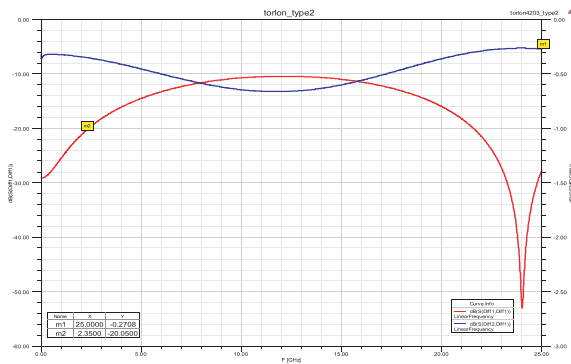


# High Frequency Solution

High-Frequency testing is mostly used for radio-frequency channels and wide-band transaction applications. The signal pin can be customized according to the electrical characteristics and testing environments of the client. For IC testing, we usually recommend ultra-short pins, co-axial probes, and PCRs to accommodate the different types of ICs.

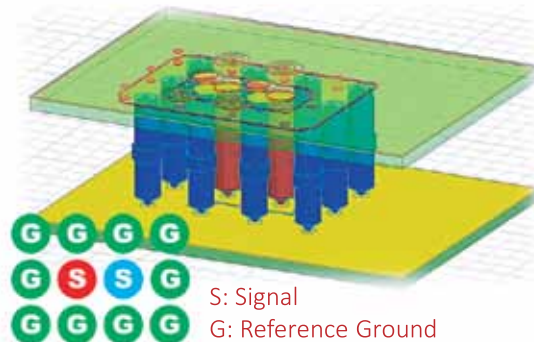
## Design Concept



We have the ability to forecast 3D electromagnetic performance as well as to acknowledge S-parameter, inductance and impedance beforehand therefore to enhance SI characteristic.

## Performance Simulation

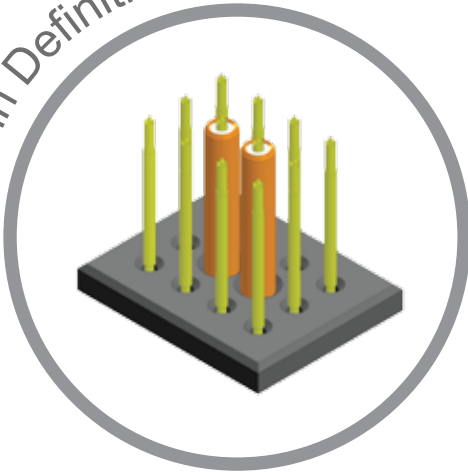
C.C.P. utilizes HFSS to simulate the pin performance in sockets for choosing the best pin before designing customized sockets.



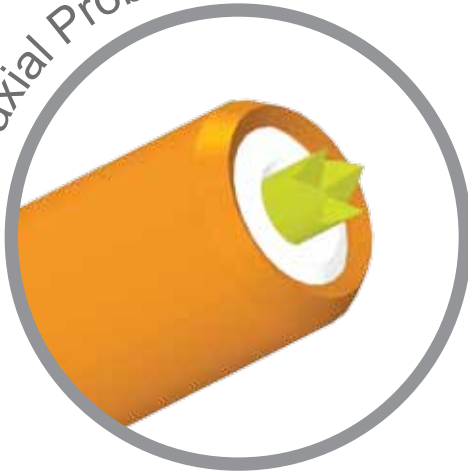
Had established high frequency lab for years that possesses TDR, network analyzer and RF probe station to measure the socket/pin actual performance to verify simulation result. These are all indispensable equipment for innovating new high class product.

## Probe Specification (Co-axial Probe)

Pin Definition



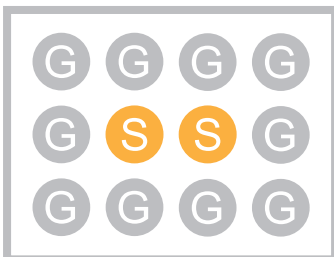
Co-axial Probe



### Pin Definition

**S** Signal Probe

**G** Ground Probe



### Application

Feature:

Hi-Speed/ Hi-Frequency

DUT:

Bluetooth/ GPS/ LTE/ Wireless IC

Packaging:

BGA/ CSP/ QFN/ QFP

### Specification

Insertion Loss:

-1dB @ >50 GHz

Return Loss:

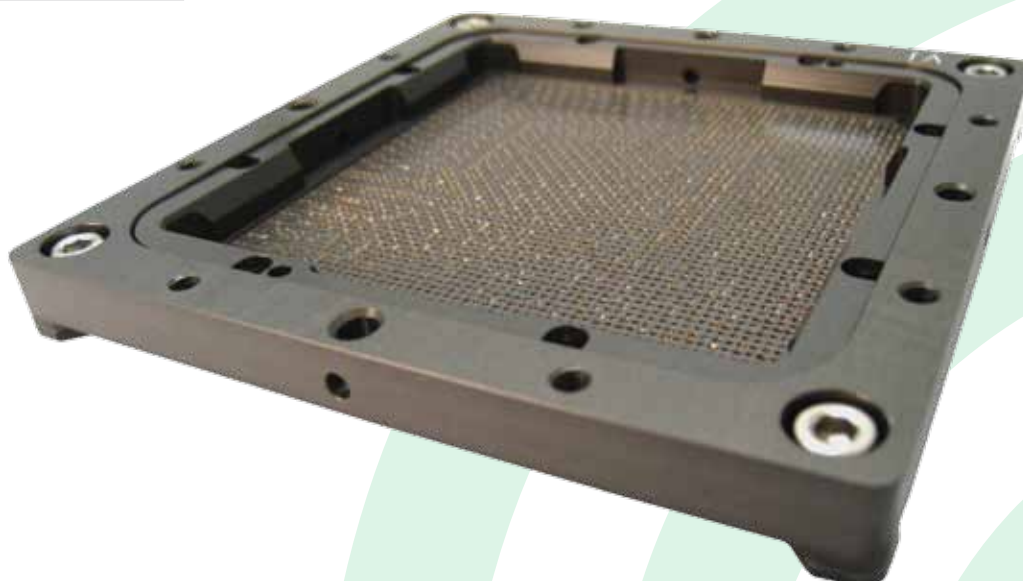
-20dB @ >30 GHz

Impedance:

50 Ohm

Pitch:

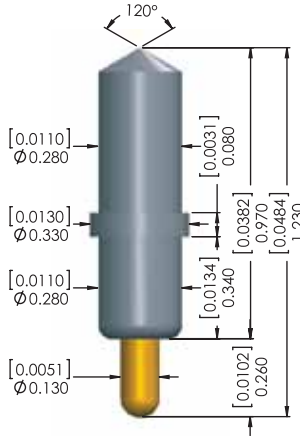
0.65~1.00 mm



## Probe Specification (IC Test Probe)

Unit:mm; [ ]:in

### PE4-028DE09-01A0



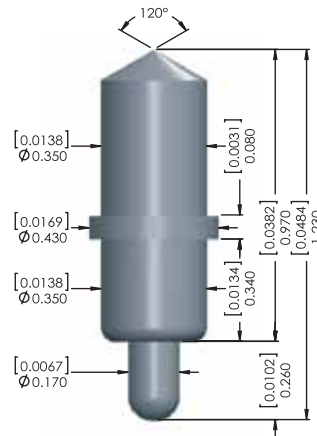
#### Material

Barrel  
Pd alloy  
Spring  
SUS , Au plated  
Bottom plunger  
BeCu, Au plated

#### Mechanical Spec.

Recommended travel  
0.18mm  
Full travel  
0.23mm  
Spring force  
15g±20%@0.18mm  
Operating Temp.  
-55°C~150°C

### PE4-035DE09-01H0



#### Material

Barrel  
Pd alloy  
Spring  
SUS , Au plated  
Bottom plunger  
Pd alloy

#### Mechanical Spec.

Recommended travel  
0.18mm  
Full travel  
0.23mm  
Spring force  
14g±20%@0.18mm  
Operating Temp.  
-55°C~150°C

#### Electrical Spec.

Pitch: 0.5mm Socket Material: Peek 1000



Current rating 1A continuous  
Contact Resistance <75mΩ(AVG)  
Characteristic impedance 48.9 Ω  
Insertion loss -1dB>20GHz  
Return loss -20dB>20GHz  
Time delay 7.3 psec  
Loop inductance 0.36 nH  
Capacitance 0.15 pF

#### Electrical Spec.

Pitch: 0.5mm Socket Material: Peek 1000

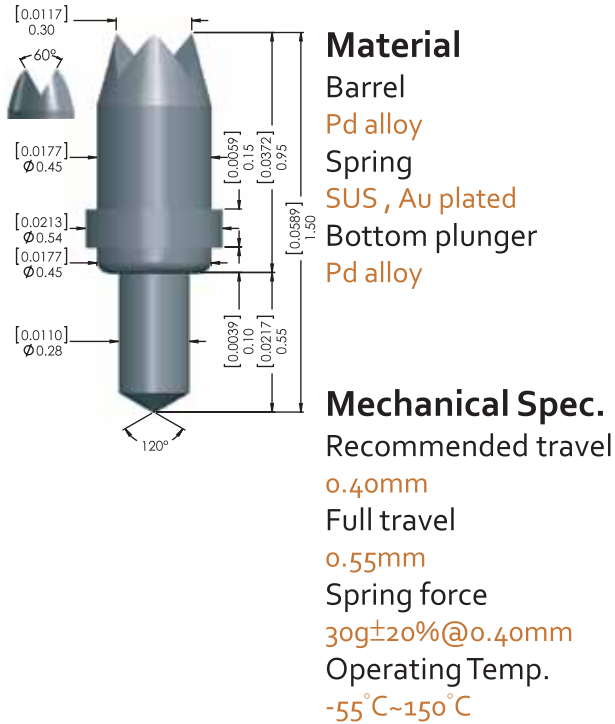


Current rating 1A continuous  
Contact Resistance <75mΩ(AVG)  
Characteristic impedance 37.4 Ω  
Insertion loss -1dB>20GHz  
Return loss -20dB@7.62GHz  
Time delay 7.48 psec  
Loop inductance 0.28 nH  
Capacitance 0.2 pF

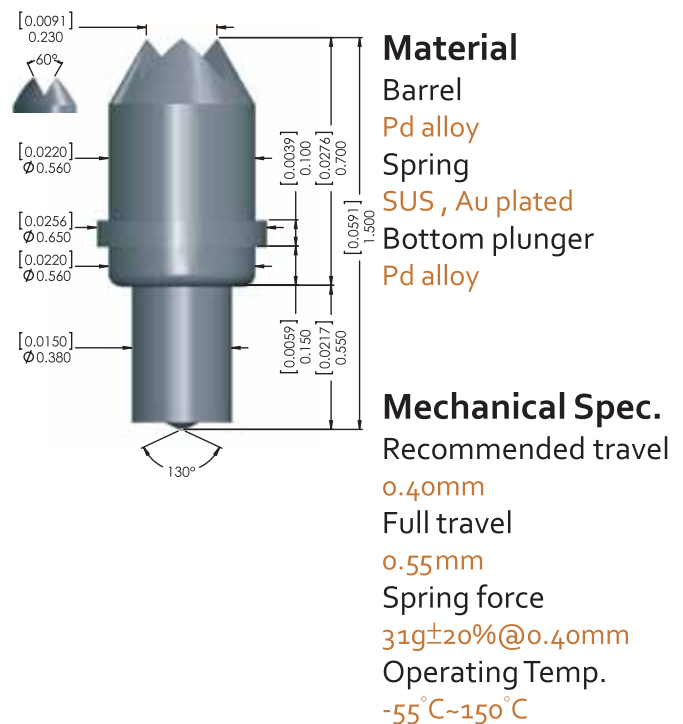
# Probe Specification (IC Test Probe)

Unit:mm; [ ]:in

## PE4-045EF09-01A0



## PE4-056EF09-01H0



### Electrical Spec.

Pitch: 0.65mm Socket Material: Peek 1000



Current rating 1A continuous  
 Contact Resistance <75mΩ(AVG)  
 Characteristic impedance 35.9 Ω  
 Insertion loss -1dB>20GHz  
 Return loss -20dB@5.54GHz  
 Time delay 8.6 psec  
 Loop inductance 0.31 nH  
 Capacitance 0.24 pF

### Electrical Spec.

Pitch: 0.8mm Socket Material: Peek 1000



Current rating 1A continuous  
 Contact Resistance <75mΩ(AVG)  
 Characteristic impedance 29.7 Ω  
 Insertion loss -1dB>20GHz  
 Return loss -20dB@ 2.9 GHz  
 Time delay 10.4 psec  
 Loop inductance 0.31 nH  
 Capacitance 0.35 pF