

VERTICON® 100

FOR BGA, FBGA, AND SIP APPLICATIONS

Bringing Higher Performance to BGA Test

Ideal for High Speed Digital, RF, and Precision Analog Manual Testing

Precision Measurements

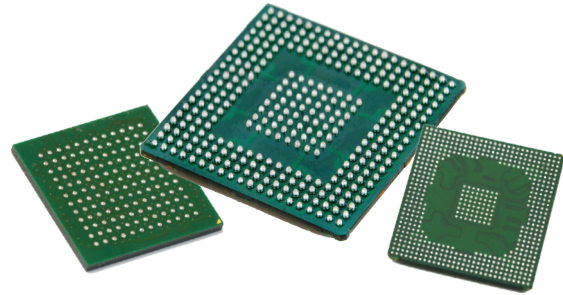
The short contact length of the *Verticon® 100* contactor, makes it well suited for high frequency wireless/microwave applications as well as high-speed digital interfaces. The combined contact profile and proprietary plating enable low and stable contact resistance measurements, making it ideal for precision low noise DC measurements.

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

Repeatable Results

The solid contacts of the *Verticon® 100* contactor provide a consistent electrical length that reduces measurement variance – resulting in higher yields and greater opportunity for up-binning/speed-binning.

- **Higher First Pass Yields**
- **Lower Measurement Variance, High CPks**
- **Greater Up-binning/Speed-binning**

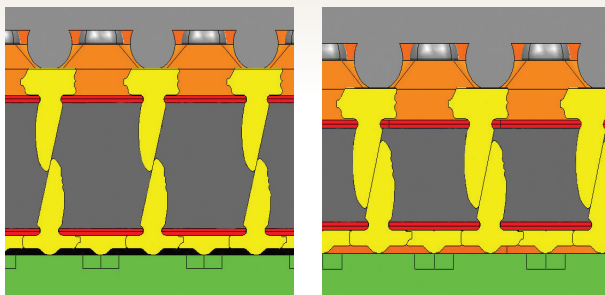


Low Maintenance

Verticon® 100's patented self-cleaning micro wipe action breaks through oxides on the device ball, then clears the contact tip, resulting in extended MTBA cycles. The engineered materials of construction result in long contact life. And replacement contacts are reassembled in a cartridge, providing quick mean-time-to-repair.

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

METHODOLOGY



Uncompressed

Compressed



Electrical Specifications	
Electrical Length	1.00 mm
Inductance:	Self: 0.210 nH Mutual: 0.085 nH
Capacitance:	Ground: 0.067 pF Mutual: 0.004 pF
S ₂₁ Insertion Loss (GSG):	-1.0dB @ 68GHz, -1.5dB @ 83GHz
S ₁₁ Return Loss (GSG):	-20dB @ 40GHz, -10dB @ 83GHz
Average CRES:	<50 mΩ
Current Carrying Capacity*: (Duty Cycle 100%, 10%, 1%)	3.33A, 5.04A, 5.28A
RMS Current Carrying Capacity**: (Duty Cycle 100%, 10%, 1%)	3.33A, 10.53A, 33.30A
Current Leakage:	<1pA @ 10V

Mechanical	
Physical Contact Length:	1.39 mm
Compressed Height:	1.00 mm
Contact Life*** (Typical Performance):	100,000 max insertions
Mechanical Compliance:	0.392 mm
Electrical Compliance (operating range):	0.17 to 0.20 mm
Contact Force (fully compressed):	35 grams per ball, minimum
Contact Tip Coplanarity:	<0.05 mm max
Environmental:	-40°C to 125°C
Housing Material:	Torlon®

NOTE: Specifications based on a combination of internal and third-party measured testing, measured using BGA package with SAC 305 balls at 0.5 mm pitch.

* Test conditions: 300 msec pulse, 20°C temperature rise. Higher currents allowed for higher temperature rises.

** RMS current carrying capacity for pulsed applications. Values based on measured steady state current capacity, standardized to 1 Hz test cycle, 20°C temperature rise. Higher currents allowed for higher temperature rises.

*** Contactor life value is TYPICAL based on Johnstech internal testing. Actual production life will vary based on a wide range of variables including: handler, contactor, and load board interface; handler plunge depth and velocity; device presentation; alignment plate condition; solder ball material; test floor conditions; maintenance activities; mounting/fastening techniques; site-to-site coplanarity; docking coplanarity; and temperature extremes.

