

ESD-PROTECTIVE PAD ROL® 100A ES-P™

FOR ESD-SENSITIVE QFN, DFN, AND OTHER PAD-STYLE APPLICATIONS

Your Solution for ESD-Sensitive Analog / Mixed Signal / RF Testing

Johnstech's patented ROL® technology, combined with a proprietary ESD-protective housing and/or alignment plate material, provides excellent electrical performance and proven mechanical reliability for ESD-Sensitive Precision Analog, Mixed Signal and RF applications. With contact designs for $\geq 0.3\text{mm}$, $\geq 0.4\text{mm}$, and $\geq 0.5\text{mm}$ pitches, the ROL® 100 Series provides Contact/Elastomer configurations for the unique challenges of matte tin and NiPdAu packages.

Johnstech's ROL technology with ES-P, an ESD-protective material limits the triboelectric charge (proven to $<100\text{V}$) of the contactor for your ESD sensitive devices. Additionally, Johnstech ES-P does not affect the device RF performance.

ROL® 100A Contacts

Device Platings

Gold-Plated
Low-Force XL-2

Matte Tin & Tin-Based
Nickel Palladium Gold

Characterization

Pad ROL 100 Contactors with ES-P, an ESD-protective material are ideal for Manual Device Evaluation, Lab Testing, Prototyping and Characterization of ESD-Sensitive devices.

- 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+
PITCH	$\geq 0.3\text{mm}$
TEMPERATURE	-40°C to 155°C
CURRENT CARRY CAPABILITY @ 100%	3.1A

Production Test

The "rolling contact" design of the ROL® Contactor, which creates a self-cleaning wipe action, coupled with an ESD-protective technology, provides extensive Production Test benefits:

- Suitability for ESD-Sensitive Devices
- Low Voltage Following Triboelectric Charge
- 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



ESD-PROTECTIVE PAD ROL® 100A ES-P™

Electrical Specifications	Pad ROL 100A ES-P
Electrical Length (compressed height):	1.10 mm
Inductance:	Self: 0.355 nH Mutual: 0.114 nH
Capacitance:	Ground: 0.187 pF Mutual: 0.068 pF
S ₂₁ Insertion Loss (GSG):	-1dB @ 40.0+ GHz
S ₁₁ Return Loss (GSG):	-20dB @ 25.9 GHz
S ₄₁ Crosstalk (GSSG):	-20dB @ 40.0+ GHz
Average CRES:	50 mΩ
Current Carrying Capability*: (Duty cycle 100%, 50%, 1%)	3.1A, 5.0A, 6.1A
RMS Current Carrying Capability**: (Duty cycle 100%, 50%, 1%)	3.1A, 4.4A, 31.3A
Nearest Decoupling Area:	1.25 mm
ESD-Protective Housing/ALPL - Surface Resistivity:	Anti-Static Range
ESD-Protective Housing/ALPL - Triboelectric Charge Voltage:	<100V***

Mechanical Specifications	Pad ROL 100A ES-P
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):	50 grams
Contact Tip Coplanarity:	0.05 mm
Temperature:	-40°C to 155°C
Housing Material:	ES-P ESD-Protective material

NOTE: Specifications for 0.5 mm pitch configurations shown here. These specifications are based on a combination of internal and third-party measured testing. Contact your Johnstech Representative or Application Engineer for further information and assistance with specific application configurations and performance requirements.

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

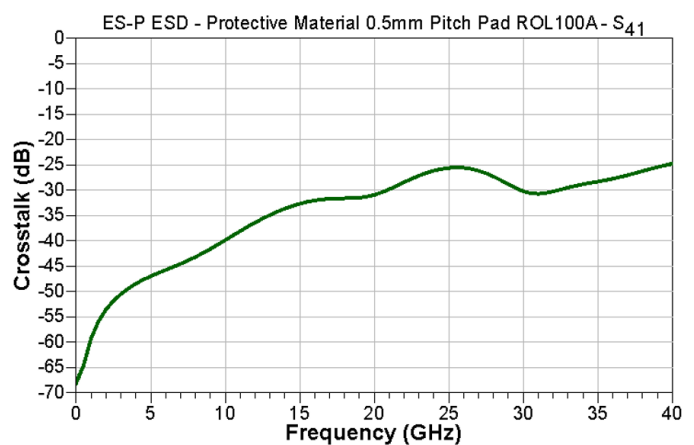
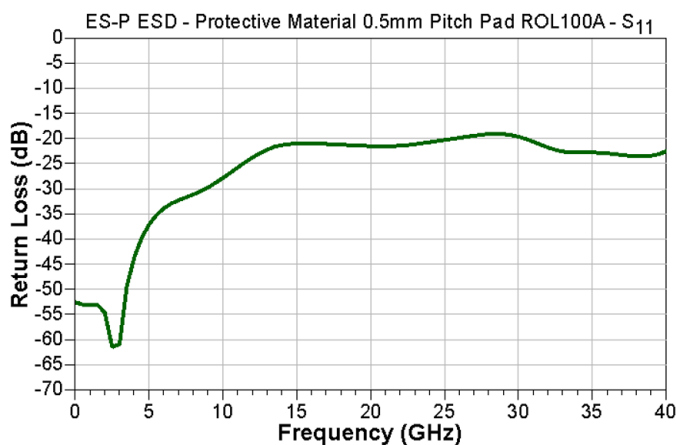
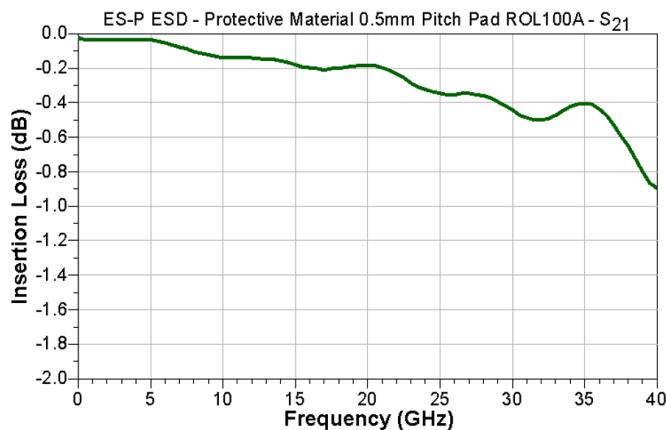
** RMS current carrying capacity for pulsed applications. Values based on measured steady state current capacity, standardized to 1 Hz test cycle, 20°C temperature rise. Higher currents allowed for higher temperature rises.

*** Results based on Johnstech internal test method.

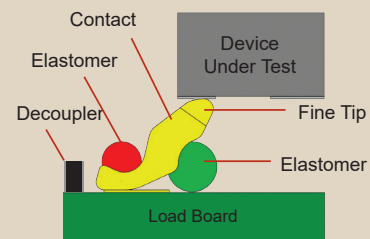
**** Contact, elastomer, and housing life values are TYPICAL based on Johnstech internal testing. Actual production life will vary based on a wide range of variables including: handler, contactor, load board interface; handler plunge depth and velocity; device presentation; alignment plate condition; package plating material and characteristics; test floor conditions; maintenance activities; mounting/fastening techniques; site-to-site planarity; docking co-planarity; and temperature extremes.

***** Contact Housing life specification is based on cycling at ambient. Production Life Insertions will be reduced at extreme temperatures.

***** Contact force is dependent on many variables. The contact force listed is typical and may not represent your test solution.



Methodology



≥ 0.5mm pitch Matte Tin Configuration

Johnstech®

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