Kelvin Contact Solutions

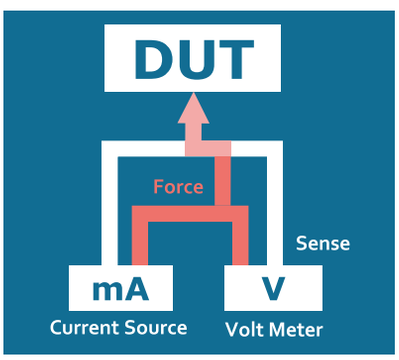
The term Kelvin Contact is derived from the English physicist Lord Kelvin who invented the Kelvin Bridge in 1861. The Kelvin Bridge is used to measure unknown electrical resistors below 1Ω and is a modification of the Wheatstone bridge. The Kelvin contact solution by C.C.P. is using one of the pins to measure the current while the other is adjusting the applied voltage. As with all our products our engineers will adjust the product according to your specific needs.

Design Concept

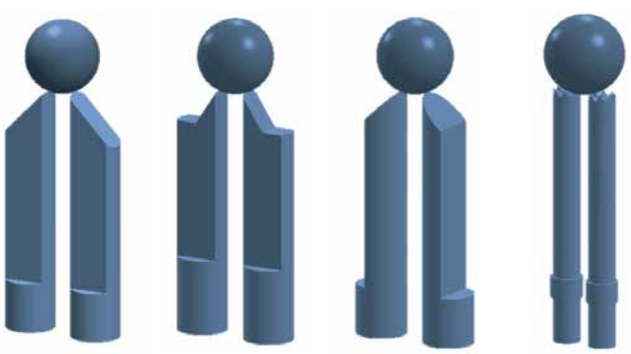
Kelvin Contact

Kelvin Contact is mostly used to test specific electrical signals, as well as be the route of current bypass when testing. C.C.P. innovated several types of kelvin pins to meet market demands.

Available in 70um~100um kelvin gap, allows precise contacts to balls / pads.



Different type of tip for various application



Blade Tip Ladder Tip Half Moon Tip Crown Tip

Blade: Common tip type for kelvin testing

Ladder: Similar with blade type but more accurate positioning

Half Moon: Mostly applied in QFN, QFP

Crown: No need to take the direction into account when manufacturing the socket and inserting the pins as each claw can prick the testing area.

Kelvin Socket	Specification
IC Type	QFN,QFP,BGA
IC Size	2X2~20X20 mm²
Min. Pitch	0.30mm
Life Time (Pin)	>200,000

*All specifications are subject to changes without prior notification

Probe Specifications

Unit:mm; [ ]:in

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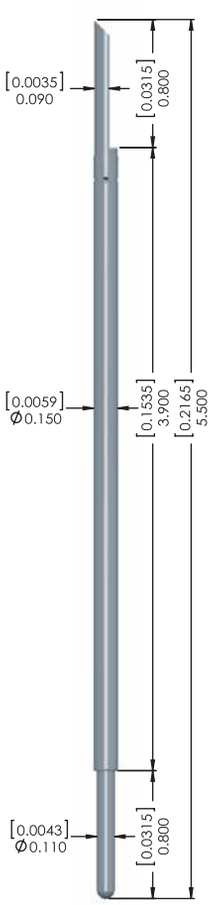


Material

Top Plunger
Pd alloy
Barrel
Ni alloy
Spring
SUS
Bottom Plunger
Pd alloy

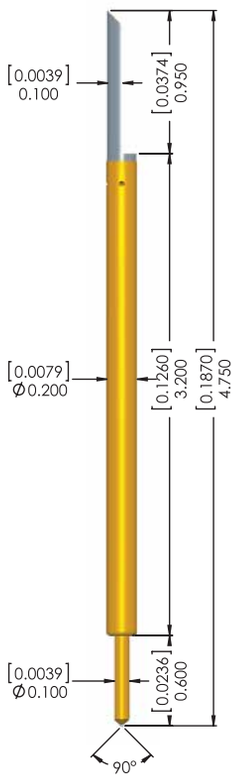
Mechanical Spec.

Recommened Travel
0.40mm
Full Travel
0.70mm
Spring Force
20g±20%@0.40mm
Operating Temp.
-55°C~150°C

Electrical Spec.

Current Rating 1A continuous
Contact Resistance <75mΩ(AVG)

PE3-020EL31-01A0



Material

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

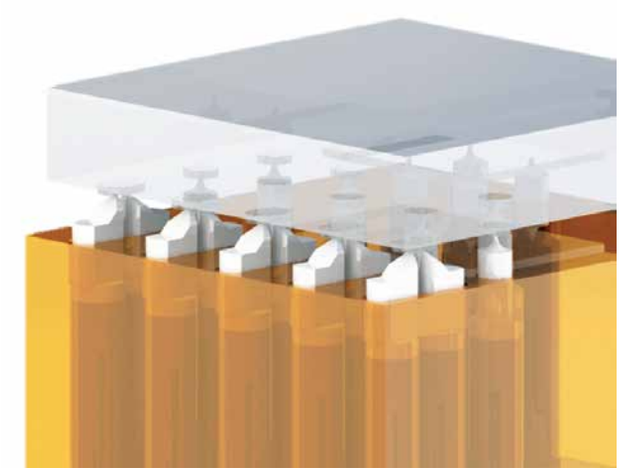
Mechanical Spec.

Recommened Travel
0.30mm
Full Travel
0.50mm
Spring Force
10g±20%@0.30mm
Operating Temp.
-15°C~125°C

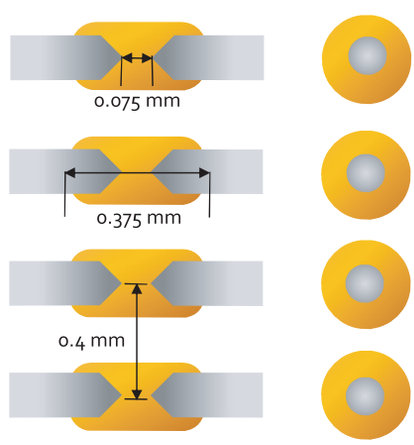
Electrical Spec.

Current Rating 2A continuous
Contact Resistance <75mΩ(AVG)

Half Moon Kelvin Socket Example



Pin Array



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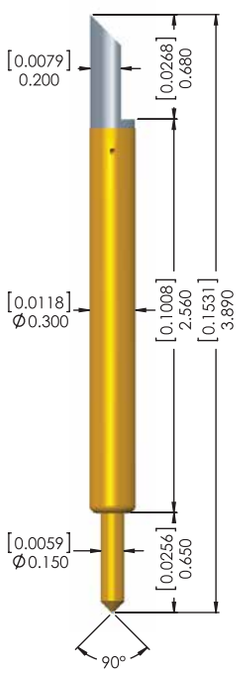
Probe Specifications

Unit:mm; [ ]:in

PE3-030EL25-01A0



Material

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

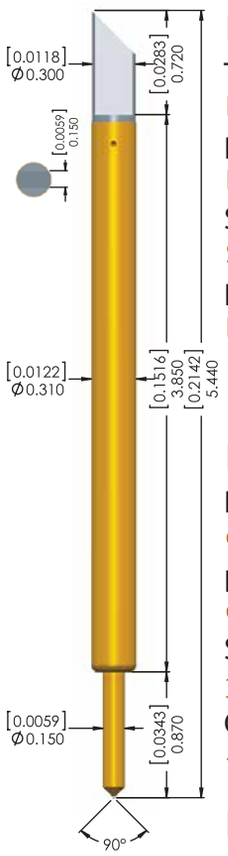
Mechanical Spec.

Recommened Travel
0.45mm
Full Travel
0.60mm
Spring Force
25g±20%@0.45mm
Operating Temp.
-15˚C~125˚C

Electrical Spec.

Current Rating 3A continuous
Contact Resistance <75mΩ(AVG)

PE3-031EL38-01A0



Material

Top Plunger
Pd alloy
Barrel
PhBz , Au plated
Spring
SUS , Au plated
Bottom Plunger
BeCu , Au plated

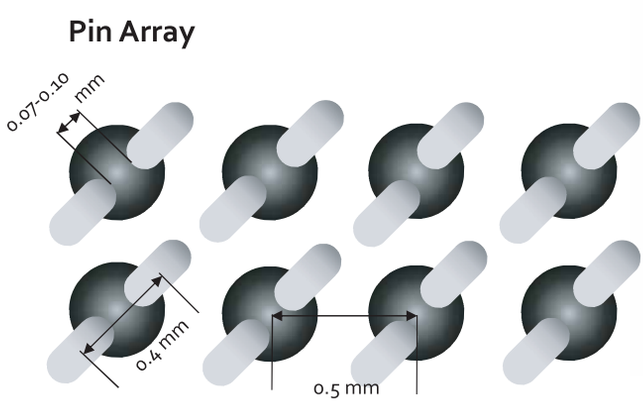
Mechanical Spec.

Recommened Travel
0.60mm
Full Travel
0.75mm
Spring Force
32g±20%@0.60mm
Operating Temp.
-55˚C~150˚C

Electrical Spec.

Current Rating 3A continuous
Contact Resistance <75mΩ(AVG)

Blade Kelvin Socket Example



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