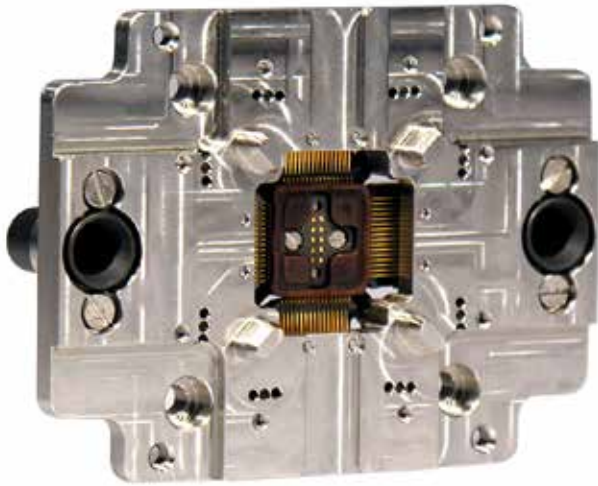


nanoKelvin Contactor

Cantilever Kelvin Test for High Power Plunge-to-Board Applications



Automotive / Power



Mobility



Precision Analog / Sensors



High End Digital



RF

Benefits

- Boosted first pass yield
- Enhanced production reliability
- Testing at full specification values
- Improved Overall Equipment Efficiency (OEE)
- Extended maintenance intervals
- Reduced cost of test

Key Features

- Full Kelvin combined with high power capability
- Small imprint area
- Simple and cost-efficient test boards
- Contact motion decoupled from the test board
- Proven self-cleaning wipe
- Low and stable contact resistance
- High current carrying capability
- Extended temperature range

- Temperature range -60°C to $+175^{\circ}\text{C}$
- Typical contact resistance $30\text{ m}\Omega$

- Durable one piece design
- Contact spring lifespan $1\text{M} +$ insertions

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Specifications

Packages and Applications

- Packages
 - Leaded and leadless
 - SO, QFN, QFP, SOT
 - Pb-free packages
 - Minimum lead pitch 0.4 mm
- Test Handlers
 - All handler types
 - All established handler brands

Environmental

- Temperature Range
 - -60°C to +175°C

Reliability

- Contact Spring Lifespan⁽¹⁾
 - 1 Mio. + insertions

Electrical

- Bandwidth
 - 1.5 GHz @ -1 dB (dual, GSG 0.4 mm pitch)
 - 5.2 GHz @ -1 dB (dual, GSG 0.5 mm pitch)
- Loop Inductance
 - 2.5 nH (dual, GSG 0.4 mm pitch)
 - 3.4 nH (dual, GSG 0.5 mm pitch)
- Typical Contact Resistance⁽²⁾
 - Hard gold coating: 40 mΩ
 - Forta: 40 mΩ
 - Thebe: 30 mΩ
- Current @ 20°C (Thebe plating)
 - Maximum peak current: 60 A @ 1 % duty cycle⁽³⁾
 - Maximum continuous current: 5.9 A
- Voltage
 - Break down voltage (pin to pin):
 - 1000 V (pitch 1.27 mm)

Mechanical

- Contact Spring Type
 - Cantilever / single piece
- Contact Spring Force
 - 0.30 N/pin

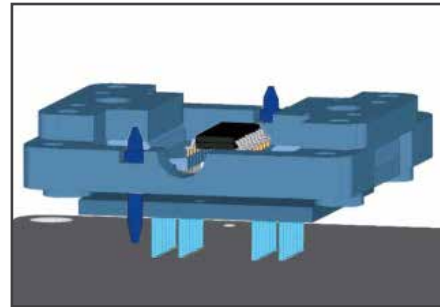
- Standard Test Height
 - 3.4 mm

Materials

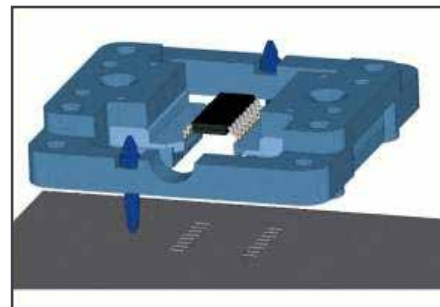
- Contact Spring Material⁽⁴⁾
 - CuBe
- Contact Spring Coating⁽⁴⁾
 - Hard gold coating
 - Forta
 - Thebe

Configurations / Interface Options

- Through hole
 - Thermal insulation available
 - Compatible to established burn-in sockets



- Plunge to Board



Technical Standards

- Compliant to
 - ISO 9001 : 2000

⁽¹⁾ Electrical resistance increase due to contamination not covered

⁽²⁾ Typical resistance measured between Au plated sheets

⁽³⁾ Based on 1 sec cycle time and 20°C temp. rise

⁽⁴⁾ Other base materials and coatings on request

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.