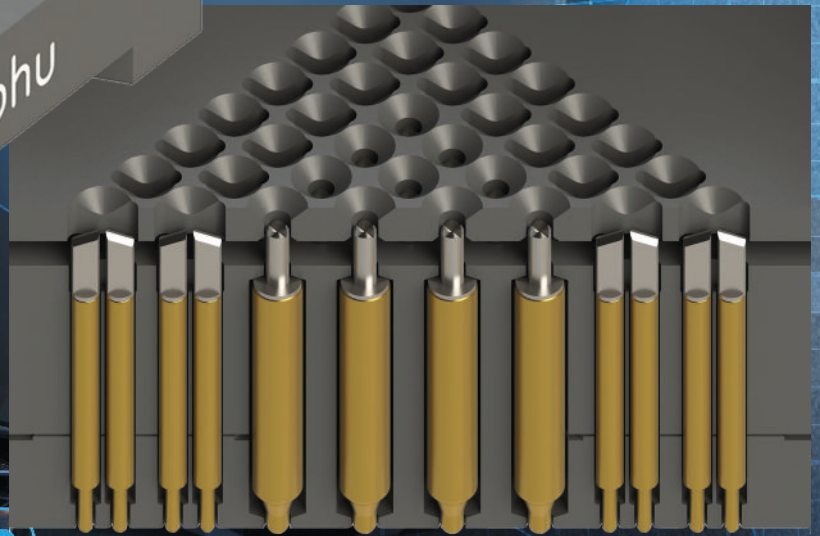
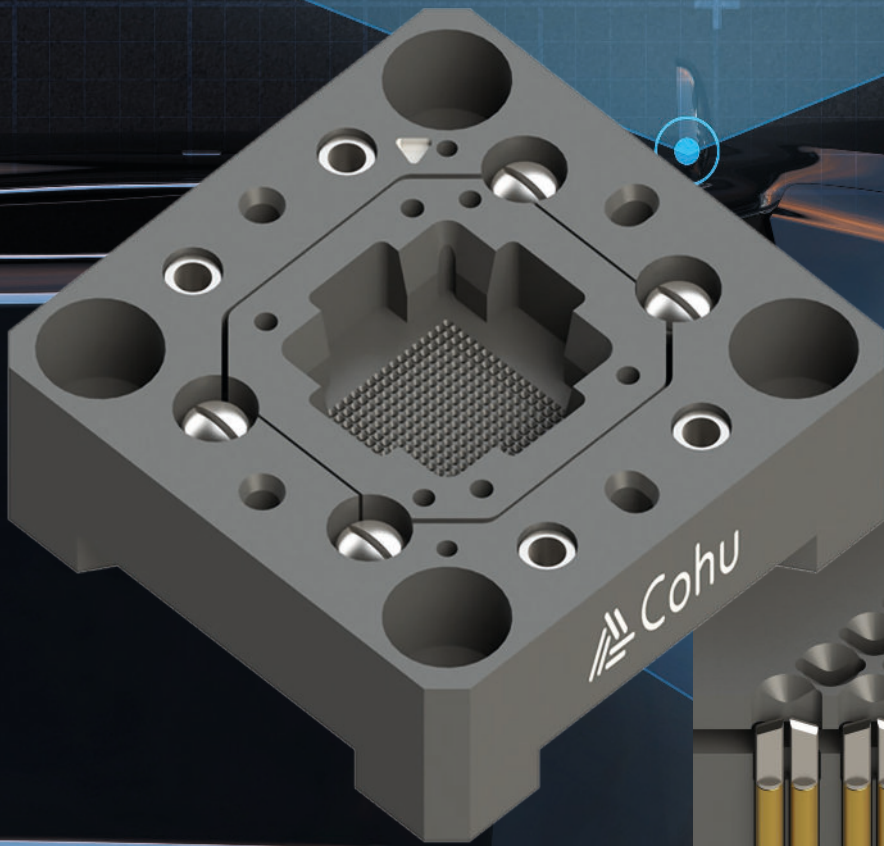




HYDRA

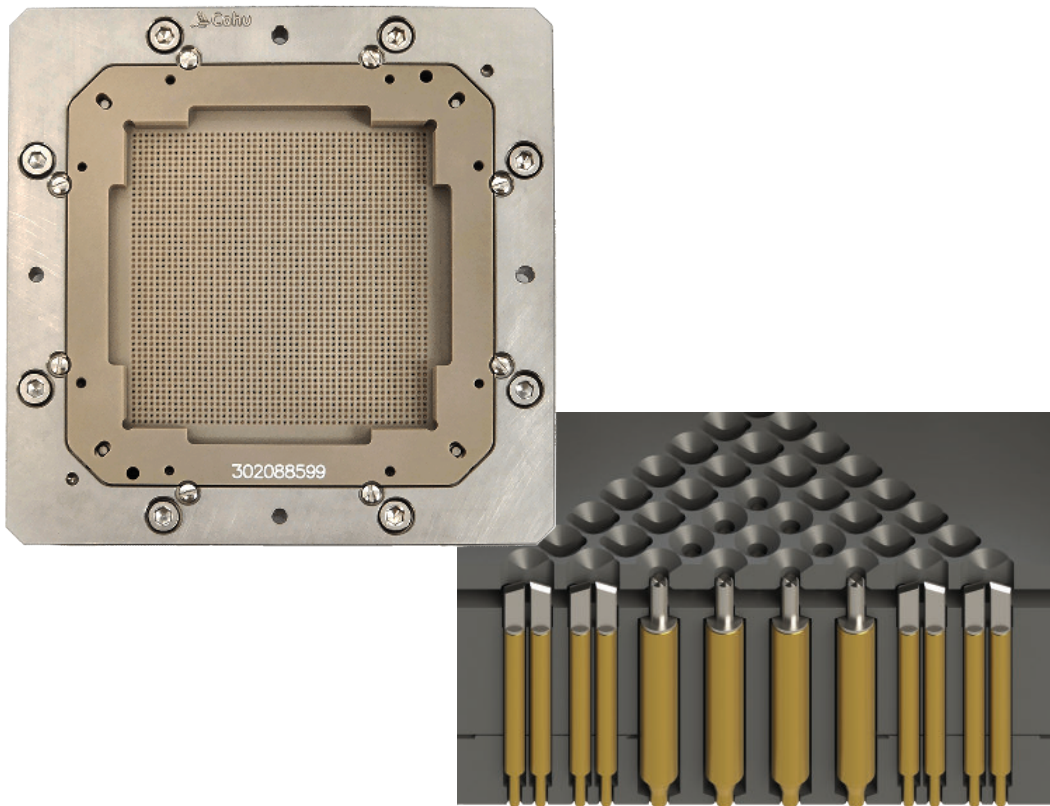
High-Volume Power & RF Test Contactor / Probe Head

HYDRA



High-Volume Power & RF Contactor

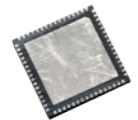
Designed for Probe Standardization and Simplification



Applications



BGA



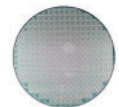
QFN



QFP



SO



WLCSP

End Product Markets



Automotive & Power



High End Digital



Mobility



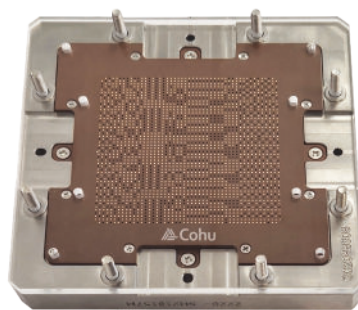
Precision Analog
& Sensors



RF

Key Features

- **Fast Availability, Short Lead Times.** Designed for quicker deployment with stock availability that supports rapid program ramp and production continuity.
- **Next-Generation Contact Design.** Optimized architecture delivers low, stable contact resistance, high current capability, and extended operational life.
- **Lower Cost of Test.** Common test heights enable standardization of change kits and hardware, reducing complexity and overall cost of test.
- **Interchangeable Probe Architecture.** RF and power probes can be swapped within the same contactor housing, maximizing flexibility and reuse.
- **Broad Plating Compatibility.** Robust contact options support a wide range of package platings, including Matte Tin, NiPd, ENIG, and SACQ.
- **Optimized RF Performance.** Seamlessly integrates with Cohu HYDRA technologies, COAX, RF, and xW, for enhanced high-frequency signal integrity.
- **Multiple Precision Tip Styles.** Available in point, 4-point crown, Kelvin, and Kelvin Super Sharp configurations to match device and test requirements.
- **High Compliance, Long Life.** Maximum compliance supports large array packages, with durability rated up to 500K cycles for packaged devices and 1M cycles for WLCSP.
- **Configurable Materials & Platforms.** Handler-specific designs with optional manual actuation, plus a wide selection of housing and DUT tip materials—including Vespel® SP-1, Plavis® N, ceramics, and advanced probe alloys—for optimal performance across applications.



150 Standard Probes

Electrical Specifications	0.40 mm
Insertion Loss (GSG -1 dB)	45 GHz
Return Loss (GSG -10 dB)	TBD
Self Inductance	0.29 nH
Contact Resistance ⁽¹⁾	56 mΩ
Continuous Current Carrying Capacity (20°C)	1.9 A
Maximum CCC @ 1% Duty Cycle (20°C T-Rise)	11.6 A
Mechanical Specifications	
Pitch	0.40 mm
Force at Test Height	18 gf
Test Height	1.50 mm
DUT-Side Compliance	150 μm
DUT-Tip Material	Pd Alloy, NO1
Temperature	-55°C to 155°C
Life Cycle	1 Million



⁽¹⁾ Typical resistance measured between Au plated sheets

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.

230 Standard Probes

Electrical Specifications	0.30 mm ⁽¹⁾	0.35 mm	0.40 mm	0.50 mm ⁽¹⁾	0.80 mm ⁽¹⁾
Insertion Loss (GSG -1 dB)	20 GHz	26 GHz ⁽¹⁾	26 GHz	26 GHz	25 GHz
Return Loss (GSG -10 dB)	20 GHz	25 GHz ⁽¹⁾	22 GHz	22 GHz	23 GHz
Self Inductance	0.46 nH	0.46 nH ⁽¹⁾	0.39 nH	0.49 nH	0.50 nH
Contact Resistance ⁽²⁾	50 mΩ	45 mΩ	43 mΩ	50 mΩ	50 mΩ
Continuous Current Carrying Capacity (CCC)	2.0 A	2.06 A	2.5 A	2.6 A	2.9 A
Maximum CCC @ 1% Duty Cycle (20°C T-Rise)	11 A	12.86 A	18.9 A	15 A	17 A
Mechanical Specifications					
Force at Test Height	9 gf	9 gf	14 gf	30 gf	30 gf
Test Height	2.30 mm	2.30 mm	2.30 mm	2.30 mm	2.30 mm
DUT-Side Compliance	200 μm	200 μm	200 μm	200 μm	200 μm
Temperature	-55°C to 155°C	-55°C to 155°C	-55°C to 155°C	-55°C to 155°C	-55°C to 155°C
Life Cycle	1 Million	1 Million	1 Million	1 Million	1 Million



⁽¹⁾ Expected performance per simulation

⁽²⁾ Typical resistance measured between Au plated sheets

⁽³⁾ Actual values are dependent on the application (DUT materials, handler kit, maintenance, etc.)

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322 Standard Probes

Electrical Specifications	0.15 mm ⁽¹⁾	0.20 mm	0.30 mm	0.35 mm	0.40 mm	0.50 mm	0.80 mm
Insertion Loss (GSG -1 dB)	> 20 GHz	> 20 GHz ⁽¹⁾	22 GHz	18 GHz	16 GHz	16 GHz	14 GHz
Return Loss (GSG -10 dB)	> 20 GHz	> 20 GHz ⁽¹⁾	17 GHz	14 GHz	13 GHz	13 GHz	11 GHz
Self Inductance	0.40 nH	0.40 nH ⁽¹⁾	0.46 nH	0.39 nH	0.41 nH	0.48 nH	0.45 nH
Contact Resistance ⁽²⁾	150 mΩ	135 mΩ	45 mΩ	44 mΩ	41 mΩ	30 mΩ	28 mΩ
Continuous Current Carrying Capacity (CCC)	1.0 A	1.0 A	1.9 A	2.0 A	2.5 A	2.7 A	3.3 A
Max CCC @ 1% Duty Cycle (20°C T-Rise)	7.5 A	5.75 A	11.5 A	13.8 A	16.8 A	19.3 A	25 A
Mechanical Specifications							
Force at Test Height	3 g	4.4 g	19 g	22 g	27 g	33 g	30 g
Test Height	3.22 mm	3.22 mm	3.22 mm	3.22 mm	3.22 mm	3.22 mm	3.22 mm
DUT Side Compliance	280 μm	280 μm	280 μm	280 μm	280 μm	280 μm	280 μm
Temperature	-55°C to 155°C	-55°C to 155°C	-55°C to 155°C	-55°C to 155°C	-55°C to 155°C	-55°C to 155°C	-55°C to 155°C
Life Cycle	1 Million	1 Million	1 Million	1 Million	1 Million	1 Million	1 Million

322 Kelvin Probes

Electrical Specifications	0.30 mm	0.35 mm	0.40 mm
Insertion Loss (GSG -1 dB)	22 GHz	18 GHz	16 GHz
Return Loss (GSG -10 dB)	17 GHz	14 GHz	13 GHz
Self Inductance	0.46 nH	0.39 nH	0.41 nH
Contact Resistance ⁽²⁾	55 mΩ	44 mΩ	43 mΩ
Continuous Current Carrying Capacity (CCC)	1.5 A	1.9 A	3 A
Max CCC @ 1% Duty Cycle (20°C T-Rise)	10.1 A	14.6 A	18.8 A
Mechanical Specifications			
DUT Tip-to-Tip Compliance	50 μm	60 μm	70 μm
Force at Test Height	16 g	18 g	21 g
Test Height	3.22 mm	3.22 mm	3.22 mm
DUT Side Compliance	280 μm	280 μm	280 μm
Temperature	-55°C to 200°C	-55°C to 200°C	-55°C to 200°C
Life Cycle	1 Million	1 Million	1 Million

⁽¹⁾ Expected performance per simulation

⁽²⁾ Typical resistance measured between Au plated sheets

⁽³⁾ Actual values are dependent on the application (DUT materials, handler kit, maintenance, etc.)

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505 Standard Probes

Electrical Specifications	0.30 mm ⁽¹⁾	0.40 mm	0.50 mm	0.80 mm
Insertion Loss (GSG -1 dB)	18 GHz	16 GHz ⁽¹⁾	12 GHz	8 GHz
Return Loss (GSG -10 dB)	15 GHz	13 GHz ⁽¹⁾	10 GHz	7 GHz
Self Inductance	0.46 nH	0.48 nH ⁽¹⁾	0.60 nH	0.60 nH
Contact Resistance ⁽²⁾	45 mΩ	43 mΩ	32 mΩ	33 mΩ
Continuous Current Carrying Capacity (CCC)	1.3 A	1.9 A	2.2 A	3.6 A
Maximum CCC @ 1% Duty Cycle (20°C T-Rise)	11 A	13.9 A	20.3 A	25 A
Mechanical Specifications				
Force at Test Height	11 gf	21 gf	23 gf	30 gf
Test Height	5.05 mm	5.05 mm	5.05 mm	5.05 mm
DUT-Side Compliance	550 μm	550 μm	550 μm	550 μm
Temperature	-55°C to 155°C	-55°C to 155°C	-55°C to 155°C	-55°C to 155°C
Life Cycle	1 Million	1 Million	1 Million	1 Million

505 Kelvin Probes

Electrical Specifications	0.30 mm ⁽¹⁾	0.40 mm
Insertion Loss (GSG -1 dB)	13 GHz	16 GHz ⁽¹⁾
Return Loss (GSG -10 dB)	15 GHz ⁽¹⁾	13 GHz ⁽¹⁾
Self Inductance	0.46 nH ⁽¹⁾	0.48 nH ⁽¹⁾
Contact Resistance ⁽²⁾	67 mΩ	44 mΩ
Continuous Current Carrying Capacity (CCC)	1.6 A	1.9 A
Maximum CCC @ 1% Duty Cycle (20°C T-Rise)	11 A	16 A
Mechanical Specifications		
DUT-Side Tip-to-Tip	60 μm	70 μm
Force at Test Height	11 gf	21 gf
Test Height	5.05 mm	5.05 mm
DUT Side Compliance	550 μm	550 μm
Temperature	-55°C to 200°C	-55°C to 200°C
Life Cycle	1 Million	1 Million



⁽¹⁾ Expected performance per simulation

⁽²⁾ Typical resistance measured between Au plated sheets

⁽³⁾ Actual values are dependent on the application (DUT materials, handler kit, maintenance, etc.)

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