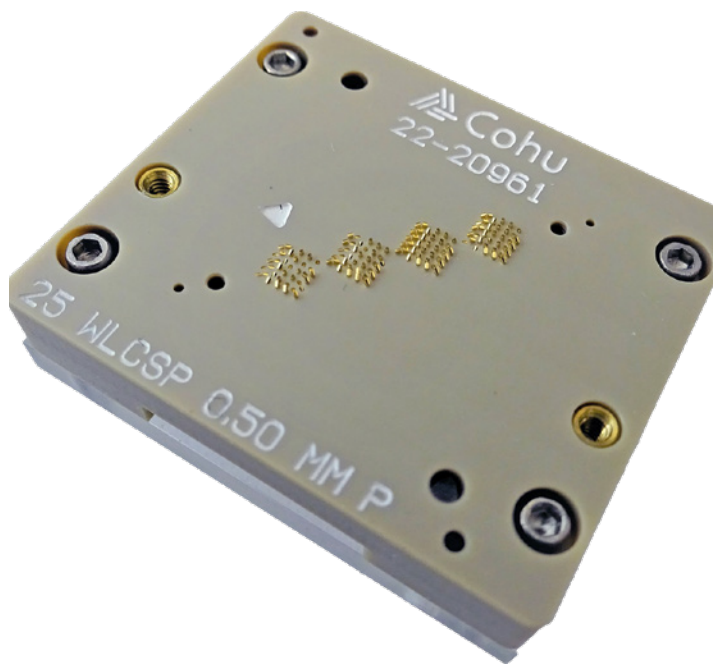


cPython Contactor/Probe Head

High Performance Kelvin Contact for High Volume Production Test



Automotive / Power



Mobility



Precision Analog / Sensors



High End Digital



RF

Benefits

- Excellent power delivery and signal integrity on Kelvin contacts
- Kelvin measurements at wafer-level test
- Kelvin contact on small targets
- Excellent resistance stability and prolonged usable life
- True Kelvin contact at fine pitches, both in-line and in arrays

Key Features

- Low loop inductance and high bandwidth
- Device pitch down to 0.2 mm in-line, 0.3 mm in arrays
- Tip to tip spacing as low as 70 μm
- Variety of contact materials to optimize performance
- Electrically isolated, mechanically independent force and sense paths

- True Kelvin to eliminate contact resistance
- 26 GHz for high speed high resolution converters and low voltage amplifiers
- High temperature performance -55°C to 200°C
- Available with homogeneous tips to optimize performance

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Specifications

Packages and Applications

- Grid array packages: BGA, LGA, WLCSP, others – 0.3 mm pitch and up
- Leaded packages: QFP, SO, others – 0.2 mm pitch and up
- Leadless packages: QFN, others – 0.2 mm pitch and up
- Singulated packages, strip test, wafer probe and wafer-level test

Environmental

- Temperature range: -55°C to 200°C

Reliability*

- 500,000 cycles for packaged device
- 1M cycles for WLCSP Test
- Probe cleaning 20,000 to 50,000

Electrical

- Bandwidth @ -1 dB**
 - PYTo20: TBD***
 - PYTo30: TBD***
 - PYTo40: 19 - 33 GHz
 - PYTo50: 16 GHz
- Loop Inductance
 - PYTo20: TBD***
 - PYTo30: TBD***
 - PYTo40: 0.7 - 1.2 nH
 - PYTo50: 1.48 nH
- Contact Resistance ****
 - PYTo20: 90 mΩ
 - PYTo30: TBD***
 - PYTo40: 40 - 65 mΩ
 - PYTo50: 30 mΩ
- Current Carrying Capacity 20° Celsius Temperature Rise
 - PYTo20: 0.9 A
 - PYTo30: TBD***
 - PYTo40: 2.1 - 2.4 A
 - PYTo50: 2.8 A
- Maximum @ 1% Duty Cycle
 - PYTo20: > 4 A
 - PYTo30: TBD***
 - PYTo40: > 19 - > 22 A
 - PYTo50: > 24 A

* Cleaning frequency and life specifications are estimates based on customer feedback. Actual values are dependent on the application (DUT materials, handler kit, maintenance, etc.).

** Bandwidth and inductance shown are for a single probe at minimum pitch, GSG configuration in Vespel SP-1.

*** Data will be released at a later date.

**** Typical resistance is measured between Au plated sheets

Mechanical

Contact Pitches Supported

- 0.2 mm and up (in-line)
- 0.3 mm and up (full array)
- Contact Force at Test Height
 - PYTo20: 0.06 N (6gf)
 - PYTo30: TBD***
 - PYTo40: 0.19 - 0.3 N (19 - 31 gf)
 - PYTo50: 0.26 N (26 gf)
- Test Height
 - PYTo20: 3.9 mm
 - PYTo30: TBD***
 - PYTo40: 3.22 - 5.56 mm
 - PYTo50: 5.05 mm
- DUT Side Compliance
 - PYTo20: 200 μm
 - PYTo30: TBD***
 - PYTo40: 150 - 300 μm
 - PYTo50: 308 μm
- DUT Tip Style
 - Single offset point for flat pads or leads
- DUT Tip Spacing (at Nominal Probe Spacing)
 - PYTo20: 50 μm
 - PYTo30: TBD***
 - PYTo40: 60 - 90 μm
 - PYTo50: 120 μm
- PCB Tip Style: Radius
- Board Side Tip Spacing (Nominal)
 - PYTo20: 0.2 mm
 - PYTo30: 0.3 mm
 - PYTo40: 0.4 mm
 - PYTo50: 0.5 mm

Materials

Housing Material

- Vespel® SP-1, Plavis® N, MDS-100 or ceramic
- Other materials available upon request
- Spring Probe DUT Tip Plating
 - Homogenous alloy
 - Ni1
 - Gold
 - Stainless steel

Configurations / Interface Options

- Automated test
 - Handler specific design / configuration
- Optional manual actuator

All specifications are subject to change without notification and are for reference only. Use contactor drawing to design interface hardware. For detailed performance specifications, please contact Cohu.

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www.cohu.com/cpython
www.cohu.com/interface-solutions

Cohu, Inc.
12367 Crosthwaite Circle, Poway, CA 92064-6817
Tel. +1 858.848.8000 | info@cohu.com | www.cohu.com
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