPECIFICATION

Pitch(mm)0.40



Spring Pin Part Number :

MTSP0023

Modular 3 pieces design:

Modular 4 pieces design: Yes

One Moving Plunger Probe: Yes

2 Moving Plunger Probe:

1.1 Mechanical

Criteria	Specification
1. Cavity Preload Travel needed	0.15mm
2. Pin free length/Pointing accuracy	3.50mm/0.06mm
3. Spring Pin Working Travel	0.30mm
4. Spring Pin Full Travel	Total Travel 0.45mm
5. Spring Pin Force	22.0 gram
6. Spring Pin Life Time	>300,000 cycles
7. Spring Pin Pitch Application	0.40mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed

1.2 Electrical

Criteria	Specification
Current Rating	1.3A continuous
Spring Pin Working Contact Resistance	AVG<80 mOhms
Bandwidth	30.82 GHz@-1dB
Self Inductance	1.97nH

1.3 Thermal

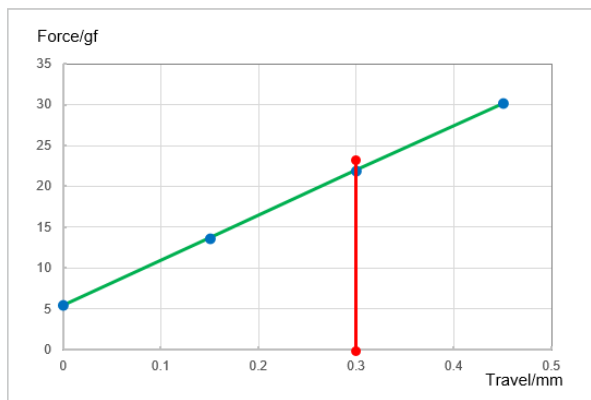
Criteria	Specification
Spring Pin Operating Temperature Range	-40 to 120°C

1.4 Material

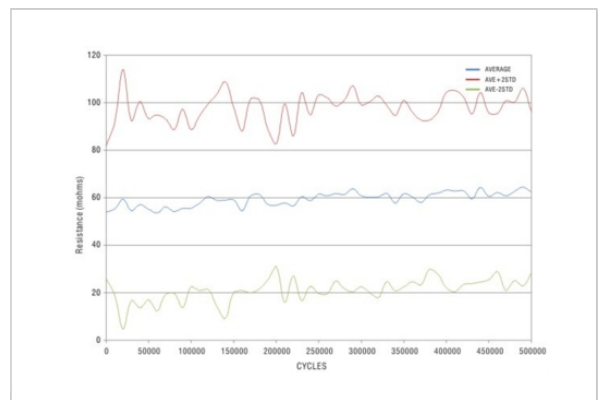
Criteria	Specification
1. Spring Pin Barrel Material	PBT/Gold Plated
2. Spring Pin Plunger Material	Top plunger: Pd/Ag/Cu Alloy/Gold Plated Bottom Plunger: BeCu/Gold Plated
3. Spring Material	Music Wire/Gold Plated

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load

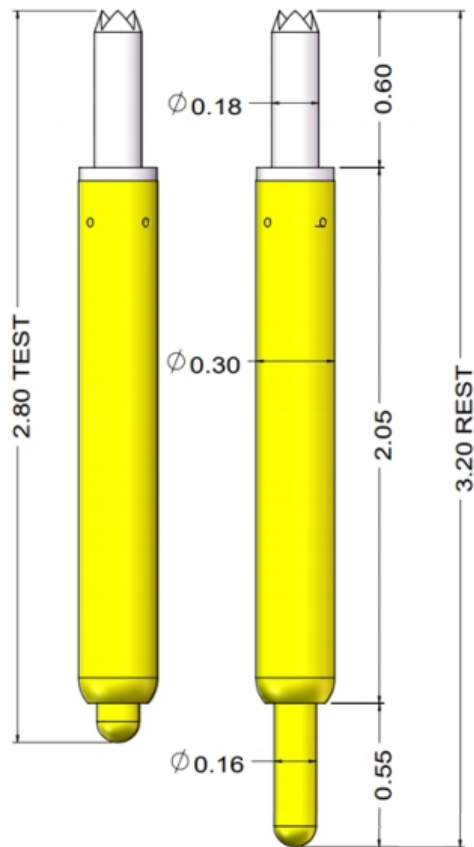


Resistance



SPRING CONTACT PROBES SPECIFICATION

Pitch(mm)0.40



Spring Pin Part Number :

MTSPS1099

Modular 3 pieces design:

Modular 4 pieces design: Yes

One Moving Plunger Probe: Yes

2 Moving Plunger Probe:

1.1 Mechanical

Criteria	Specification
1. Cavity Preload Travel needed	0.15mm
2. Pin free length/Pointing accuracy	3.20mm/0.07mm
3. Spring Pin Working Travel	0.40mm
4. Spring Pin Full Travel	Total Travel 0.50mm
5. Spring Pin Force	32.0 gram
6. Spring Pin Life Time	>200,000 cycles
7. Spring Pin Pitch Application	0.40mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed

1.2 Electrical

Criteria	Specification
Current Rating	2.0A continuous
Spring Pin Working Contact Resistance	AVG<70 mOhms
Bandwidth	15.11@-1dB
Self Inductance	1.10nH

1.3 Thermal

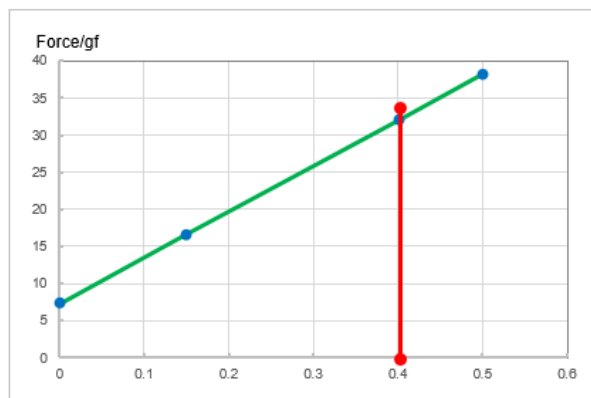
Criteria	Specification
Spring Pin Operating Temperature Range	-40 to 120°C

1.4 Material

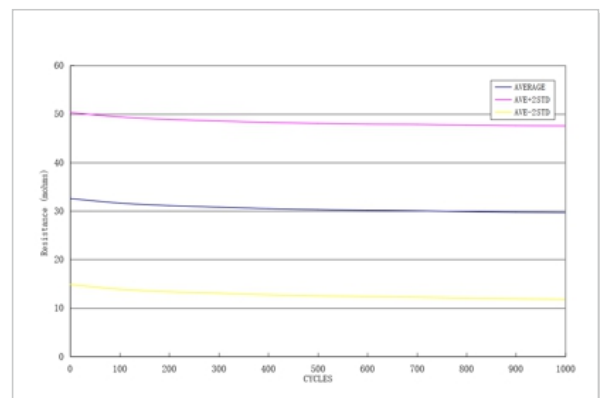
Criteria	Specification
1. Spring Pin Barrel Material	PBT/Gold Plated
2. Spring Pin Plunger Material	Top plunger: Pd/Ag/Cu Alloy Bottom plunger: BeCu/Gold Plated
3. Spring Material	Music Wire/Gold Plated

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load

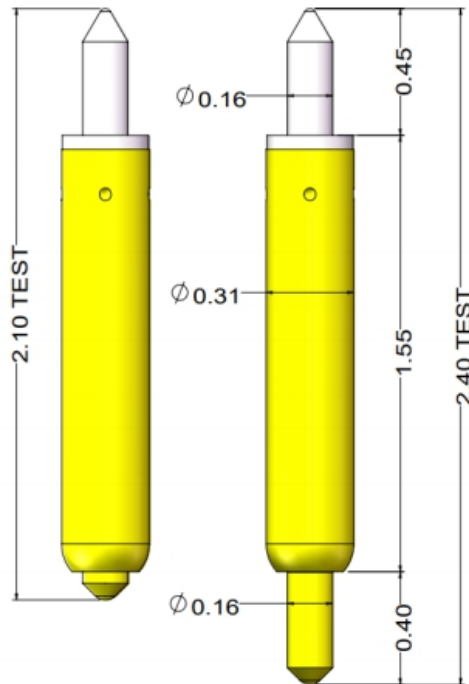


Resistance



SPRING CONTACT PROBES SPECIFICATION

Pitch(mm)0.40



Spring Pin Part Number :

MTSP0212-003

Modular 3 pieces design:

Modular 4 pieces design: Yes

One Moving Plunger Probe: Yes

2 Moving Plunger Probe:

1.1 Mechanical

Criteria	Specification
1. Cavity Preload Travel needed	0.15mm
2. Pin free length/Pointing accuracy	2.40mm/0.06mm
3. Spring Pin Working Travel	0.30mm
4. Spring Pin Full Travel	Total Travel 0.40mm
5. Spring Pin Force	30.0 gram
6. Spring Pin Life Time	>300,000 cycles
7. Spring Pin Pitch Application	0.40mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed

1.2 Electrical

Criteria	Specification
Current Rating	2.5A continuous
Spring Pin Working Contact Resistance	AVG<50 mOhms
Bandwidth	17.96@-1dB
Self Inductance	0.85nH

1.3 Thermal

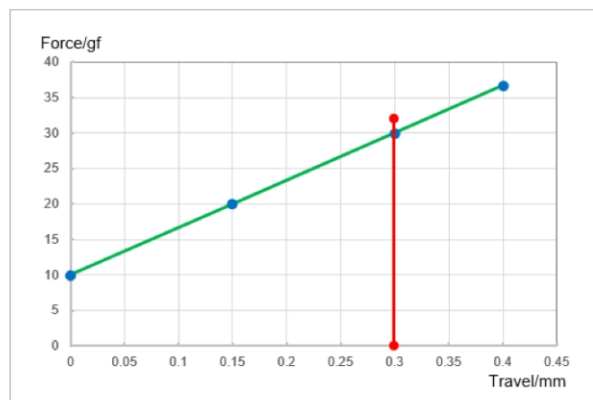
Criteria	Specification
Spring Pin Operating Temperature Range	-40 to 120°C

1.4 Material

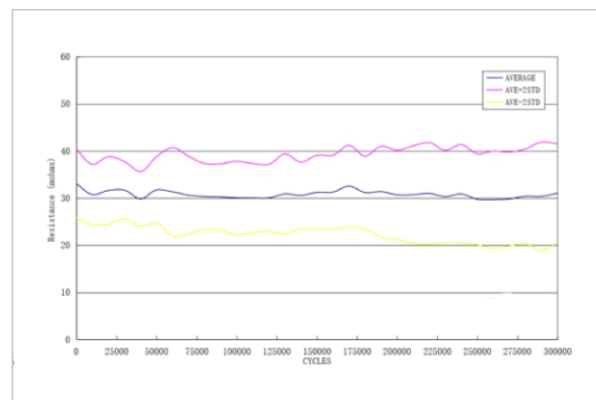
Criteria	Specification
1. Spring Pin Barrel Material	PBT/Gold Plated
2. Spring Pin Plunger Material	Top plunger: Pd/Ag/Cu Alloy Bottom plunger: BeCu/Gold Plated
3. Spring Material	Music Wire/Gold Plated

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load

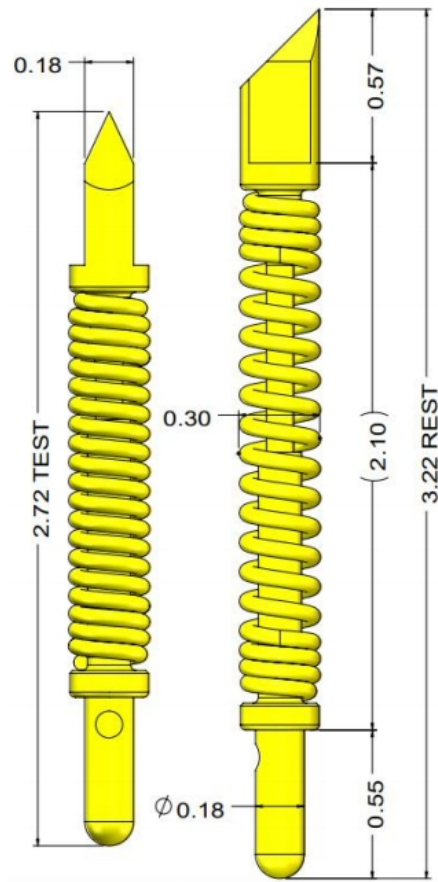


Resistance



SPRING CONTACT PROBES SPECIFICATION

Pitch(mm)0.40



Spring Pin Part Number :

MTSZ0031-003

Modular 3 pieces design: Yes

Modular 4 pieces design:

One Moving Plunger Probe:

2 Moving Plunger Probe: Yes

1.1 Mechanical

Criteria	Specification
1. Cavity Preload Travel needed	0.20mm
2. Pin free length/Pointing accuracy	3.22mm/0.05mm
3. Spring Pin Working Travel	0.50mm
4. Spring Pin Full Travel	Total Travel 0.60mm
5. Spring Pin Force	37.0 gram
6. Spring Pin Life Time	>300,000 cycles
7. Spring Pin Pitch Application	0.40mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed

1.2 Electrical

Criteria	Specification
Current Rating	2.0A continuous
Spring Pin Working Contact Resistance	AVG<80 mOhms
Bandwidth	12.11@-1dB
Self Inductance	1.07nH

1.3 Thermal

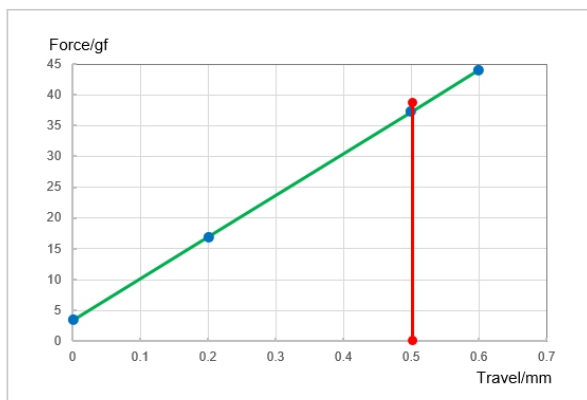
Criteria	Specification
Spring Pin Operating Temperature Range	-55 to 150°C

1.4 Material

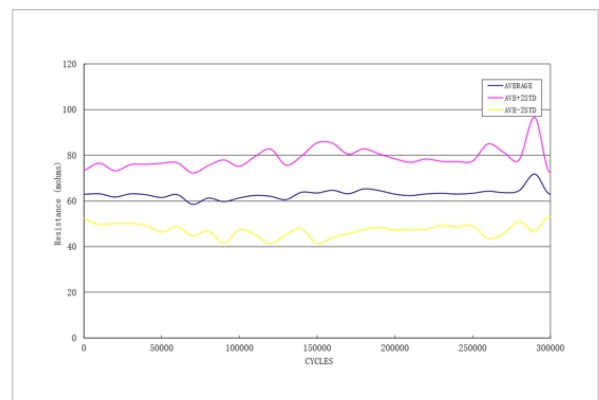
Criteria	Specification
1. Spring Pin Barrel Material	None
2. Spring Pin Plunger Material	Top plunger:Hardened Carbon Steel/Gold Plated Bottom plunger:BeCu/Gold Plated
3. Spring Material	NAS/Gold Plated

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load

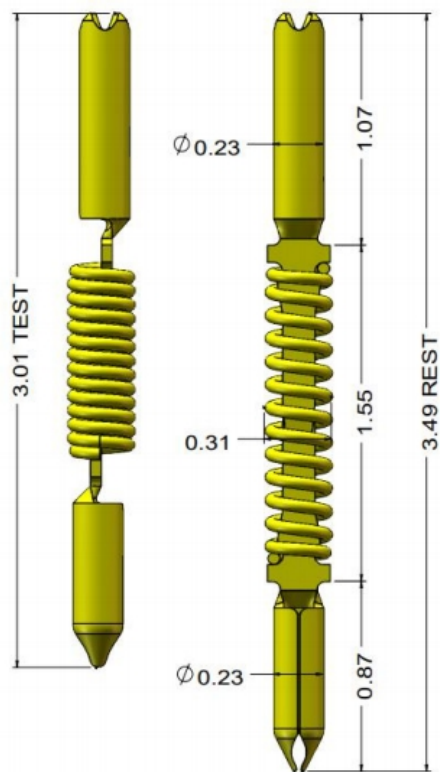


Resistance



SPRING CONTACT PROBES
SPECIFICATION

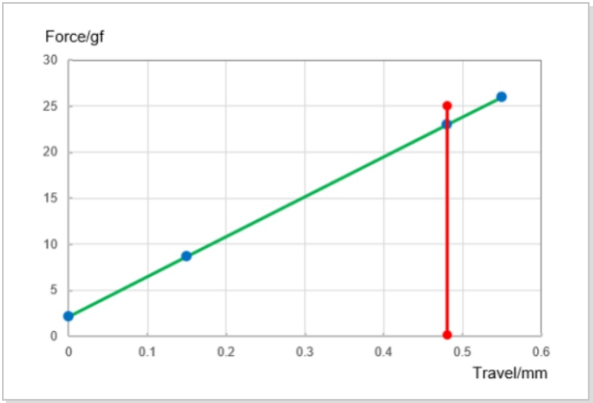
Pitch(mm)0.40



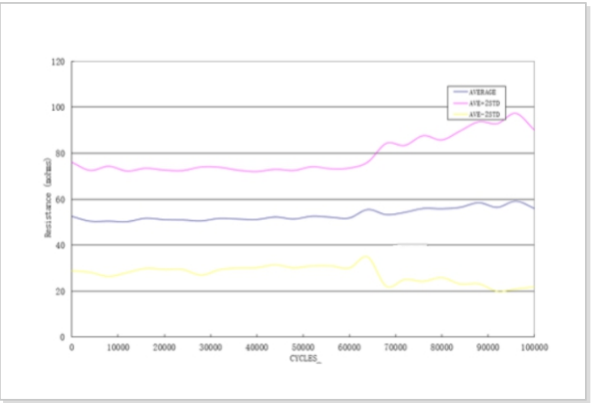
Spring Pin Part Number :		MTSZL1029
Modular 3 pieces design:	Yes	Modular 4 pieces design:
One Moving Plunger Probe:		2 Moving Plunger Probe: Yes
1.1 Mechanical		
Criteria	Specification	
1. Cavity Preload Travel needed	0.15mm	
2. Pin free length/Pointing accuracy	3.49mm/0.05mm	
3. Spring Pin Working Travel	0.48mm	
4. Spring Pin Full Travel	Total Travel 0.55mm	
5. Spring Pin Force	23.0 gram	
6. Spring Pin Life Time	>100,000 cycles	
7. Spring Pin Pitch Application	0.40mm(recommended)	
8. Spring Pin jamming	No jamming or sticking pin allowed	
1.2 Electrical		
Criteria	Specification	
Current Rating	2.0A continuous	
Spring Pin Working Contact Resistance	AVG<60 mOhms	
Bandwidth	19.85GHz @-1dB	
Self Inductance	1.17nH	
1.3 Thermal		
Criteria	Specification	
Spring Pin Operating Temperature Range	-55 to 150°C	
1.4 Material		
Criteria	Specification	
1. Spring Pin Barrel Material	None	
2. Spring Pin Plunger Material	Top plunger:BeCu/Gold Plated Bottom plunger:BeCu/Gold Plated	
3. Spring Material	NAS/Gold Plated	

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load

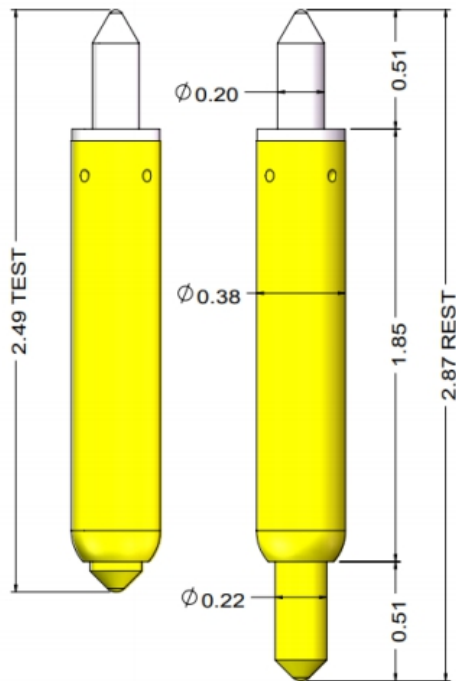


Resistance



SPRING CONTACT PROBES SPECIFICATION

Pitch(mm)0.50



Spring Pin Part Number :

MTSP0010-002

Modular 3 pieces design:

Modular 4 pieces design: Yes

One Moving Plunger Probe: Yes

2 Moving Plunger Probe:

1.1 Mechanical

Criteria	Specification
1. Cavity Preload Travel needed	0.15mm
2. Pin free length/Pointing accuracy	2.87mm/0.05mm
3. Spring Pin Working Travel	0.38mm
4. Spring Pin Full Travel	Total Travel 0.47mm
5. Spring Pin Force	25.8 gram
6. Spring Pin Life Time	>300,000 cycles
7. Spring Pin Pitch Application	0.50mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed

1.2 Electrical

Criteria	Specification
Current Rating	3.0A continuous
Spring Pin Working Contact Resistance	AVG<40 mOhms
Bandwidth	13.64 GHz@-1dB
Self Inductance	0.79 nH

1.3 Thermal

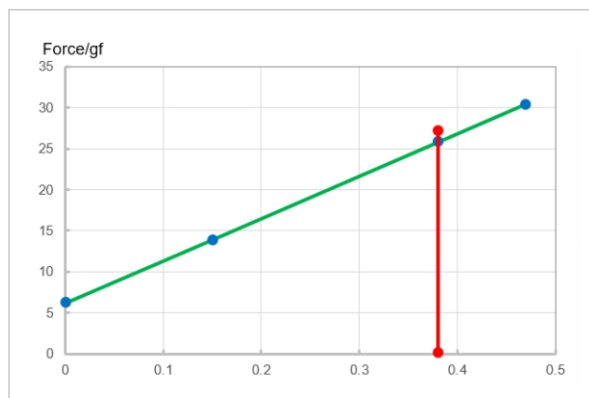
Criteria	Specification
Spring Pin Operating Temperature Range	-40 to 120°C

1.4 Material

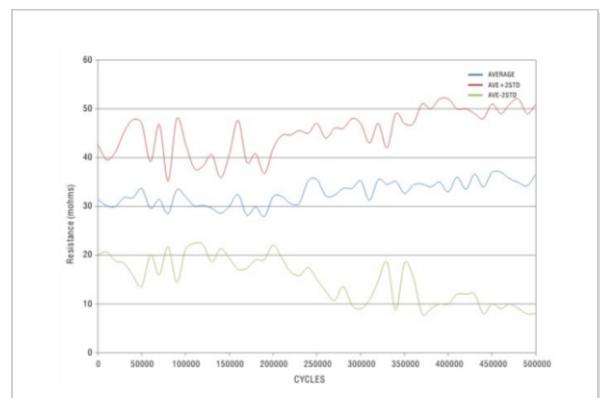
Criteria	Specification
1. Spring Pin Barrel Material	PBT/Gold Plated
2. Spring Pin Plunger Material	Top plunger: Pd/Ag/Cu Alloy Bottom BeCu/Gold Plated
3. Spring Material	Music Wire/Gold Plated

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load

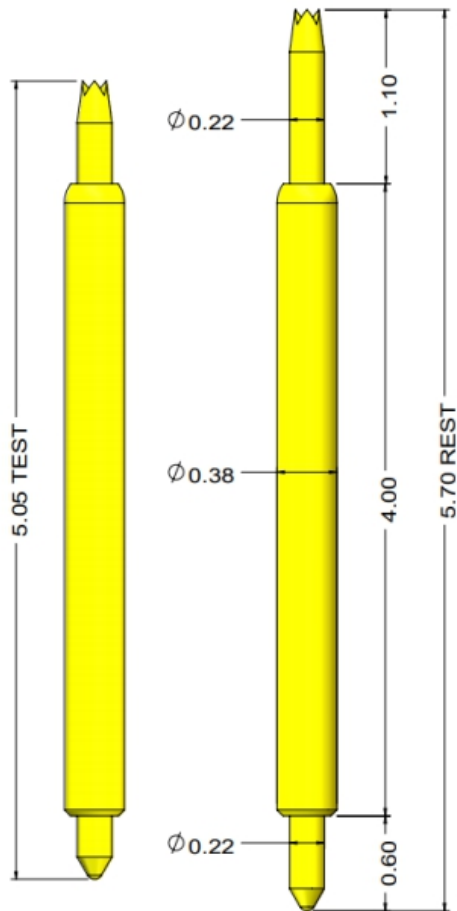


Resistance



SPRING CONTACT PROBES SPECIFICATION

Pitch(mm)0.50



Spring Pin Part Number :

MTSQ0295-004

Modular 3 pieces design:

Modular 4 pieces design: Yes

One Moving Plunger Probe:

2 Moving Plunger Probe: Yes

1.1 Mechanical

Criteria	Specification
1. Cavity Preload Travel needed	0.20mm
2. Pin free length/Pointing accuracy	5.70mm/0.07mm
3. Spring Pin Working Travel	0.65mm
4. Spring Pin Full Travel	Total Travel 1.00mm
5. Spring Pin Force	15.0 gram
6. Spring Pin Life Time	>500,000 cycles
7. Spring Pin Pitch Application	0.50mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed

1.2 Electrical

Criteria	Specification
Current Rating	1.5A continuous
Spring Pin Working Contact Resistance	AVG<80 mOhms
Bandwidth	6.62 GHz@-1dB
Self Inductance	1.60nH

1.3 Thermal

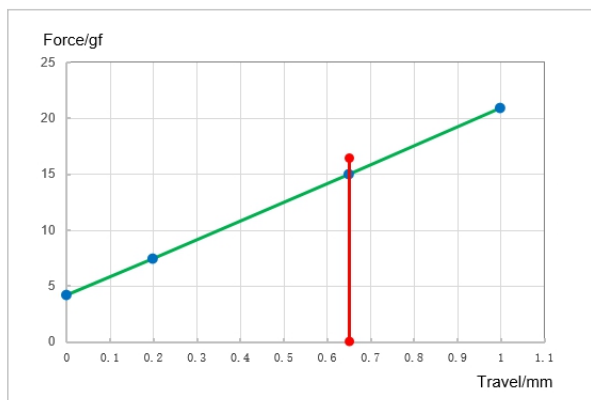
Criteria	Specification
Spring Pin Operating Temperature Range	-40 to 120°C

1.4 Material

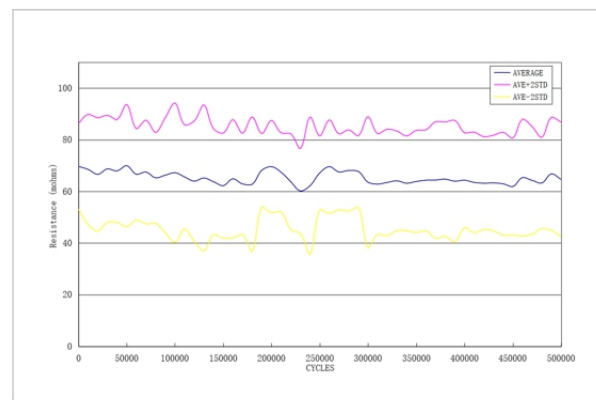
Criteria	Specification
1. Spring Pin Barrel Material	PBT/Gold Plated
2. Spring Pin Plunger Material	Top plunger:Hardened Carbon Steel/Gold Plated Bottom plunger:BeCu/Gold Plated
3. Spring Material	Music Wire/Gold Plated

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load

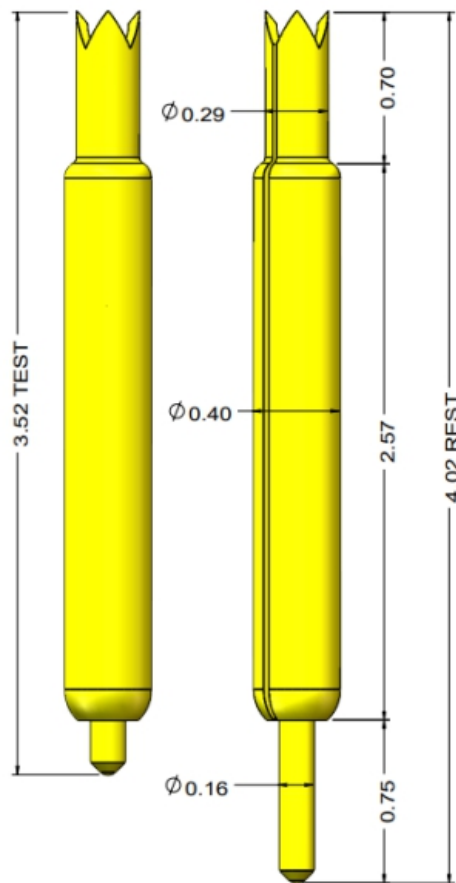


Resistance



SPRING CONTACT PROBES SPECIFICATION

Pitch(mm)0.50



Spring Pin Part Number :

MTSQ0020

Modular 3 pieces design: Yes

Modular 4 pieces design:

One Moving Plunger Probe: Yes

2 Moving Plunger Probe:

1.1 Mechanical

Criteria	Specification
1. Cavity Preload Travel needed	0.20mm
2. Pin free length/Pointing accuracy	4.05mm/0.06mm
3. Spring Pin Working Travel	0.50mm
4. Spring Pin Full Travel	Total Travel 0.60mm
5. Spring Pin Force	17.4 gram
6. Spring Pin Life Time	>100,000 cycles
7. Spring Pin Pitch Application	0.50mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed

1.2 Electrical

Criteria	Specification
Current Rating	3.0A continuous
Spring Pin Working Contact Resistance	AVG<140 mOhms
Bandwidth	31.2 GHz@-1dB
Self Inductance	1.18nH

1.3 Thermal

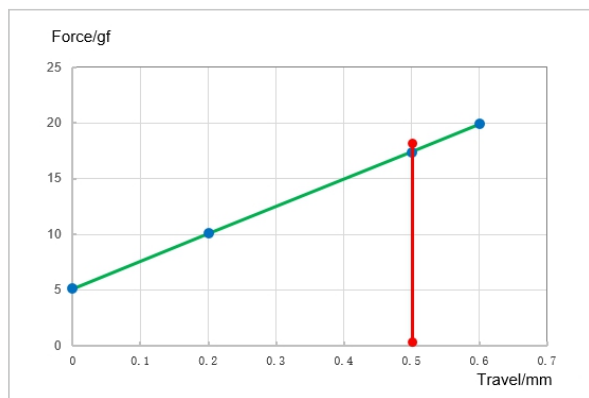
Criteria	Specification
Spring Pin Operating Temperature Range	-40 to 120°C

1.4 Material

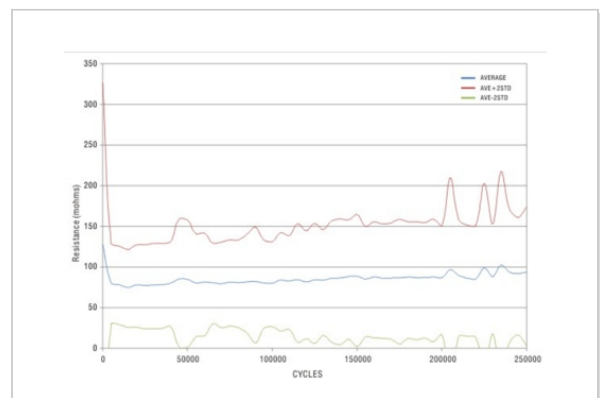
Criteria	Specification
1. Spring Pin Barrel Material	BeCu /Gold Plated
2. Spring Pin Plunger Material	Top plunger:BeCu /Gold Plated Bottom plunger:BeCu /Gold Plated
3. Spring Material	Music Wire/Gold Plated

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load

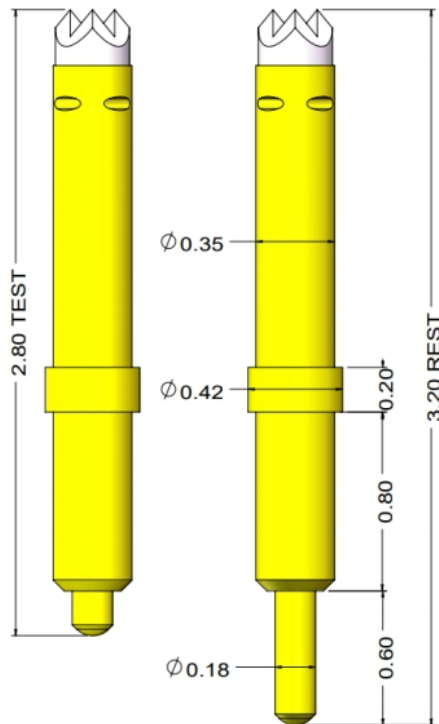


Resistance



SPRING CONTACT PROBES SPECIFICATION

Pitch(mm)0.65



Spring Pin Part Number :

MTSP0043-002

Modular 3 pieces design:

Modular 4 pieces design: Yes

One Moving Plunger Probe: Yes

2 Moving Plunger Probe:

1.1 Mechanical

Criteria	Specification
1. Cavity Preload Travel needed	0.15mm
2. Pin free length/Pointing accuracy	3.20mm/0.05mm
3. Spring Pin Working Travel	0.40mm
4. Spring Pin Full Travel	Total Travel 0.50mm
5. Spring Pin Force	30.0 gram
6. Spring Pin Life Time	>400,000 cycles
7. Spring Pin Pitch Application	0.65mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed

1.2 Electrical

Criteria	Specification
Current Rating	4.0A continuous
Spring Pin Working Contact Resistance	AVG<50 mOhms
Bandwidth	55.49@-1dB
Self Inductance	0.72nH

1.3 Thermal

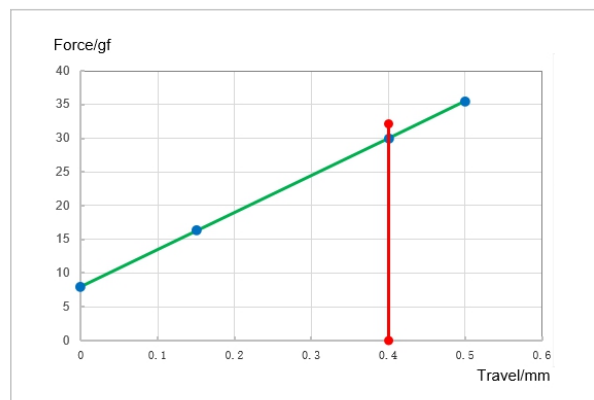
Criteria	Specification
Spring Pin Operating Temperature Range	-40 to 120°C

1.4 Material

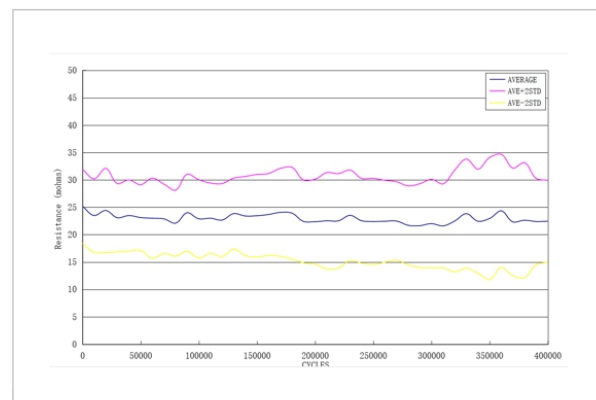
Criteria	Specification
1. Spring Pin Barrel Material	PBT/Gold Plated
2. Spring Pin Plunger Material	Top plunger: Pd/Ag/Cu Alloy Bottom plunger: BeCu/Gold Plated
3. Spring Material	Music Wire/Gold Plated

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load

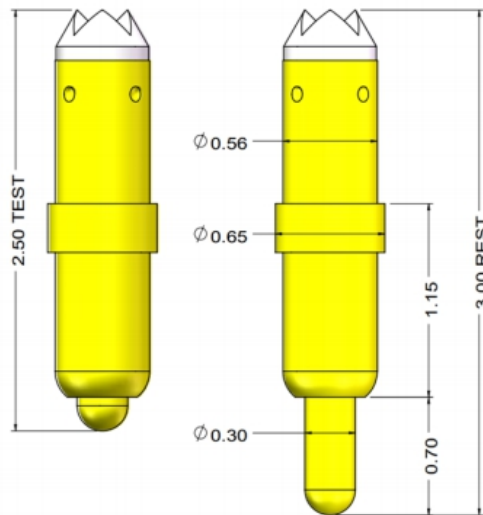


Resistance



SPRING CONTACT PROBES SPECIFICATION

Pitch(mm)0.80



Spring Pin Part Number :

MTSP0085-005

Modular 3 pieces design:

Modular 4 pieces design: Yes

One Moving Plunger Probe: Yes

2 Moving Plunger Probe:

1.1 Mechanical

Criteria	Specification
1. Cavity Preload Travel needed	0.20mm
2. Pin free length/Pointing accuracy	3.00mm/0.05mm
3. Spring Pin Working Travel	0.50mm
4. Spring Pin Full Travel	Total Travel 0.70mm
5. Spring Pin Force	31.0 gram
6. Spring Pin Life Time	>300,000 cycles
7. Spring Pin Pitch Application	0.80mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed

1.2 Electrical

Criteria	Specification
Current Rating	3.0A continuous
Spring Pin Working Contact Resistance	AVG<50 mOhms
Bandwidth	15.06@-1dB
Self Inductance	0.49nH

1.3 Thermal

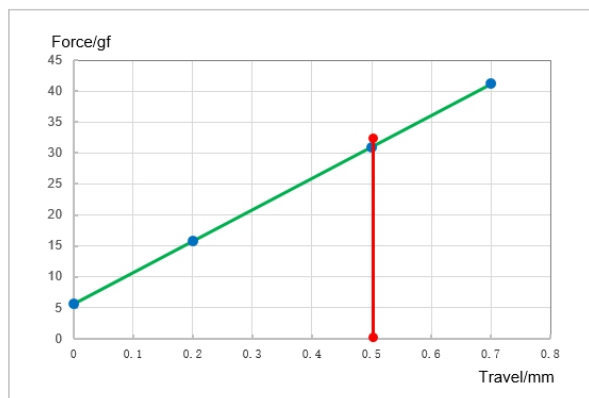
Criteria	Specification
Spring Pin Operating Temperature Range	-40 to 120°C

1.4 Material

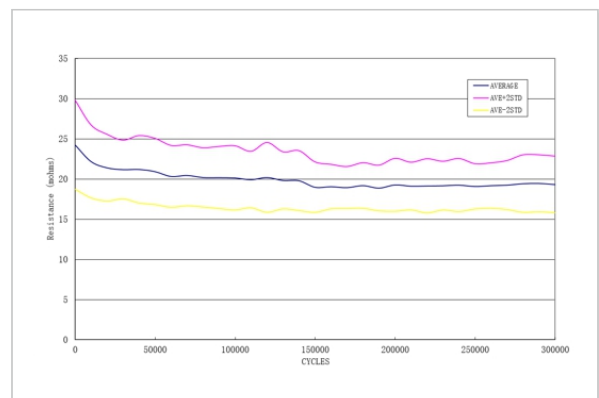
Criteria	Specification
1. Spring Pin Barrel Material	PBT/Gold Plated
2. Spring Pin Plunger Material	Top plunger: Pd/Ag/Cu Alloy Bottom plunger: BeCu/Gold Plated
3. Spring Material	Music Wire/Gold Plated

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load

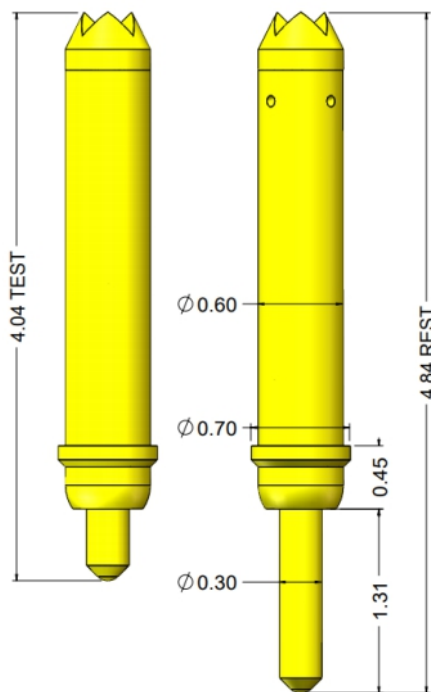


Resistance



SPRING CONTACT PROBES
SPECIFICATION

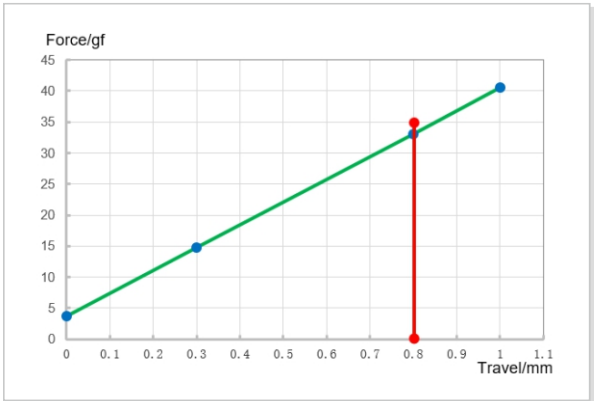
Pitch(mm)1.00



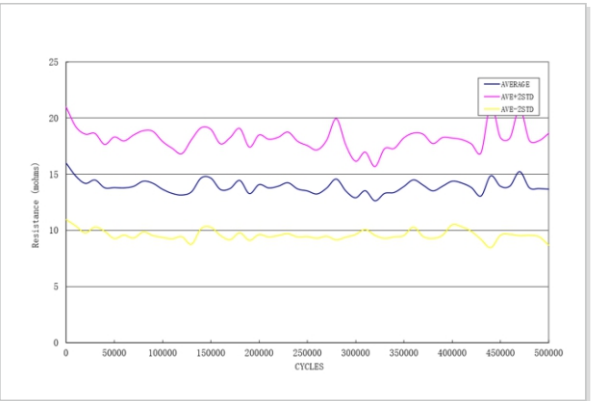
Spring Pin Part Number : MTSP0026-003	
Modular 3 pieces design:	Modular 4 pieces design: Yes
One Moving Plunger Probe: Yes	2 Moving Plunger Probe:
1.1 Mechanical	
Criteria	Specification
1. Cavity Preload Travel needed	0.30mm
2. Pin free length/Pointing accuracy	4.84mm/0.07mm
3. Spring Pin Working Travel	0.80mm
4. Spring Pin Full Travel	Total Travel 1.00mm
5. Spring Pin Force	33.0 gram
6. Spring Pin Life Time	>500,000 cycles
7. Spring Pin Pitch Application	1.00mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed
1.2 Electrical	
Criteria	Specification
Current Rating	5.0A continuous
Spring Pin Working Contact Resistance	AVG<50 mOhms
Bandwidth	31.42@-1dB
Self Inductance	0.67nH
1.3 Thermal	
Criteria	Specification
Spring Pin Operating Temperature Range	-55 to 150°C
1.4 Material	
Criteria	Specification
1. Spring Pin Barrel Material	PBT/Gold Plated
2. Spring Pin Plunger Material	Top plunger:BeCu/Gold Plated Bottom plunger:BeCu/Gold Plated
3. Spring Material	NAS/Gold Plated

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load

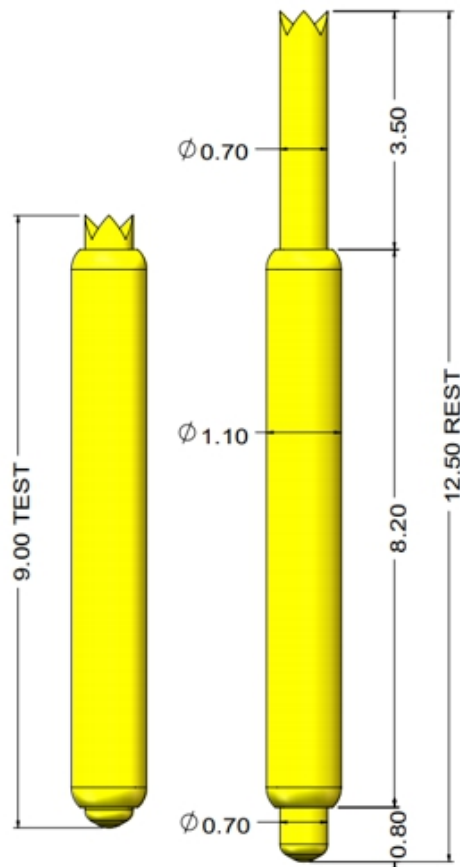


Resistance



SPRING CONTACT PROBES SPECIFICATION

Pitch(mm)1.27



Spring Pin Part Number :

MTSQ0581

Modular 3 pieces design:

Modular 4 pieces design: Yes

One Moving Plunger Probe:

2 Moving Plunger Probe: Yes

1.1 Mechanical

Criteria	Specification
1. Cavity Preload Travel needed	0.50mm
2. Pin free length/Pointing accuracy	12.50mm/0.10mm
3. Spring Pin Working Travel	3.50mm
4. Spring Pin Full Travel	Total Travel 3.60mm
5. Spring Pin Force	25.0 gram
6. Spring Pin Life Time	>300,000 cycles
7. Spring Pin Pitch Application	1.27mm(recommended)
8. Spring Pin jamming	No jamming or sticking pin allowed

1.2 Electrical

Criteria	Specification
Current Rating	2.0A continuous
Spring Pin Working Contact Resistance	AVG<80 mOhms
Bandwidth	8.37 GHz@-1dB
Self Inductance	2.82 nH

1.3 Thermal

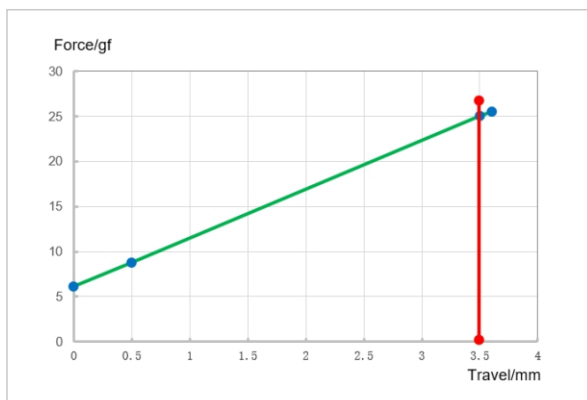
Criteria	Specification
Spring Pin Operating Temperature Range	-55 to 150°C

1.4 Material

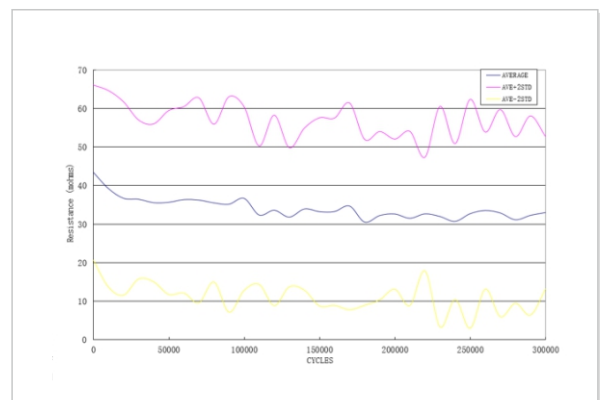
Criteria	Specification
1. Spring Pin Barrel Material	PBT/Gold Plated
2. Spring Pin Plunger Material	Top plunger:BeCu/Gold Plated Bottom plunger:BeCu/Gold Plated
3. Spring Material	NAS/Gold Plated

TRAVEL VS SPRING LOAD / RESISTANCE

Travel VS Spring Load



Resistance



PROVIDE ONE-STOP SERVICE

提供一站式服务



SERVICE 服务

Process	Capabilities
Deep Draw	Minimum OD: 300um; length-to-diameter ration: 16 Minimum metal thickness: 50um
Precision Small Turning	Becu, Carbon steel, Pd alloy, Nickel siliver small diameter machining Minimum OD: 40um
Semi-Auto Dimple Assembly	Minimum single-ended probe dimple barrel diameter: 100um
Fine Pitch Round-End Crimping	Double & single-ended probe crimping barrel diameter Minimum Middle crimping diameter: 100um
100% On-line Function Inspection	On-line cres & force sorting & inspection automatically
HighSpindle CNC Machining	Spindle 30,000 RPM consistently; Holes true position within 20um
Insert Molding	Flatness 20um Max, Tolerance outer length and within: 0.01mm Max.

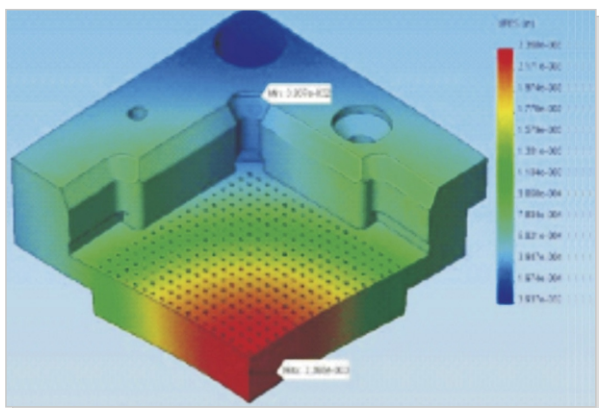
制程	生产过程能力
微型深拉伸	最小外直径0.3mm，长度与直径比为16；最小金属材料厚度为0.05mm
精密微型车加工	Becu, Carbon steel, Pd alloy, Nickel siliver 微小直径加工，最小直径0.04mm
半自动探针组装	最小单动针打点探针直径0.1mm
微小 pitch 卷边	微小双动&单动针旋转卷边工艺；最小中间卷边直径0.1mm
全自动化检测分拣	在线全自动100%阻抗，弹力检测与分选
精密钻孔铣加工	主轴连续转速30,000 RPM；小孔位置度0.02mm以内
微嵌入件注塑	最大平面度0.02mm；产品外形尺寸最大公差为0.01mm



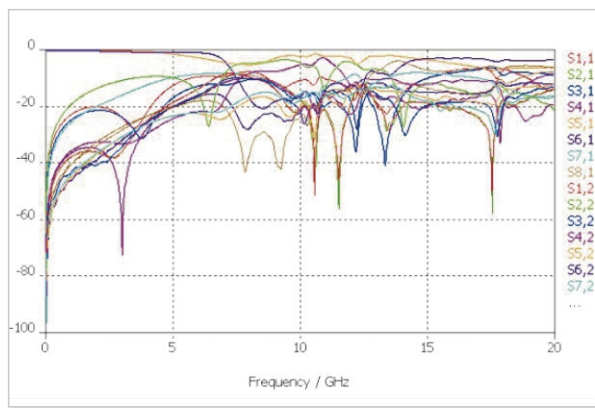
Machine	Application	Qty
SEMI Auto Dimple Assembly Line	Single-end probe assembly	X8
SEMI Auto Crimping Assembly Line	Double-end probe assembly; Middle crimping assembly	X4
Auto High Speed Stamping & Assembly Line	Deep draw, bending and assembly process	X15

ANALYSIS
CAPABILITY

分析能力



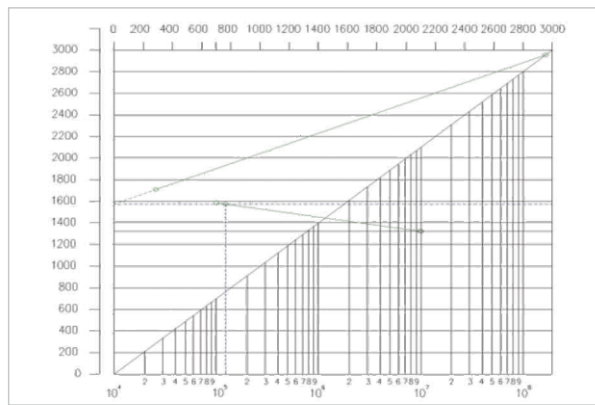
FEA, Displacement Plot



TDR



TSE



Spring Diagram Analyzer

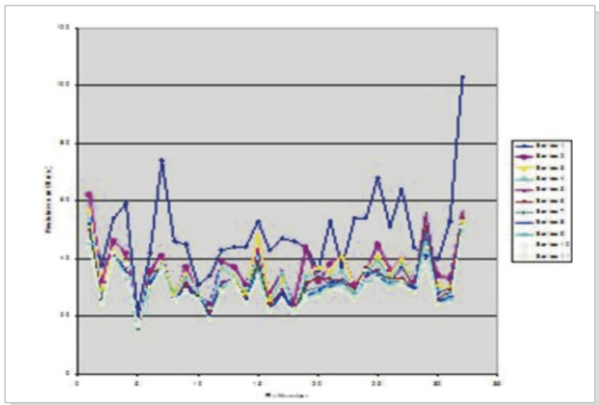
CAPABILITY
能力



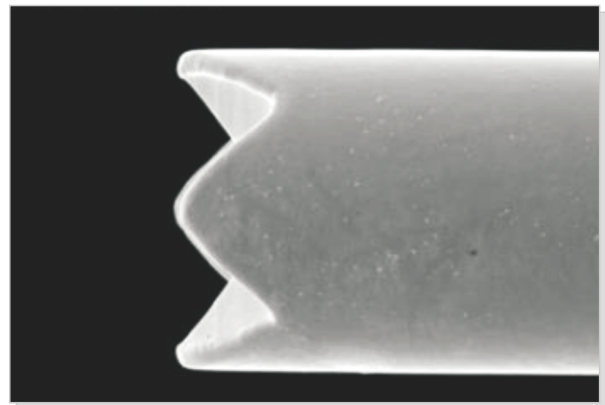
Force & Displacement



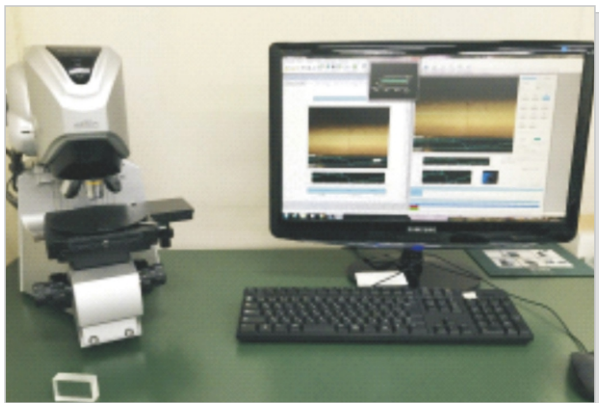
Lab Life Cycler



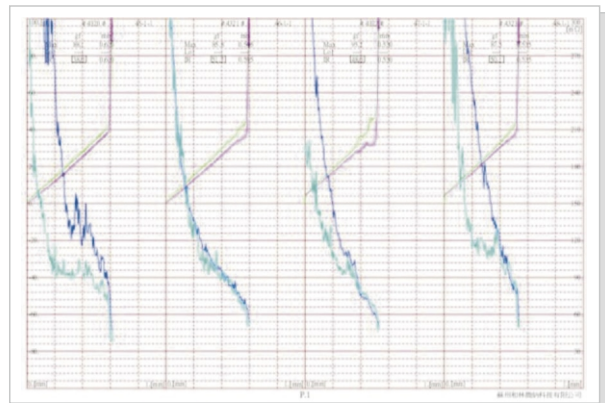
Resistance Tester



SEM & EDS



Metalloscope



Auto FDR

NEVER COMPROMISE ON QUALITY

从不在质量上妥协



QUALITY 品质

QUALITY CERTIFICATION SYSTEM

品质认证体系

- UIGreen focuses on continuous improvement of quality management system, since the establishment in Dec of 2007, UIGreen has been successfully qualified of ISO9001, ISO14001, OHSAS18001, QC080000, ISO13485, ISO27001 and TS16949.
- In daily operation, we choose the most suitable quality tools to manage and control our manufacturing process, such as 6 SIGEMA, Zero Defect, etc.
- 和林微纳专注于持续改进质量管理体系。自2007年12月以来，和林微纳已获得ISO9001、ISO14001、OHSAS18001、QC080000、ISO13485、ISO27001、TS16949等品质体系认证。
- 在日常运营中我们选择适合我们的产品和工艺流程的质量工具来确保产品的高品质，如6 SIGMA，零缺陷。



MAIN INSPECTION EQUIPMENTS

主要检测设备

Machine	Brand	Made in	Qty
OGP 3D inspection machine	SMARTSCOPE ZIP250	USA	X1
2D projector & 2D inspection machine	NIKON/WAN HAO/EV2515	Japan	X1
X-Ray scope	FISHER XDV-SDD	Germany	X1
Digital automatic hardness tester	HVS-1000	China	X1
Plating thickness spectrometer	THICK800A EDXRF	China	X1
Roughness tester	MITSUTOYO	China	X1



THE GLOBAL MARKET WE ARE SERVING

服务于全球市场



MARKET
市场

Notes: UIG is serving customers in 16 countries worldwide.

SPRING CONTACT PROBE APPLICATION

应用领域

- Semiconductor Chips Package Test
- Fine Pitch PCB / Flexible PCB Test
- 高端半导体芯片封装测试
- 细间距印刷电路板/柔性印刷电路板测试



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