

PAD ROL[®] 100A

FOR QFN, DFN, AND OTHER PAD-STYLE APPLICATIONS

Your Solution for Best-in-Class RF / Microwave Testing

The *Pad ROL[®] 100A* offers the best-in-class electrical performance for testing your most demanding RF and microwave communications devices to 40 GHz. Whether you're performing engineering tests on high gain RF amplifiers, RF transceivers, or other 3G/4G/5G 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, resulting in lower cost of test. New contact designs for 0.4mm and ≥ 0.5 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

FEATURES & BENEFITS (0.5 Pitch)

FREQUENCY	40GHz Matte Tin; 39.9GHz NiPdAu
PITCH	≥ 0.3 mm
TEMPERATURE	-40°C to 155°C
CURRENT CARRY CAPABILITY @ 100%	3.1A Matte Tin; 2.6A NiPdAu

Production Test

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

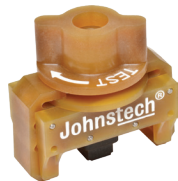
- Consistent Contact Resistance
- Optimized Electrical Performance
- Higher First Pass Yield
- Repeatable Site-to-Site Performance
- Longer MTBA (Mean Time Between Assists)
- Prolonged Load Board Life
- Simple Maintenance & Rebuilding
- Improved OEE (Overall Equipment Efficiency)
- Lower Overall Cost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



Gold-Plated
Contact Profile
Matte Tin
Configuration



Low-Force XL-2
Contact Profile
NiPdAu
Configuration



DL-VCMA Plus™
Double-Latch Vertically
Compliant Manual
Actuator



SL-VCMA
Single-Latch Vertically
Compliant Manual
Actuator



Pad ROL® 100A

Electrical Specifications	Matte Tin Configuration	NiPdAu Configuration
Electrical Length (compressed height):	1.10 mm	1.14 mm
Inductance:	Self: 0.257 nH Mutual: 0.149 nH	Self: 0.335 nH Mutual: 0.138 nH
Capacitance:	Ground: 0.189 pF Mutual: 0.054 pF	Ground: 0.174 pF Mutual: 0.051 pF
S_{21} Insertion Loss (GSG):	-1dB @ 40+ GHz	-1dB @ 39.9 GHz
S_{11} Return Loss (GSG):	-20dB @ 39.3 GHz	-20dB @ 18.5 GHz
S_{41} Crosstalk (GSSG):	-20dB @ 37.5 GHz	-20dB @ 27.5 GHz
Average CRES:	50 mOhms	<20 mOhms
Current Carrying Capacity* (Duty cycle 100%, 50%, 1%)	3.1A, 5.0A, 6.1A	2.6A, 4.2A, 5.2A
RMS Current Carrying Capacity** (Duty cycle 100%, 50%, 1%)	3.1A, 4.4A, 31.3A	2.6A, 3.7A, 26.1A
Current Leakage:	<1pA @ 10V	
Nearest Decoupling Area:	1.25 mm	

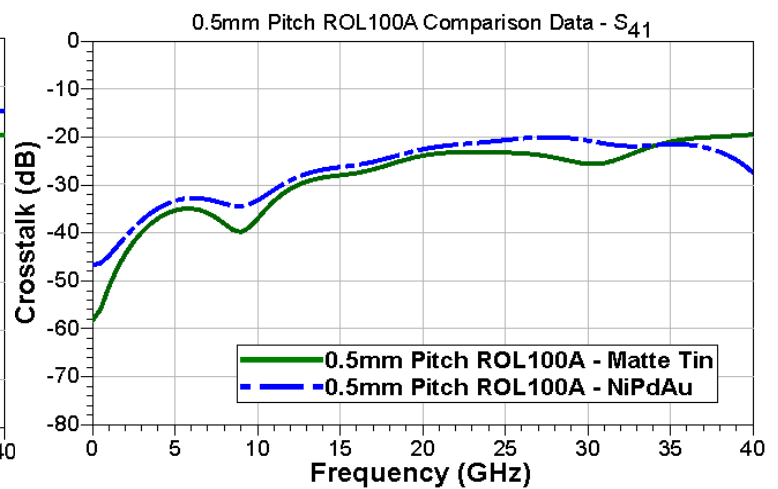
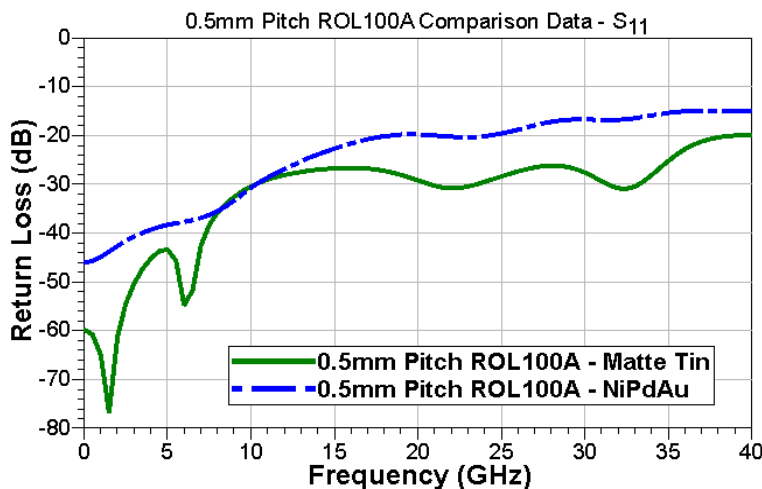
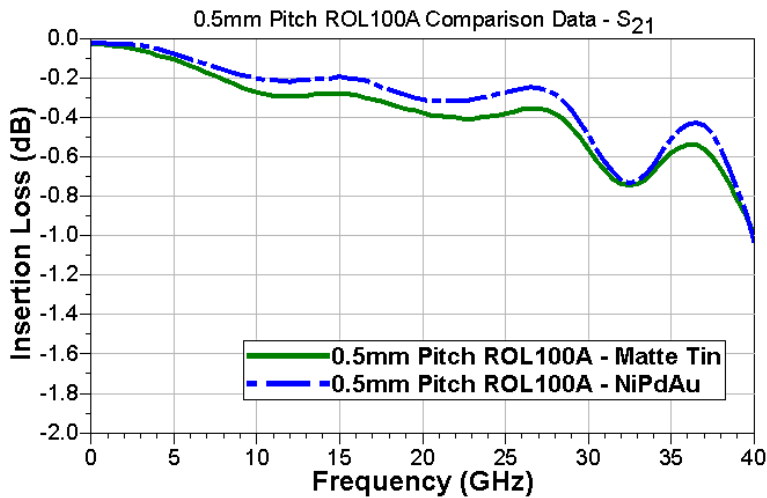
Mechanical Specifications	Matte Tin Configuration	NiPdAu Configuration
Physical Compressed Height:	0.75 mm	
Contact Life (# of insertions, Typical Performance)***:	Elastomers = 300,000 Contacts = 500,000+ Housing = 1,000,000+	
Contact Compliance:	0.175 - 0.200 mm	
Contact Force (per contact):	60 grams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

NOTE: Specifications for 0.5mm pitch configurations shown here. These specifications are based on a combination of internal and third-party measured testing.

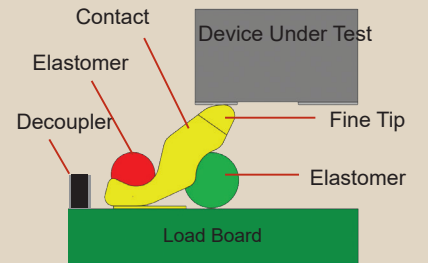
* Test conditions: 300 msec pulse, 20°C temperature rise. Higher currents allowed for higher temperature rises.

** RMS current 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.

*** Contact, elastomer, and housing life values are TYPICAL based on Johnstech internal testing. Actual production life will 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 material and characteristics; test floor conditions; maintenance activities; mounting/fastening techniques; site-to-site planarity; docking co-planarity; and temperature extremes.



Methodology



≥ 0.5mm pitch Matte Tin Configuration

Johnstech®

Johnstech International Corporation • 1210 New Brighton Boulevard • Minneapolis, MN 55413-1641 USA
 Tel 612.378.2020 • Fax 612.378.2030 • www.johnstech.com • E-mail info@johnstech.com