

Verticon[®] 100 BGA

BGA, FBGA and SIP Applications

The Optimum Socket Solution for High Performance BGA Device Test Requirements

Provides device compliant test interface for Precision Analog/Mixed Signal, RF SOCs' up to 85GHz millimeter wave frequencies and high speed digital devices for 40G/100G applications

Precision Measurements

The short contact length and solid contact architecture of the *Verticon[®] 100 BGA* contactor provides an ideal test interface for RF SOCs (up to 85GHz millimeter wave frequencies), high speed digital (40G/100G) and precision analog/mixed signal device applications

- **Low Self Inductance (L):** 0.21 nH
- **High Frequency Bandwidth:** -1dB @ 68 GHz, -1.5dB @ 85GHz
- **Low, Repeatable CRES:** Ave. < 50mΩ

Repeatable Results

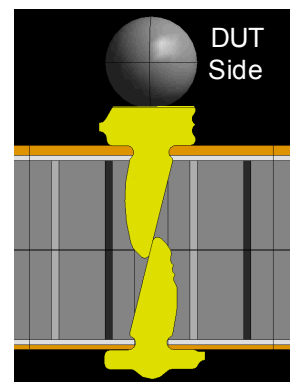
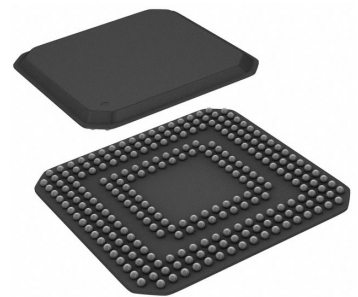
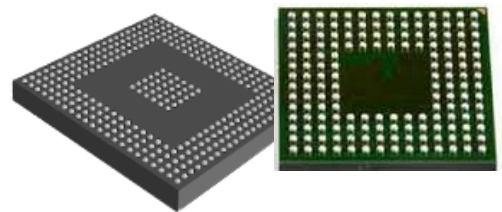
The solid contact architecture of *Verticon[®] 100 BGA* provides a consistent electrical path length to reduce measurement variances and production retests increase first pass test yields

- **High First Pass Yields**
- **Low Test Measurement Variance, High Cpk's**

Low Maintenance

Verticon[®] 100 BGA has a patented self-cleaning micro-wipe action that breaks through bump oxides and clears contact tip debris – resulting in extended MTBA cycles. Contact replacement is a quick spare cartridge replacement on-site

- **Self-Cleaning Micro-Wipe action for Extended MTBA**
- **Replaceable Cartridge for Fast MTTR**
- **Long Life Contacts**



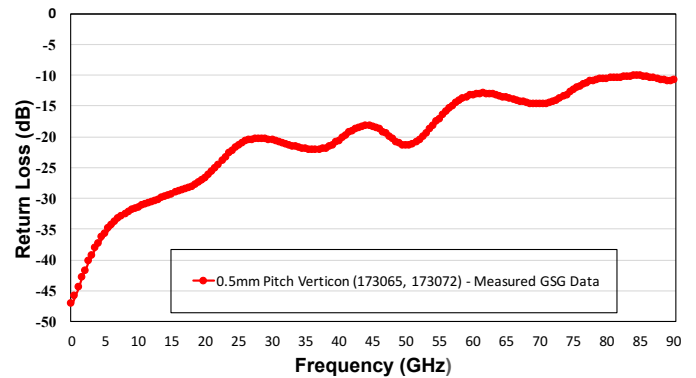
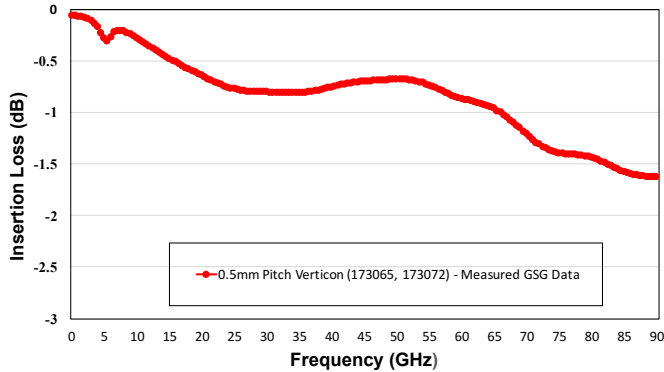
Load Board Side
Verticon[®] 100 BGA Contact Architecture Profile

Verticon® 100 BGA Contactor Specifications

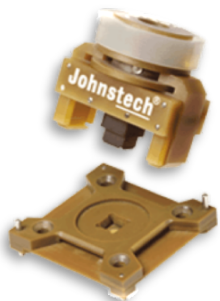
Electrical Specifications		
Parameter	Condition	Specification
Electrical Length	Board-to-Tip	1.00 mm
Inductance*	Self	0.067 pF
	Mutual	0.004 pF
S21 Insertion Loss*	GSG	-1.0dB @ 68GHz, -1.5dB @ 83GHz
S11 Return Loss*	GSG	-20dB @ 40GHz, -10dB @ 83GHz
CRES	Average	< 50 mΩ
Current Carrying Capacity	20°C Rise, up to 100% duty cycle	1.4A - 2.7A
Current Leakage		< 1.0 pA @ 10 V

Mechanical Specifications		
Parameter	Condition	Specification
Physical Contact Length	Tip-to-Tip	1.39 mm
Compressed Height	Minimum	1.00 mm
Contactor Life (# of Insertions)	Cartridge	150,000 nominal
	Housing	2M nominal
Mechanical Compliance		0.392 mm
Electrical Compliance	Operating Range	0.17 to 0.20 mm
Contact Force	Fully Compressed	35 gm / ball, minimum
Environmental	Range	-40°C to 125°C
Ball Pitch	Range	0.5 mm to 1.27 mm
Contact Tip Planarity	Maximum	< 0.05 mm

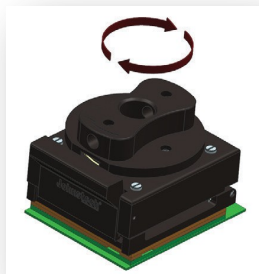
**Independent third party measurements using 0.5 mm pitch SAC 305 sample package*



Suggested Manual Actuators		
Actuator Model	Description	Ball Count
DL-VCMA	2-Latch, Clip On	< 100
ZMA	Hinged Clam Shell	> 80



Double Latch VCMA



Single Latch ZMA

Disclaimer

Unless otherwise stated, specifications provided in this document are based on internal tests, customer production sites and third party measurements. Actual individual results may vary based on a wide range of variables, including (but not limited to): handler/contactor/load board interface, handler plunge depth and velocity, device presentation, alignment plate condition, solder ball material and quality, test floor conditions, maintenance activities, mounting and fastening techniques, site-site coplanarity, non-coplanar docking and temperature extremes.