ESD-PROTECTIVE PAD ROL® 200 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 ≥ 0.3mm, ≥ 0.4mm, and ≥ 0.5mm pitches, the ROL® 200 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 <100V) of the contactor for your ESD sensitive devices. Additionally, Johnstech ES-P does not affect the device RF performance.

ROL® 200 Contacts	Device Platings
Gold-Plated Low-Force XL-2	Matte Tin & Tin-Based Nickel Palladium Gold

Characterization

Pad ROL 200 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 20 GHz**
- **Reliable and repeatable results**
- **Lab Performance correlates to Production Test Floor**
- **Robust Manual Actuator life of 10k+ insertions**

FEATURES & BENEFITS	
FREQUENCY	14.5GHz
PITCH	≥ 0.3mm
TEMPERATURE	-40°C to 155°C
CURRENT CARRY CAPABILITY @ 100%	3.0A

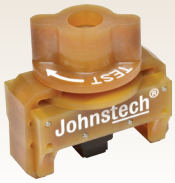
Production Test

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

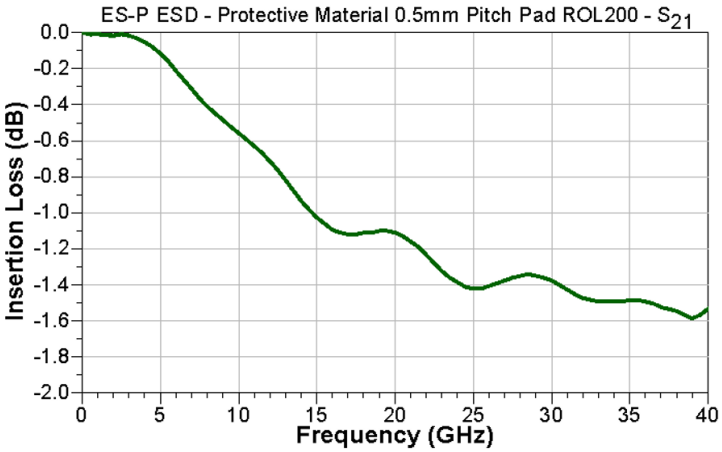
PRECISION ANALOG TO mmRF™

ESD-PROTECTIVE *PAD ROL® 200 ES-P™*

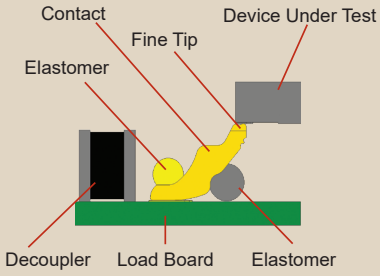
Electrical Specifications	Pad ROL 200 ES-P
Electrical Length (compressed height):	2.07 mm
Inductance:	Self: 0.550 nH Mutual: 0.236 nH
Capacitance:	Ground: 0.436 pF Mutual: 0.171 pF
S_{21} Insertion Loss (GSG):	-1 dB @ 14.5 GHz
S_{11} Return Loss (GSG):	-20 dB @ 4.8 GHz
S_{41} Crosstalk (GSSG):	-20 dB @ 17.1GHz
Average CRES:	<20 mΩ
Current Carrying Capability*: (Duty cycle 100%, 50%, 1%)	3.0A, 5.1A, 9.3A
RMS Current Carrying Capability**: (Duty cycle 100%, 50%, 1%)	3.0A, 4.2A, 29.9A
Nearest Decoupling Area:	1.80 mm
ESD-Protective Housing/ALPL - Surface Resistivity:	Anti-Static Range
ESD-Protective Housing/ALPL - Triboelectric Charge Voltage:	<100V***

Mechanical Specifications	Pad ROL 200 ES-P
Physical Compressed Height:	1.40 mm
Contactor Life (# of insertions, Typical Performance):****	Elastomers = 300,000 Contacts = 500,000+ Housing***** =1,000,000+
Contact Compliance:	0.20 mm
Contact Force (per contact):	50 grams
Temperature:	- 40°C to 155°C
Housing Material:	ES-P ESD-Protective Material

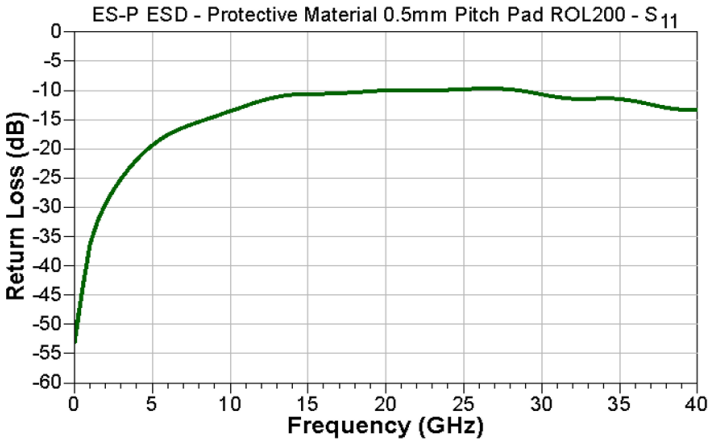
NOTE: Specifications for 0.5 mm pitch configurations shown here. These specifications are based on a combination of internal and third-party measured testing. Contact your Johnstech Representative or Application Engineer for further information and assistance with specific application configurations 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.*
****** Contactor Housing life specification is based on cycling at ambient. Production Life Insertions will be reduced at extreme temperatures.*
******* Contactor force is dependent on many variables. The contact force listed is typical and may not represent your test solution.*

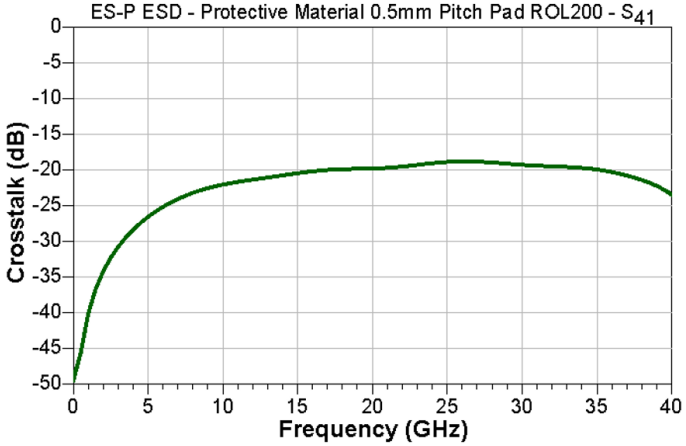


Methodology



≥ 0.5mm pitch Matte Tin Configuration





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