

FOR PRECISION ANALOG, SENSORS, AND POWER APPLICATIONS

Your Solution for Automotive and Precision Applications

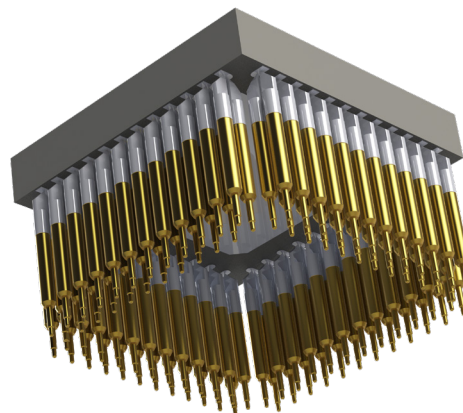
Looking for solutions in the highly-competitive automotive and commercial market? You can rely on Johnstech to provide a high-performance, quality solution. Johnstech has taken all the best features found throughout the Spring Probe world and combined them into our designs.

- Suitable for BGA, QFN, Leaded, and WLCSP applications.
 - Blade - BGA, QFN, WLCSP, and Leaded
 - Fine - QFN
 - Knife-Edge - BGA, WLCSP, and Leaded
- The DAISHO is designed in a single-ended architecture to minimize Cres variability.
- Fully user serviceable contactor architecture – individually replaceable probes
- Pd alloy tips for easy cleaning
- Compatible with a floating alignment plate for accuracy

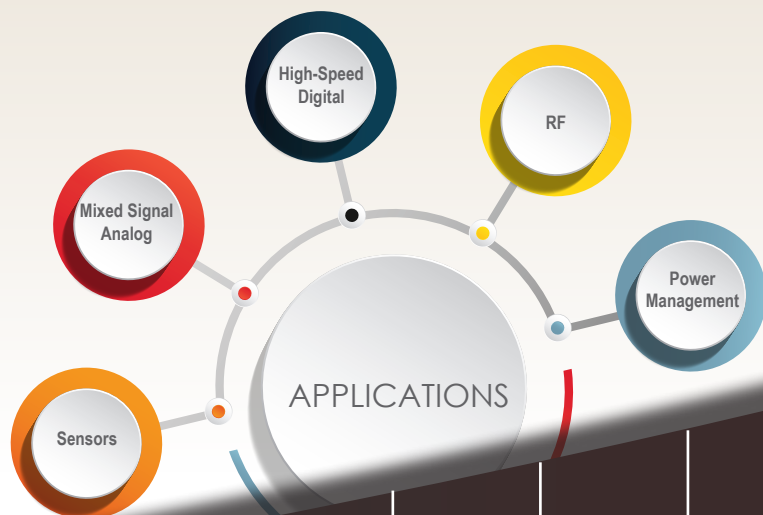
A lot of experience and care went into the design of these probes to provide our customers with the best features. Johnstech studied several hundred BGA packages to understand ball diameters and heights that are most prevalent. We were able to optimize the tip geometry based on this exhaustive study of the market.

All Contactors will be available for Engineering test/characterization with a Manual Actuator and are ready for high-volume Automated Testing.

| FEATURES & BENEFITS | |
|-------------------------------------|--|
| LARGE BALL COUNT | Capable of >1,000 |
| PITCH | QFN ≥ 0.3mm; WLCSP and BGA ≥ 0.35mm |
| TEMPERATURE | -65°C to 175°C |
| CURRENT CARRY CAPABILITY @1%; @100% | 19.3A, 1.93A |
| CONTACT RESISTANCE (mΩ) | 40 |
| HIGH VOLTAGE CAPABLE (MATERIAL) | 16.5kV @ 0.5mm 1.65 pA Leakage Current |



PRECISION ANALOG



1 GHz

20 GHz

30 GHz

40 GHz

50 GHz

60 GHz

70 GHz

80 GHz

90 GHz

100 GHz

Electrical Specifications

| Probe Size/Pitch (mm) | Contact Resistance* (mΩ) | CCC 100% Duty Cycle (Amps) | CCC 1% DC RMS (Amps) | Loop Inductance (nH) |
|-----------------------|--------------------------|----------------------------|----------------------|----------------------|
| 0.3 QFN; 0.35 BGA | 80 | 1.35 | 13.50 | 0.85 |
| 0.4 QFN | 40 | 1.93 | 19.30 | 1.1 |
| 0.4 BGA/Leaded | 40 | 1.93 | 19.30 | 1.1 |

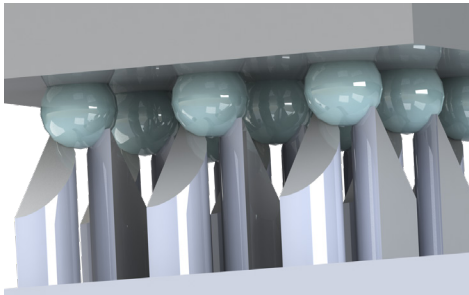
Results shown are typical for one size and configuration shown here. These charts are representative data. Please contact your Johnstech Sales Representative for additional specifications for specific test applications

* Contact Resistance depends on maintenance, cleaning and device materials. The values shown are measured average based on a new probe.

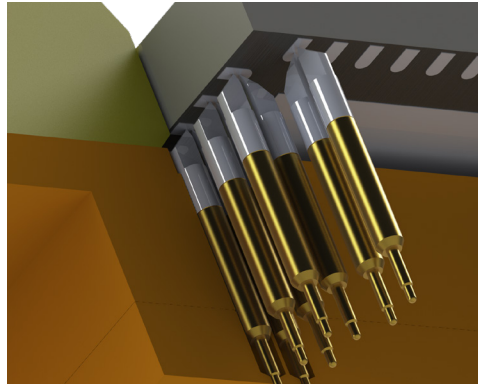
Mechanical Specifications

| Probe Size/ Pitch (mm) | Minimum BGA/ WLCSP Ball Pitch (mm) | Test Height (mm) | Uncompressed Free Length FL (mm) | DUT Side Compliance (mm) | Total Stroke (mm) | Force at Test (g) | Minimum DUT Force-Sense Tip-Tip Spacing TT (mm) | Minimum PCB Force-Sense Pad Center Spacing P (mm) | Barrel Diameter B (mm) |
|---------------------------|--|---------------------|---|--------------------------------|----------------------|-------------------------|--|--|------------------------------|
| 0.3 QFN; 0.35 BGA | 0.35 | 3.0 | 3.25 | 0.15 | 0.25 | 15 | .070 | 0.28 | 0.21 |
| 0.4 QFN | N/A | 3.22 | 3.62 | 0.30 | 0.40 | 20 | 0.70 | 0.40 | 0.33 |
| 0.4 Leaded | 0.65 | 3.41 | 3.81 | 0.30 | 0.40 | 20 | 0.70 | 0.40 | 0.33 |

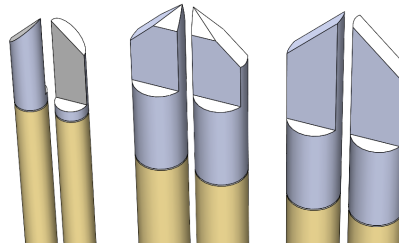
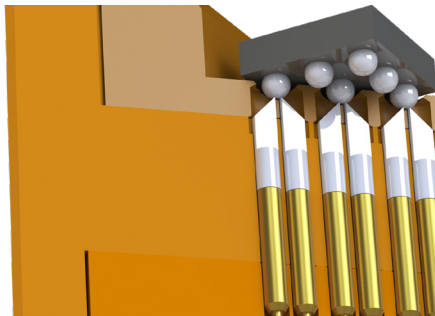
WLCSP/BGA/Leaded Knife-Edge



QFN Fine



WLCSP/ BGA/Leaded / QFN Blade



WLCSP
Knife-edge

QFN
Fine

BGA/Leaded
Blade

