Leaded ROL® 400

FOR QFP, SO, SOIC, SOJ, SOP, PLCC, TSOP, AND SOT APPLICATIONS

Your Solution for Analog / Mixed Signal Testing Precision Measurements

The *Leaded ROL® 400* utilizes Johnstech's patented ROL® technology, widely-known for it's excellent electrical performance and proven mechanical reliability. The *Leaded ROL® 400* Contactor is ideally suited for high-volume testing of Analog and Mixed Signal devices, and is offered in two Contact configurations developed specifically for the unique challenges and different device platings.

Contacts	Device Platings
Gold-Plated	Matte Tin (Sn) & Tin-Based
XL-2	Nickel Palladium Gold (NiPdAu)

Characterization

Johnstech Contactors are unsurpassed for Manual Device Evaluation, Lab Testing, Prototyping and Characterization.

- **Designed to test to 5+ GHz.**
- **Reliable and repeatable results**
- **Lab performance correlates to Production Test Floor**
- **Robust Manual Actuator life of 10K+ insertions**

Production Test

The "rolling contact" design of the *Leaded ROL® 400* Contactor is especially well-suited to Production Test providing:

- **Consistent Contact Resistance**
- **Optimized Electrical Performance**
- **Higher First Pass Yields**
- **Less Frequent Cleaning**
- **Longer MTBA (Mean Time Between Assists)**
- **Prolonged Load Board Life**
- **Footprint Compatible with Leaded Series 4mm**
- **Simplified Maintenance & Rebuilding**
- **Improved OEE (Overall Equipment Efficiency)**
- **Lower Overall COT (Cost of Test)**

Gold-Plated
Contact Profile

Low-Force XL-2
Contact Profile

ZMA Z-Axis
Manual Actuator

VMA Vertical
Manual Actuator

Johnstech®

PRECISION ANALOG TO mmRF™

Leaded ROL® 400

Electrical Specifications	Configuration	Configuration
Electrical Length (compressed height):	3.60 mm	3.54 mm
Inductance:	Self: 0.47 nH Mutual: 0.21 nH	Self: 80.69 nH Mutual: 0.26 nH
Capacitance:	Ground: 0.42 pF Mutual: 0.34 pF	Ground: 0.45 pF Mutual: 0.28 pF
S_{21} Insertion Loss (GSG):	-1dB @ 5.4 GHz	-1dB @ 5.8 GHz
S_{11} Return Loss (GSG):	-20dB @ 1.2 GHz	-20dB @ 1.2 GHz
S_{41} Crosstalk (GSSG):	-20dB @ 3.8 GHz	-20dB @ 6.4 GHz
Average CRES:	<30 mOhms	<20 mOhms
Current Carrying Capability*: (Duty cycle 100%, 50%, 1%)	4.9A, 9.0A, 14.3A	3.4A, 6.4A, 15.8A
Current Leakage:	<1pA @ 10V	
Nearest Decoupling Area:	1.80 mm	

Mechanical Specifications	Matte Tin Configuration	NiPdAu Configuration
Physical Compressed Height:	2.79 mm	
Contactor Life (# of insertions):	Elastomers = 300,000 Contacts = 500,000+ Housing = 2,000,000	
Contact Compliance:	0.23 mm	
Contact Force (per contact):	60 grams	40 grams
Contact Tip Coplanarity:	0.05 mm	
Temperature:	-40°C to 155°C	
Housing Material:	Torlon® 5030	
Contacts Material:	BeCuNiAu	XL-2

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.

* Test conditions: 300 msec pulse, 20°C temperature rise.

Manual Actuator

VMA (Vertical Manual Actuator)
ZMA (Z-Axis Manual Actuator)

Housing Options

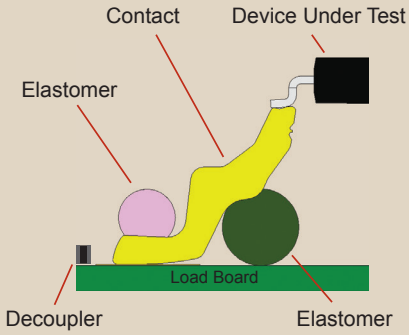
Housings are offered in standard handler specific sizes with custom sizes also available

Contact Options

Gold-Plated or Low Force XL-2
Pitches from 0.50mm – 1.27mm

Methodology

Matte Tin configuration shown.



Johnstech Services and Contact Information

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
Mobile RF Modeling, Wafer Level Thermal Analysis, Die Shrink Test Planning, Test Signal Integrity Optimization, Test Cell Integration, and Probe Card PCB Evaluation.

Website (www.johnstech.com)
Product, Test, Industry Support Information; Downloadable, Product Spec Sheets; Maintenance and Inspection Guides; Tech Papers and Application Notes.

Johnstech®

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