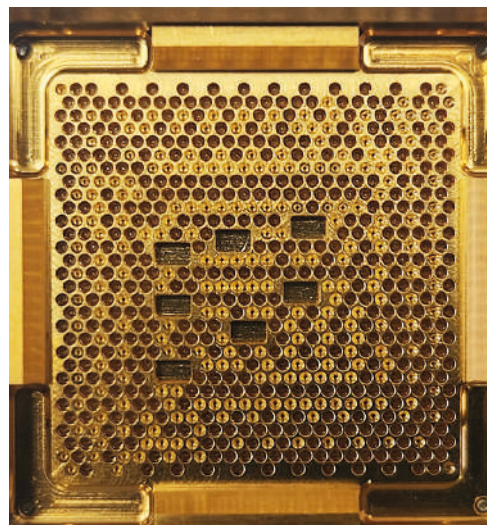
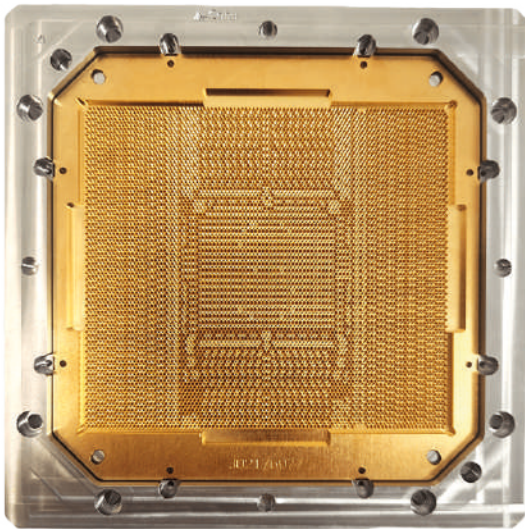


# HYDRA COAX Test Contactor

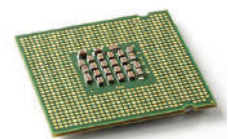
## Test Contactor

FT and SLT Production-Proven Contactor for RF and High-Speed Digital Applications up to 448 Gbps

### Packages



BGA



LGA

### End Product Markets



High End Digital

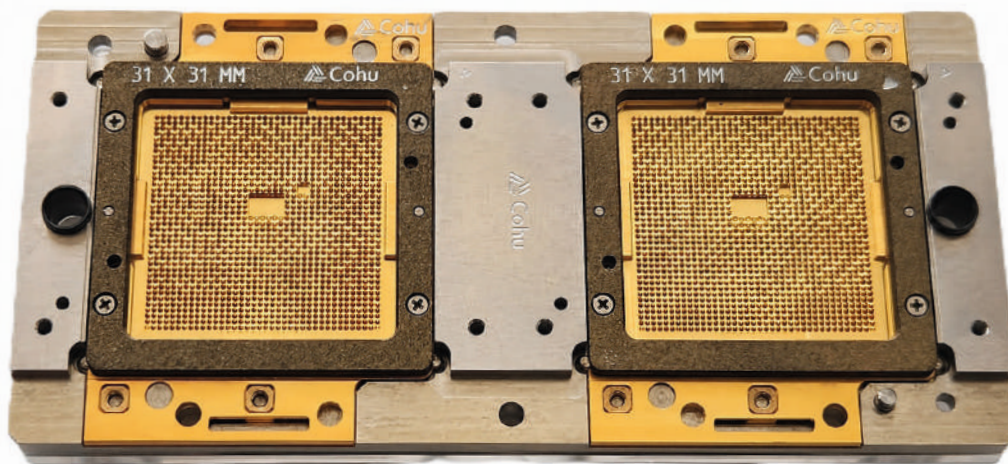


RF

Coaxial Design with Aluminum Shielding Reduces Cross Talk and Electromagnetic Interference

## Key Features

- **Full-Ground Shielding.** Continuous ground shielding from board to DUT delivers high isolation for accurate, low-noise testing.
- **Low Crosstalk Design.** Metal body construction minimizes signal coupling, preserving signal integrity across dense layouts.
- **Exceptional DC-to-RF Performance.** Delivers outstanding electrical performance across both DC and RF domains for demanding applications.
- **Stable Impedance Response.** Controlled, matched impedance enables higher bandwidth with lower insertion loss through the system.
- **High-Frequency Ready.** Optimized for high-frequency operation, supporting today's highest-speed digital and RF interfaces.
- **Efficient Thermal Management.** Excellent heat dissipation supports reliable operation and longer life in high-power applications.
- **Fine-Pitch Package Support.** Compatible with BGA and LGA packages down to 0.4 mm pitch for advanced device designs.
- **Broad High-Speed Applications.** Designed for singulated devices, strip test, and wafer test across high-speed and RF applications including GPU, SerDes, DDR, PAM<sub>4</sub>, HDMI, PCIe, SAW, 5G mmWave, UWB, and satellite.



Ideal for FPGA, GPU, SerDes, PAM<sub>4</sub>, DDR,  
PCIe, HDMI, 800 G and 1.6 T Ethernet

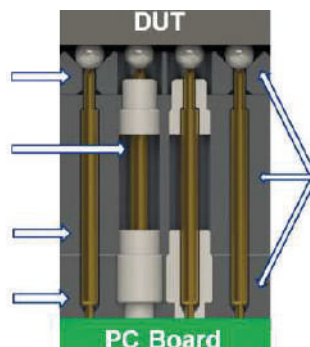
## ELECTRICAL SPECIFICATIONS

|                                      | 0.4 mm pitch  | 0.5 mm pitch | 0.8 mm pitch | 1.0 mm pitch |
|--------------------------------------|---|--------------|--------------|--------------|
| Bandwidth @ -1 dB Insertion Loss GSG | 60 GHz  | 60 GHz       | 52 GHz       | 38 GHz       |
| Bandwidth @ -1 dB Return Loss GSG    | 65 GHz  | 63 GHz       | 51 GHz       | 35 GHz       |
| Isolation                            | 60 dB typical   |              |              |              |
| Contact Resistance <sup>(1)</sup>    | <125 mΩ   |              |              |              |
| Standard Impedance                   | 50 Ω  |              |              |              |
| Custom Impedances                    | 25 Ω, 30 Ω, 35 Ω, 42 Ω, other custom impedances available             |              |              |              |
| Custom Differential Impedances       | 50 Ω, 85 Ω  |              |              |              |
| Maximum Current @ 1% Duty Cycle      | Varies by pitch: refer to HYDRA probe specifications for more details |              |              |              |

## MECHANICAL SPECIFICATIONS

| Some mechanical parameters vary by pitch;<br>Refer to HYDRA probe specifications for more details | 0.4 mm pitch  | 0.5 mm pitch | 0.8 mm pitch | 1.0 mm pitch |
|---|---|--------------|--------------|--------------|
|   | HYD020  | HYD025       | HYD040       | HYD050       |
| Contact Length at Test Height   | 3.22 mm typical   |              |              |              |
| DUT Side Compliance   | >250 μm typical   |              |              |              |
| DUT Tip Style   | L (four-point crown) or B (pointed)   |              |              |              |
| Temperature Range   | -55°C to +155°C   |              |              |              |
| PCB Tip Style   | Full radius typical   |              |              |              |
| Housing Material  | Aluminum  |              |              |              |
| Typical Probe Life <sup>(2)</sup>   | 1,000,000 cycles  |              |              |              |
| Configurations / Interface Options  | Automated Test:<br>Handler specific design / configuration, Singulated package,<br>Optional manual actuator, Probe head for WLCSP |              |              |              |

- Aluminum floating alignment plate provides excellent alignment and ground for complete isolation up to the DUT
- Air dielectric on signal probes provides less loss
- Aluminum body provides exceptional thermal properties and rigidity along with great signal isolation
- Aluminum retainer plate holds the probes in the body and provides complete isolation to the test interface board



- All aluminum, full-length signal shielding
- Isolation from the DUT to Test System
- Aluminum body has the stiffness to avoid bowing in when used with large parts

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.

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

(2) Typical resistance measured between Au plated sheets