SHOTO WLCSP™

FOR LTE, SERDES, AND WI-FI APPLICATIONS

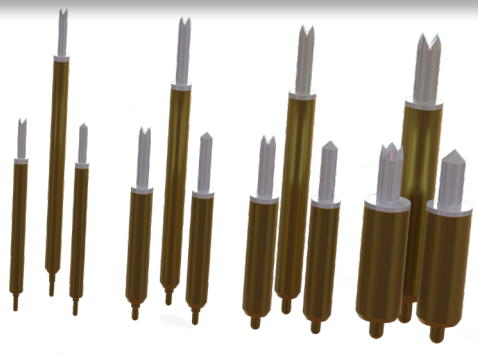
Your Solution for Analog / Mixed Signal / RF Testing

Looking for solutions in the highly competitive commercial market you can rely on Johnstech to provide a cost-effective top of the line answer. Johnstech has taken all the best features found throughout the Spring Probe world and combined them into our designs.

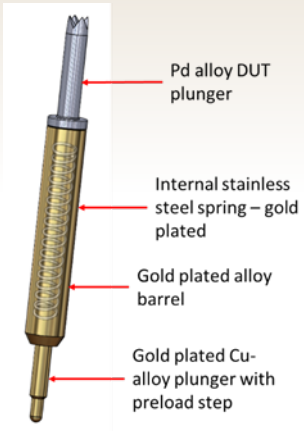
- Suitable for BGA, LGA, QFN and WLCSP applications.
  - o Crown Tips - BGA and WLCSP
  - o Spear Tips - QFN and LGA
- The SHOTO and YARI product lines are designed in a single-ended architecture to minimize Cres variability.
- Two test heights to provide flexibility and compliance features to accommodate both small and large packages
- 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.

FEATURES & BENEFITS	
FREQUENCY	≈30GHz
PITCH	≥ 0.3mm
TEMPERATURE	-60°C to 175°C
CURRENT CARRY CAPABILITY @ 100%	>2.0A
RELIABILITY	Typical Probe Life 500,000 Cycles



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



PCB Side Contact Tip

Spear Tip

Crown Tip

PRECISION ANALOG TO mmRF™

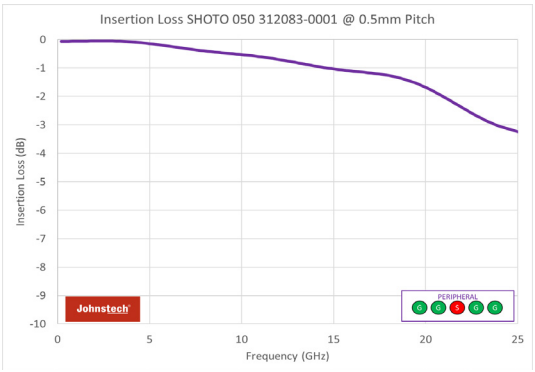
SHOTO WLCSP™

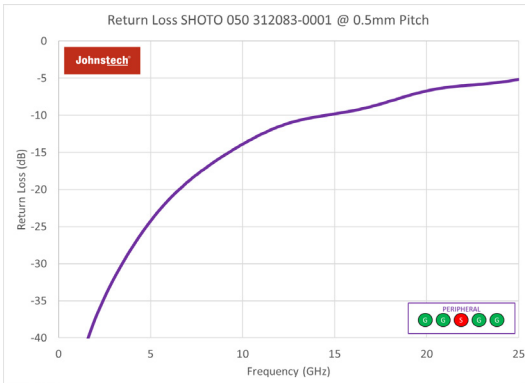
Electrical Specifications

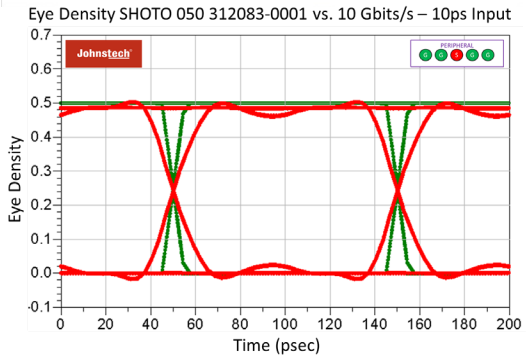
Probe Size/ Pitch (mm)	Contact Resistance* (mΩ)	CCC 100% Duty Cycle (Amps)	CCC 1% DC RMS (Amps)	1 dB Insertion Loss S_{21} GSG (GHz)	20 dB Return Loss S_{11} GSG (GHz)	Loop Inductance (nH)	1 dB Insertion Loss S_{21} GSSG (GHz)	20 dB Return Loss S_{11} GSSG (GHz)	20 dB Crosstalk S_{41} GSSG (GHz)
0.3	80	1.35	13.50	21.3	15.5	0.85	12.80	10.20	17.10
0.4	40	1.93	19.30	20.7	13.2	0.84	22.30	13.90	18.90
0.5	40	2.25	22.50	15.1	6.6	0.77	13.50	8.20	15.70
0.8	40	2.32	23.20	14.7	5.4	0.85	11.80	9.80	14.10

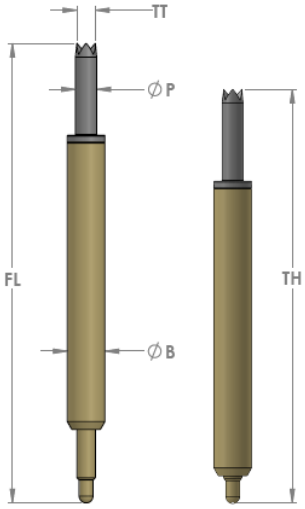
Mechanical Specifications

Probe Size/ Pitch (mm)	Test Height (mm)	DUT Side Compliance (mm)	Total Stroke (mm)	Force at Test Height (g)	Crown Tip-Tip TT (mm)	Uncom-pressed Length FL (mm)	Barrel Diameter B (mm)	DUT Plunger Diameter P (mm)
0.3	3.0	0.15	0.25	15	0.13	3.25	0.21	0.13
0.4	3.0	0.30	0.40	21	0.16	3.40	0.33	0.18
0.5	3.0	0.25	0.40	24	0.20	3.40	0.43	0.23
0.8	3.0	0.35	0.50	20	0.30	3.50	0.23	0.35









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..

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