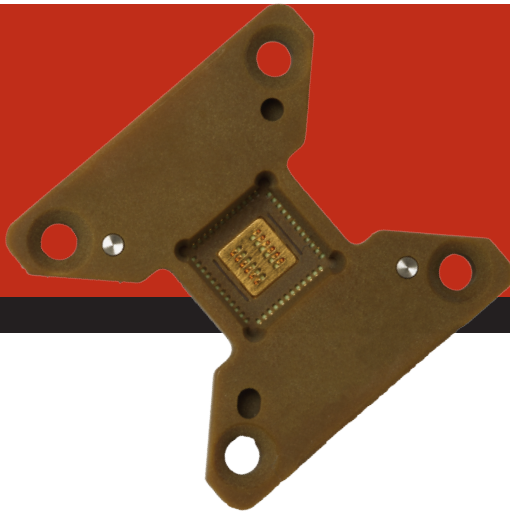


# PAD ROL™ 100A

For QFN, DFN, and Other Pad-Style Applications



## Your Solution for Best-in-Class RF/Wireless Testing

The Pad ROL™ 100A offers the best-in-class electrical performance for testing your most demanding RF/microwave communications devices to 40 GHz. Whether you're performing engineering tests on high gain RF amplifiers, RF transceivers, the latest WiMAX or 3G devices, the Pad ROL™ 100A delivers. Engineered with robust mechanical performance, the Pad ROL™ 100A meets your most demanding production needs for higher First Pass Yield, longer MTBA, and lower cost of test. New contact designs for 0.4mm and  $\geq 0.5\text{mm}$  pitches provide longer contact life and longer MTBA for testing your QFN and DFN matte tin and NiPdAu packages.

### ROL™ 100A Contacts

Gold-Plated  
Low-Force XL-2

### Device Platings

Matte Tin & Tin-Based  
Nickel Palladium Gold

### Characterization

Pad ROL™ 100A Contactors are ideal for Manual Device Evaluation, Lab Testing, Prototyping and Characterization

- Designed to test to 40 GHz
- Reliable and repeatable results.
- Lab Performance correlates to Production Test Floor
- Robust Manual Actuator life of 10k+ insertions

### Production Test

The self-cleaning wipe action of the “rolling contact” design provides many benefits for Production Test:

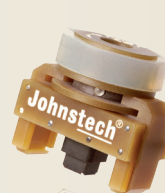
- Consistent Contact Resistance
- Optimized Electrical Performance
- Higher First Pass Yield
- Repeatable Site-to-Site Performance
- Longer MTBA (Mean Time Between Assists)
- Prolonged Load Board Life
- Simple Maintenance & Rebuilding
- Improved OEE (Overall Equipment Efficiency)
- Lower Overall Cost of Test



Gold-Plated  
Contact Profile  
Matte Tin  
Configuration  
 $\geq 0.5\text{mm}$  Pitch



Low-Force XL-2  
Contact Profile  
NiPdAu  
Configuration  
 $\geq 0.5\text{mm}$  Pitch



DL-VCMA  
Double-Latch  
Vertically  
Compliant  
Manual Actuator



SL-VCMA  
Single-Latch  
Vertically  
Compliant  
Manual Actuator

Your Contact for Higher Performance

**Johnstech®**

# Johnstech Pad ROL™ 100A Contactor Specifications

Electrical Specifications	Matte Tin Configuration	NiPdAu Configuration
Electrical Length (compressed height):	1.10 mm	1.14 mm
Inductance:	Self: 0.23 nH Mutual: 0.14 nH	Self: 0.37 nH Mutual: 0.15 nH
Capacitance:	Ground: 0.16 pF Mutual: 0.05 pF	Ground: 0.17 pF Mutual: 0.05 pF
S <sub>21</sub> Insertion Loss/ Bandwidth (Ground-Signal-Ground):	-1dB @ 40 GHz	-1dB @ 40 GHz
S <sub>11</sub> Return Loss/ Bandwidth (Ground-Signal-Ground):	-20dB @ 14.5 GHz	-20dB @ 18.3 GHz
S <sub>41</sub> Crosstalk/Bandwidth (Ground-Signal-Signal-Ground):	-20dB @ 32 GHz	-20dB @ 33.5 GHz
Average Contact DC Resistance:	50 mOhms	25 mOhms
Current Carrying Capability:	4 A	2.6 A
Current Leakage:	<1pA @ 10V	<1pA @ 10v
Nearest Decoupling Area:	1.25 mm	1.25 mm

Mechanical Specifications	Matte Tin Configuration	NiPdAu Configuration
Physical Contact Length:	1.44 mm	1.42 mm
Physical Compressed Height:	0.75 mm	0.75 mm
Contact Life (# of insertions):	Elastomers = 300,000 Contacts = 500,000+ Housing = 1,000,000	Elastomers = 300,000 Contacts = 500,000+ Housing = 1,000,000
Contact Compliance:	0.175 - 0.200 mm	0.175 - 0.200 mm
Contact Wipe on Pad:	0.12 mm	0.16 mm
Contact Force (per contact):	60 grams	20 grams
Contact Tip Coplanarity:	0.05 mm	0.05 mm
Environmental:	-40°C to 155°C	-40°C to 155°C
Housing Material:	Torlon® 5030	Torlon® 5030
Contacts:	Gold-Plated	Low-Force XL-2
Contact Material:	BeCuNiAu	Gold-plated Alloy

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

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

## Housing Options

Housing are offered in standard handler specific sizes with custom sizes also available. Contact Johnstech for assistance.

## Contact Options

Gold-Plated Fine Tip (≥0.5mm pitch) - matte tin  
Gold-Plated Fine Tip (0.4mm pitch) - matte tin  
Low-Force XL-2 Fine Tip (≥0.5mm pitch) - NiPdAu  
Low-Force XL-2 Fine Tip (0.4mm pitch) - NiPdAu

## 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](http://www.johnstech.com/support)

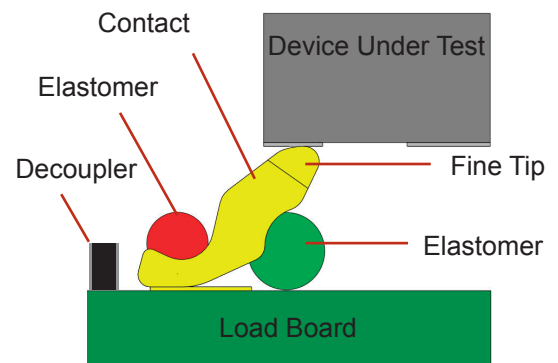
## Engineering Services

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](http://www.johnstech.com))

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

## Methodology



≥ 0.5mm pitch matte tin configuration

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