cBOA™ CONTACTOR AND PROBE HEAD

Cost-Effective, High-Performance Contactor or Probe Head for High-Volume Production Test

Benefits:
- Excellent resistance stability and prolonged usable life
- Optimal contact for all package types
- High signal integrity and power delivery for RF devices
- Suitable for singulated packages, strip or wafer-level test
- Optimal DUT alignment
- Accommodating package planarity tolerances
- Excellent contact choice for all device types

Key Features:
- Variety of contact materials available to optimize performance
- WLCSP, BGA, LGA, QFN, QFP
- Low loop inductance and high bandwidth
- Pitches down to 300 µm
- Optional floating alignment plate
- Large compliance window
- Excellent current carrying capacity
1 Packages and Applications
   - Grid Array packages: BGA, LGA, WLCSP, others – 300 µm pitch and up
   - Leaded packages: QFP, SO, others – 300 µm pitch and up
   - Leadless packages: QFN, others – 300 µm pitch and up
   - Singulated packages, strip test and wafer-level test

2 Environmental
   - Temperature Range: -55 °C to +155 °C

3 Reliability*
   - 500 k cycles for packaged device
   - 1M cycle for WLCSP Test
   - Probe cleaning 50 k to 100 k

4 Electrical
   - Bandwidth @ -1 dB
     - BOA030: 7.56 – 30 GHz
     - BOA040: 24 GHz
     - BOA050: 12 GHz
     - BOA080: 18 GHz

   Loop Inductance
     - BOA030: 1.07 – 1.65 nH
     - BOA040: 0.63 nH
     - BOA050: 1.94 nH
     - BOA080: 0.92 – 1.2 nH

   Typical Contact Resistance **
     - BOA030: 100 – 140 mΩ
     - BOA040: 65 mΩ
     - BOA050: 75 mΩ
     - BOA080: 30 mΩ

   Current Carrying Capacity
   20°C Celsius Temperature Rise
     - BOA030: 1.2 – 1.3 A
     - BOA040: 1.6 A
     - BOA050: 1.8 – 3.1 A
     - BOA080: 2.0 A

   Maximum Current @ 1% Duty Cycle
     - BOA030: > 5.6 – 10 A
     - BOA040: > 11 A
     - BOA050: > 13 – 27 A
     - BOA080: > 34 A

5 Mechanical
   - Contact Pitches Supported: 0.3 µm and up
   - Contact Force at Test Height
     - BOA030: 0.1 – 0.19 N (9.8 – 19 gf)
     - BOA040: 0.18 N (18 gf)
     - BOA050: 0.34 N (35 gf)
     - BOA080: 0.32 N (33 gf)

   Test Height
     - BOA030: 330 – 450 µm
     - BOA040: 275 – 647 µm
     - BOA050: 280 – 696 µm
     - BOA080: 384 – 792 µm

   DUT Side Compliance
     - BOA030: 150 – 300 µm
     - BOA040: 270 – 500 µm
     - BOA050: 250 – 450 µm
     - BOA080: 390 – 550 µm

   DUT Tip Style
     - BOA030: B (single point), L (four-point crown)
     - BOA040: B, L, U (reduced three-point crown)
     - BOA050: B, L, U
     - BOA080: B, L, U

   PCB Tip Style: J (radius)

6 Materials
   - Housing Material
     - Vespel SP-1, Plavis – N, MDS-100, and ceramic
     - Other materials available upon request

   Spring Probe DUT Tip Plating
     - Homogenous alloy
     - No1
     - Gold

   Spring Material
     - Stainless steel

7 Configurations / Interface Options
   - Automated test
   - Handler specific design / configuration
   - Optional manual actuator
   - E-beam probe support
   - Custom configurations

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

** Typical resistance is measured between Au plated sheets.

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All performance figures such as MTBF, MTBA, Uptime, Yield, Jam Rate, Life Span, Cleaning Cycles etc. can vary with specific package type, test program and/or specific application environment. They assume that only original Cohu spare and consumable parts are used, recommended maintenance intervals and procedures are respected, operators/maintenance technicians have successfully participated in formal equipment training by Cohu to the appropriate level, and only Cohu approved software is used on the systems. Cohu assumes no warranty or liability if any of these requirements is not met. All listed data are for information only. For binding specification please contact your sales person.