

Leaded ROL™ 200

LEADED ROL™ 200 SERIES CONTACTOR

For QFP, SO, SOIC, SOJ, SOP, PLCC, TSOP and SOT Applications

Your Solution for RF/Analog Testing

Johnstech's patented ROL™ technology brings excellent electrical performance and proven mechanical reliability for both Precision Analog and RF device testing. The Leaded ROL™ 200 Series utilizes two Contact configurations that were developed specifically for the unique challenges and different device platings used in Lead-Free Testing.

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
- Less Frequent Cleaning
- Longer MTBA (Mean Time Between Assists)
- Prolonged Load Board Life
- Simplified Maintenance & Rebuilding
- Footprint Compatible with Leaded Series 2mm
- Improved OEE (Overall Equipment Efficiency)
- Lower Overall COT (Cost of Test)



Gold-Plated Contact Profile



Low-Force XL-2 Contact Profile



VMA Vertical Manual Actuator



ZMA Z-Axis Manual Actuator

ROL™ Contacts	Device Platings
Gold-Plated	Matte Tin (Sn) & other Tin-Based
Low-Force XL-2	Nickel Palladium Gold (NiPdAu)

Characterization

Leaded ROL™ 200 Contactors are also ideal for Manual Device Evaluation, Lab Testing, Prototyping and Characterization

- Designed to test to 20+ GHz
- Reliable and repeatable results
- Lab performance correlates to Production Test Floor
- Robust Manual Actuator life of 10K+ insertions

Your Contact For Higher Performance

Johnstech®

20 YEARS

LEADED ROL™ 200 SPECIFICATIONS

Electrical Specifications	Matte Tin Configuration*	NiPdAu Configuration
Electrical Length:	1.98 mm	2.00 mm
Inductance:	Self: 0.42 nH Mutual: 0.16 nH	Self: 0.45 nH Mutual: 0.16 nH
Capacitance:	Ground: 0.23 pF Mutual: 0.14 pF	Ground: 0.20 pF Mutual: 0.08 pF
S_{21} Insertion Loss/Bandwidth (Ground-Signal-Ground):	-1 dB @ 20.7 GHz	-1 dB @ 21.3 GHz
S_{11} Return Loss/Bandwidth (Ground-Signal-Ground):	-20 dB @ 4.4 GHz	-20 dB @ 3.2 GHz
S_{41} Crosstalk/Bandwidth (Ground-Signal-Signal-Ground):	-20 dB @ 16.7 GHz	-20 dB @ 14.5 GHz
Average Contact DC Resistance (over 20K insertions):	<60 mΩ	20 mΩ
Current Carrying Capability:	6.70 A	4.4 A
Current Leakage:	<1pA @ 10V	<1pA @ 10V
Contact to Decoupling Area:	1.80 mm	1.80 mm

Mechanical Specifications	Matte Tin Configuration*	NiPdAu Configuration
Physical Contact Length:	2.58 mm	2.59 mm
Physical Compressed Height:	1.34 mm	1.34 mm
Contact Life (# of insertions):	Elastomers = 300,000 Contacts = 500,000+ Housing = 2,000,000	Elastomers = 300,000 Contacts = 500,000 + Housing = 2,000,000
Contact Compliance:	0.20 mm	0.20 mm
Contact Wipe on Lead:	0.22 mm	0.13 mm
Contact Force:	60 grams	30 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 from Matte Tin Device Test, 0.50 mm pitch.

* Results from NiPdAu Device Test, 0.50 mm pitch.

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

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 0.40mm - 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.johnstechhelp.com

Engineering Services

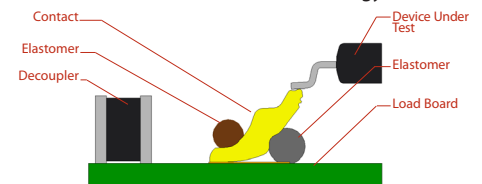
Load Board Evaluation & Testing; HFSS 3D Modeling; Electrical Performance Analysis; PCB/Contactor/Device Optimization; Contactor S Parameter Data; Thermal Conductivity Analysis and Advanced Design System (ADS) Simulation, Analysis & Optimization.

Website (www.johnstech.com)

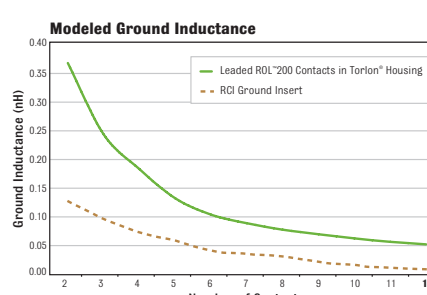
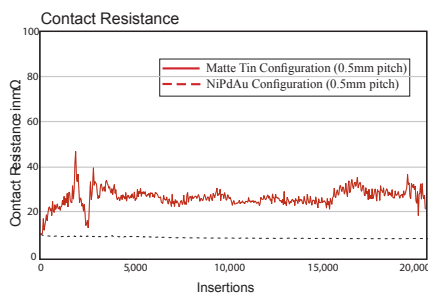
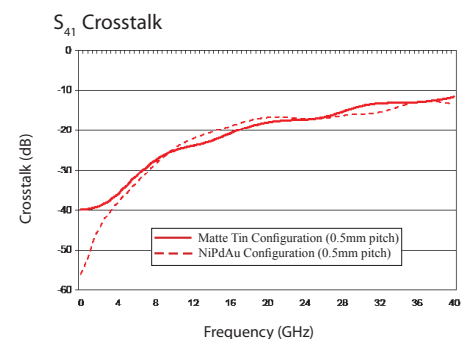
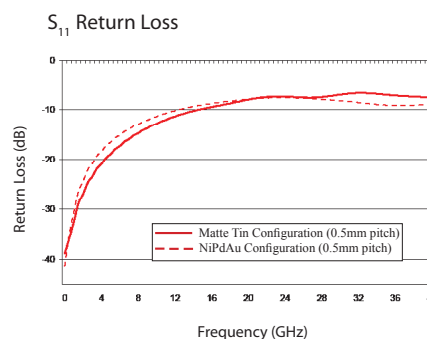
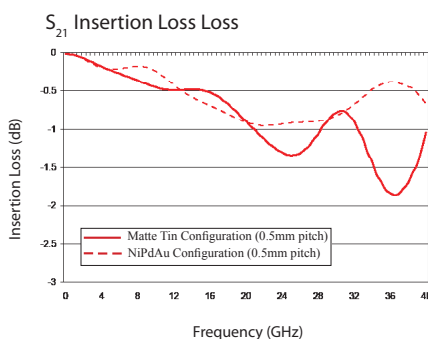
Product, Test, Industry Support Information; Downloadable, Product Spec Sheets; Maintenance and Inspection Guides; Tech Papers and Application Notes.

METHODOLOGY

Leaded ROL™ 200 Series Methodology



LEADED ROL™ 200 PERFORMANCE



Grounding Options

RFH — ROL™ Contacts in Torlon® Housing (shown on figure) is one of Johnstech's recommended Grounding Options. Other available options are shown here:



RCI — ROL™ Contacts in Copper Insert