

Mechanical Reliability with Electrical Performance

The Pad 2mm Contactor uses Johnstech's patented "S" Contact Technology, which provides superior mechanical and electrical performance for RF/ Wireless and Analog/Mixed Signal IC packages. Besides the self-cleaning wipe motion, 11+GHz test range and 5 Amps of current-carrying capability, the Pad 2mm also offers flexible Grounding Options to meet your Inductance and Thermal Management requirements. If you're looking for reliable and repeatable performance over hundreds of thousands of insertions, on either exposed or recessed Pads, both in the Lab and on the Test Floor, the Pad 2mm delivers.

Characterization

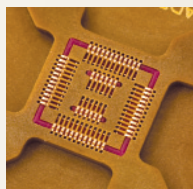
Pad 2mm Contactors are ideal for Manual Device Evaluation, Lab Testing, Prototyping and Characterization

- Designed to test up to 11+GHz and beyond
- Reliable and repeatable results.
- Lab performance correlates to Production Test Floor
- Robust Manual Actuator life of 10K+ insertions

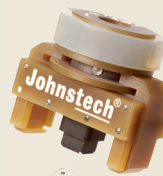
Production Test

The unique motion of the "S" Contact provides several Production Test benefits:

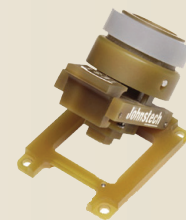
- Excellent Electrical Performance
- High First-Pass Yields
- Consistent Contact Resistance
- Longer MTBA (Mean Time Between Assists)
- Lower Overall Cost of Test



View of Contactor on Load Board Side



DL-VCMA
Double-Latch
Vertically
Compliant
Manual Actuator



SL-VCMA
Single-Latch
Vertically
Compliant
Manual Actuator

Johnstech Pad 2mm Contactor Specifications

Electrical Specifications	Gold-Plated Contact*
Electrical Length (compressed height):	2.14
Inductance ¹ :	Self: 0.50 nH Mutual: 0.07 nH
Capacitance ¹ :	Ground: 0.50 pF Mutual: 0.31 pF
S ₂₁ Insertion Loss/Bandwidth ² (Ground-Signal-Ground):	-1dB @ 24 GHz
S ₁₁ Return Loss/Bandwidth ² (Ground-Signal-Ground):	-20dB @ 11 GHz
S ₄₁ Crosstalk/Bandwidth ³ (Ground-Signal-Signal-Ground):	-20dB @ 14 GHz
Average Contact DC Resistance:	<20 mOhms
Current Carrying Capability:	4 A
Current Leakage:	<1pA @ 10V

1. Based on a lump sum element model 2. Based on measured data from an independent third party. 3. Modeled data.

Mechanical Specifications	Gold-Plated Contact*
Physical Contact Length:	2.35 mm
Physical Compressed Height:	1.40 mm
Contact Life (# of insertions):	Elastomers = up to 500,000 Contacts = up to 500,000 Housing = >1,000,000
Contact Compliance:	0.20 mm
Contact Wipe on Pad:	0.10-0.15 mm
Contact Force (per contact):	45-60 grams
Contact Tip Coplanarity:	0.05 mm
Environmental:	-40°C to 155°C
Housing Material:	Torlon® 5030
Contacts:	Gold-Plated
Contact Material:	BeCuNiAu

Results for 0.5mm pitch configurations. Specifications provided here are based on internal testing at Johnstech, customer production sites, and third party electrical testing. Actual individual results may vary based on a wide range of variables including: handler/contactor/load board interface, handler plunge depth and velocity, device presentation, alignment plate condition, package plating characteristics, test floor conditions, maintenance activities, mounting/fastening techniques, non-coplanarity from site to site, non-coplanar docking, and temperature extremes.

Manual Actuator

SL-VCMA (Single-Latch) and DL-VCMA (Double-Latch) Vertically Compliant Manual Actuators are available.
Manual Actuator Material: Ultem® 2300

Housing Options

Housings are offered in standard handler specific sizes with custom sizes also available

Contact Options

Gold-Plated
Full Tip or Fine Tip
Pitches from 0.40mm - 1.27mm

Johnstech Services/Resource Options

Test Floor Technical Support - Worldwide
Field Service Offices; First-Pass Yield Enhancement; Performance Audits; Customized Training and Applications Engineering.
Online Tech Support at:
www.johnstech.com/support

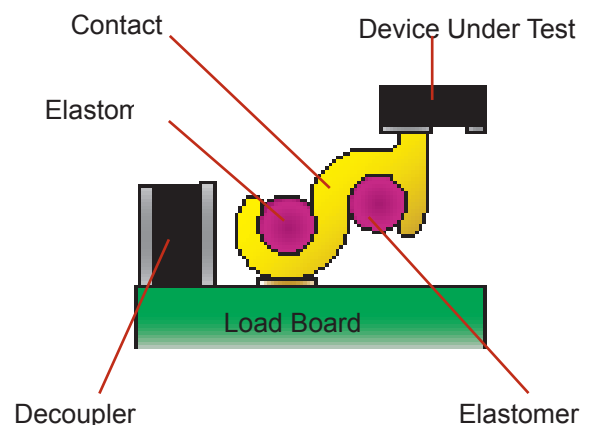
Engineering Services

Load Board Evaluation & Testing; HFSS 3D Modeling; Electrical Performance Analysis; PCB/Contactor/Device Optimization; Contactor S Parameter Data; Thermal Conductivity Analysis and Advanced Design System (ADS) Simulation, Analysis & Optimization.

Website (www.johnstech.com)

Product, Test, Industry Support Information; Downloadable, Product Spec Sheets; Maintenance and Inspection Guides; Tech Papers and Application Notes.

Methodology



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