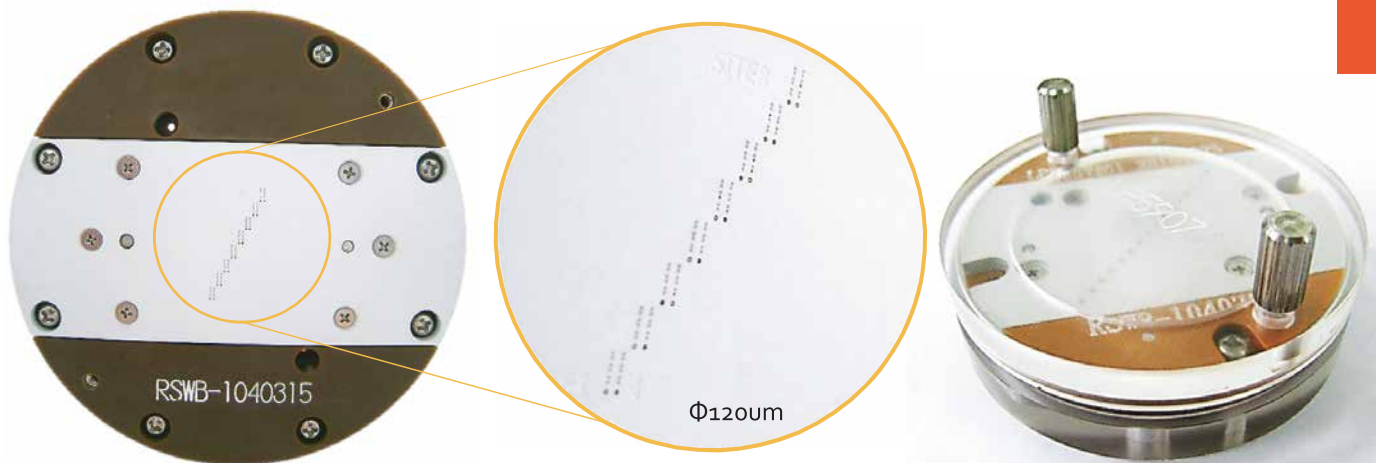


# Wafer-Level CSP Test

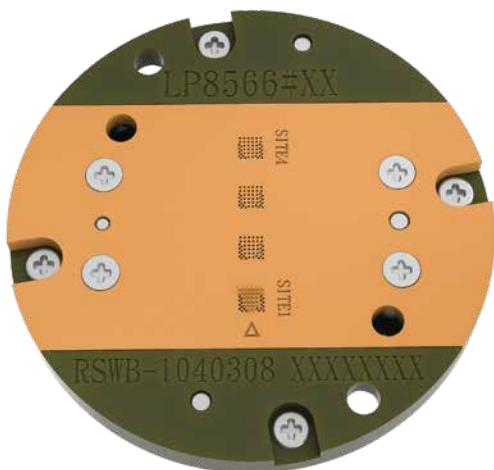
With the massive growth of WLCSP in the semiconductor market, C.C.P. has designed over 30 different kinds of probe heads to meet the demand of the market. A pogo pin design improves the durability of the probe head. Additionally, coplanarity errors induced by differently sized solder balls can be avoided by our pogo pins which have a working travel designed for 250um. We offer a wide variety of head types to meet our client's needs.

## Design Concept



8 balls, pitch 0.5mm

C.C.P. employs a combination of industry-leading high precision machines from renowned manufacturers as well as custom made equipment. This allows us to drill holes smaller than  $\Phi 60\mu\text{m}$ .



36 balls, pitch 0.4mm

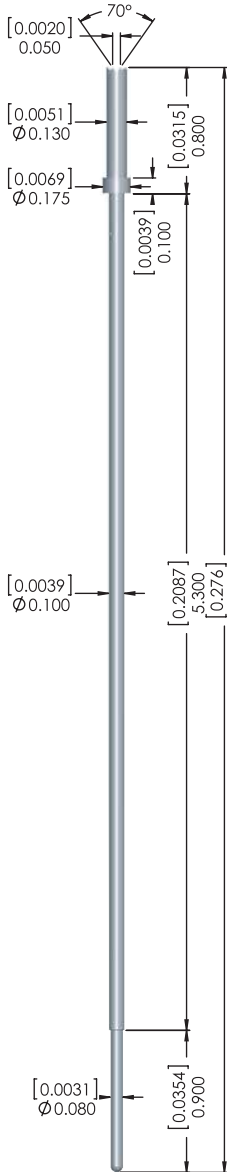
Probe Head	Specification
Min. Pitch	0.15mm
Max. Site Counts	32 sites
Top Housing Material	Photoveel® /VESPEL®SCP5000
Mounting Plate Material	Torlon® 5530
Bottom Housing Material	VESPEL®SCP5000
Life Time (Pin)	>300,000

\*All specifications are subject to changes without prior notification

# Probe Specifications

Unit:mm; [ ]:in

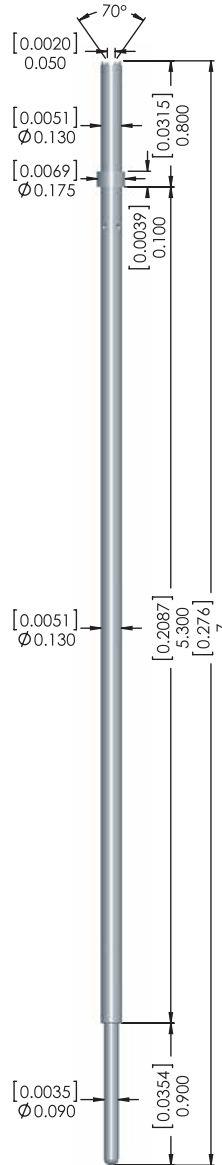
## PE3-010DS53-02A0



**Material**  
 Top Plunger  
Pd alloy  
 Barrel  
Ni alloy  
 Spring  
SWP, Au plated  
 Bottom Plunger  
Pd alloy

**Mechanical Spec.**  
 Recommended Travel  
0.55mm  
 Full Travel  
0.85mm  
 Spring Force  
6g±20%@0.55mm  
 Operating Temp.  
-15°C~125°C

## PE3-013DS53-01F0



**Material**  
 Top Plunger  
Pd alloy  
 Barrel  
Ni alloy  
 Spring  
SWP, Au plated  
 Bottom Plunger  
Pd alloy

**Mechanical Spec.**  
 Recommended Travel  
0.55mm  
 Full Travel  
0.85mm  
 Spring Force  
7g±20%@0.55mm  
 Operating Temp.  
-15°C~125°C

### Electrical Spec. **GS**

Pitch: 0.3mm Socket Material: Peek 1000

Current Rating 0.2A continuous  
 Contact Resistance <500mΩ(AVG)  
 Characteristic Impedance 91.77 Ω  
 Insertion Loss -1dB@3.76GHz  
 Return Loss -20dB@0.72GHz  
 Time Delay 34.87 psec  
 Loop Inductance 3.2 nH  
 Capacitance 0.38 pF

### Electrical Spec. **GS**

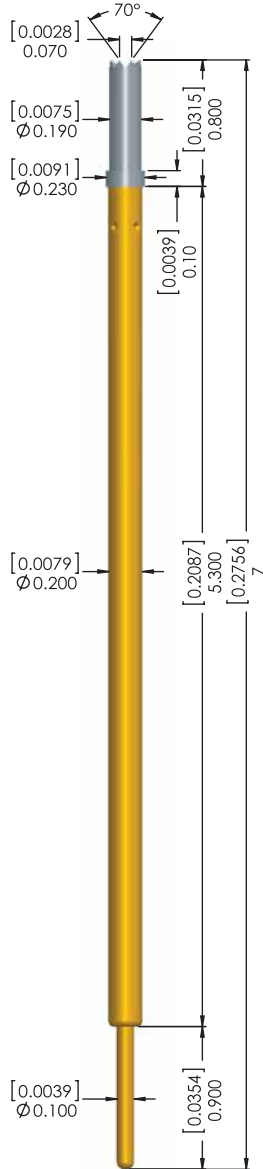
Pitch: 0.3mm Socket Material: Peek 1000

Current Rating 0.4A continuous  
 Contact Resistance <500mΩ(AVG)  
 Characteristic Impedance 91.3 Ω  
 Insertion Loss -1dB@1.47GHz  
 Return Loss -20dB@0.43GHz  
 Time Delay 42.9 psec  
 Loop Inductance 3.92 nH  
 Capacitance 0.47pF

# Probe Specifications

Unit:mm; [ ]:in

## PE3-020DS53-01A0



**Material**  
 Top Plunger  
Pd alloy  
 Barrel  
PhBz, Au plated  
 Spring  
SWP, Au plated  
 Bottom Plunger  
BeCu, Au plated

**Mechanical Spec.**  
 Recommended Travel  
0.55mm  
 Full Travel  
0.90mm  
 Spring Force  
25g±20%@0.55mm  
 Operating Temp.  
-15°C~125°C

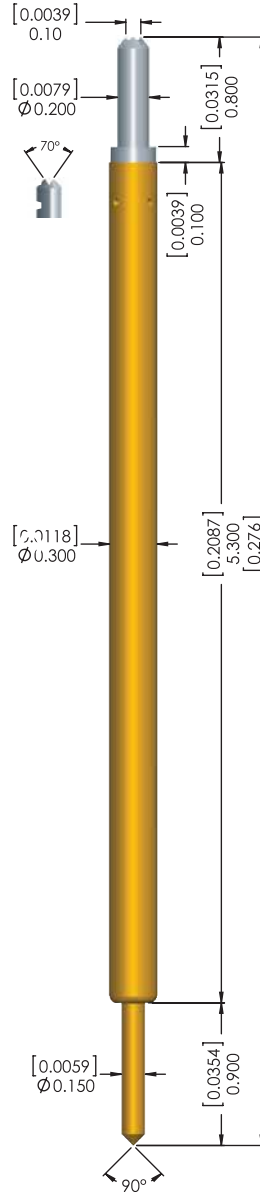
### Electrical Spec.



Pitch: 0.4mm Socket Material: Peek 1000

Current Rating 0.6A continuous  
 Contact Resistance <300mΩ(AVG)  
 Characteristic Impedance 66.62 Ω  
 Insertion Loss -1dB>20GHz  
 Return Loss -20dB@1.84GHz  
 Time Delay 37.97 psec  
 Loop Inductance 2.32 nH  
 Capacitance 0.57 pF

## PE3-030EF53-01A0



**Material**  
 Top Plunger  
Pd alloy  
 Barrel  
PhBz, Au plated  
 Spring  
SWP, Au plated  
 Bottom Plunger  
BeCu, Au plated

**Mechanical Spec.**  
 Recommended Travel  
0.55mm  
 Full Travel  
0.90mm  
 Spring Force  
25g±20%@0.55mm  
 Operating Temp.  
-15°C~125°C

### Electrical Spec.



Pitch: 0.4mm Socket Material: Peek 1000

Current Rating 1A continuous  
 Contact Resistance <175mΩ(AVG)  
 Characteristic Impedance 42.3 Ω  
 Insertion Loss -1dB>20GHz  
 Return Loss -20dB@3GHz  
 Time Delay 34.7 psec  
 Loop Inductance 1.47nH  
 Capacitance 0.82pF