

# PAD ROL 100A PERFORMANCE<sup>+</sup> XT



FOR QFN, DFN, AND OTHER PAD-STYLE APPLICATIONS

## The Automotive Test Solution That Drives Toward Higher Test Yields

As a designer of high performance devices for the automotive industry, you know that your applications are growing in both numbers and complexity. Since this trend is expected to continue for the next several years, it is more important than ever to require extreme versatility and superior reliability from your test solutions. Whether you are testing Audio & Infotainment, Vehicle Networking, Powertrain, or other automotive device applications, look for the solution that drives your results toward higher test yields and delivers superior production throughput.

Johnstech's The *Pad ROL<sup>®</sup> 100A Performance Plus XT<sup>™</sup>* Automotive Contactor is just the product you're looking for! This Xtreme Temperature (XT<sup>™</sup>) capable product is designed to maximize your test results, regardless of your tri-temp testing objectives! Even if you are not testing outside the temperature limits of standard Contactors and sockets, the robust design of the XT<sup>™</sup> Contactor provides additional design margin and certainly satisfies even your roadmap requirements.

The *Pad ROL<sup>®</sup> 100A Performance+ XT<sup>™</sup>* Automotive Contactor improves test yields and increases test reliability through several features, including:

### FEATURES & BENEFITS (0.5 Pitch)

|                                 |                             |
|---------------------------------|-----------------------------|
| FREQUENCY                       | 61.3GHz                     |
| PITCH                           | ≥ 0.4mm                     |
| TEMPERATURE                     | -65°C to 175°C              |
| CURRENT CARRY CAPABILITY @ 100% | 3.1A Matte Tin; 2.6A NiPdAu |

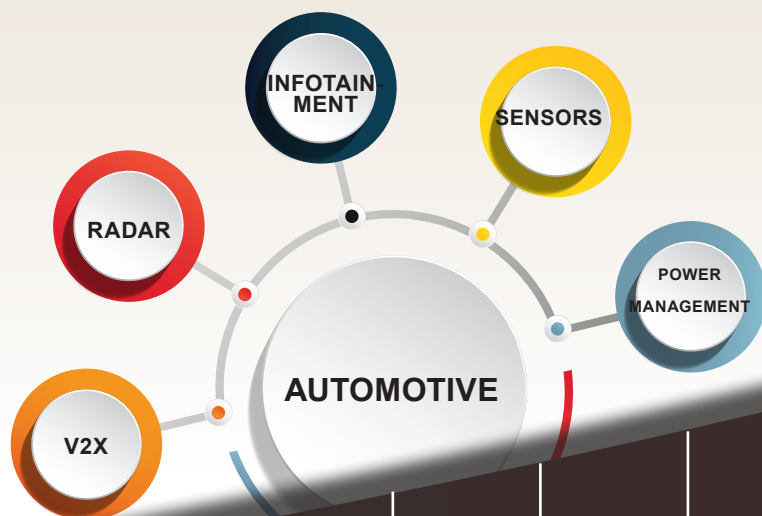
## Electrical Reliability Improves Yields

- Patented, One-Piece ROL<sup>®</sup> Contacts
- Delivers Lowest Contact Resistance (CRES)
- High Current Carrying Capability
- Low Inductance
- Extremely Stable Contact Resistance (CRES)
- High Frequency Capability
- Wiping Contact Clears Debris

## Mechanically Robust

- Long Life ROL<sup>®</sup> Contacts
- Temperature Test Stability
- Patented Wiping Lengthens MTBA

## PRECISION ANALOG TO mmRF<sup>•</sup>



1 GHz

20 GHz

30 GHz

40 GHz

50 GHz

60 GHz

70 GHz

80 GHz

90 GHz

100 GHz

**PAD ROL 100A PERFORMANCE<sup>+</sup> XT**

# PAD ROL 100A PERFORMANCE<sup>+</sup> XT

| Electrical Specifications                                      | Matte Tin Configuration | NiPdAu Configuration |
|--|-------------------------|----------------------|
| Average CRES:  | 50 mOhms                | <20 mOhms            |
| Current Carrying Capacity*:<br>(Duty cycle 100%, 50%, 1%)      | 3.1A, 5.0A, 6.1A        | 2.6A, 4.2A, 5.2A     |
| RMS Current Carrying Capacity**:<br>(Duty Cycle 100%, 50%, 1%) | 3.1A, 4.4A, 31.0A       | 2.6A, 3.7A, 26.0A    |
| Current Leakage:   | <1pA @ 10V              |                      |

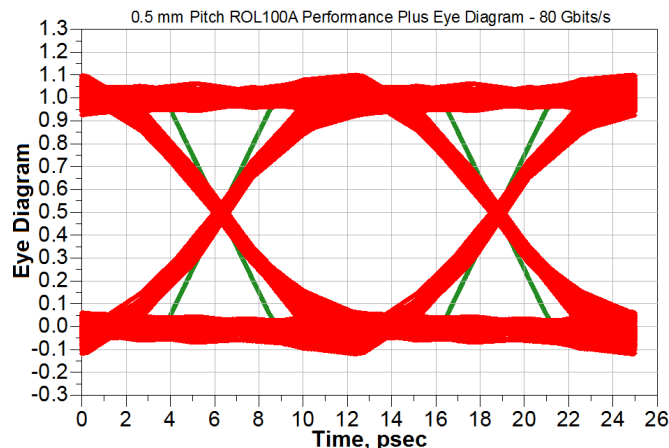
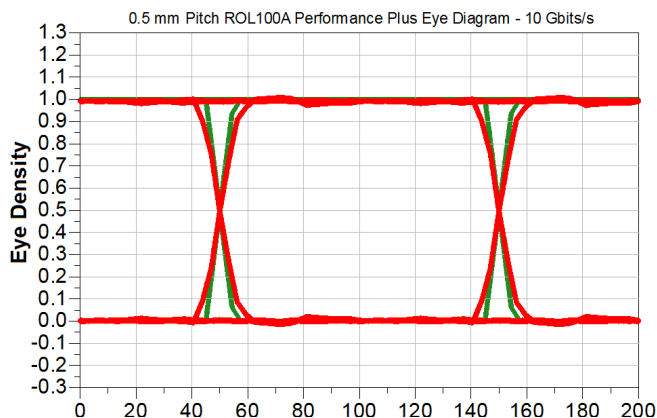
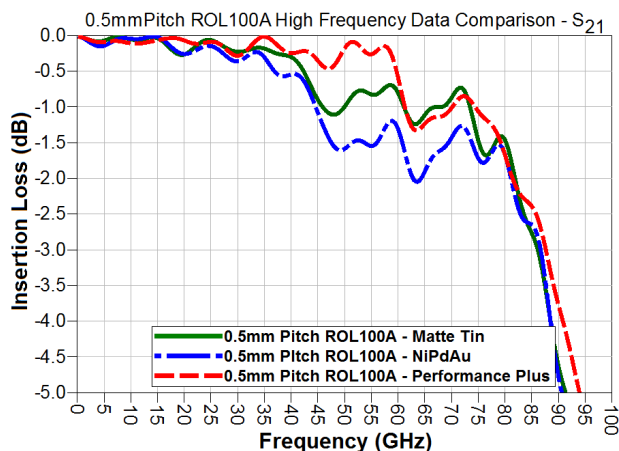
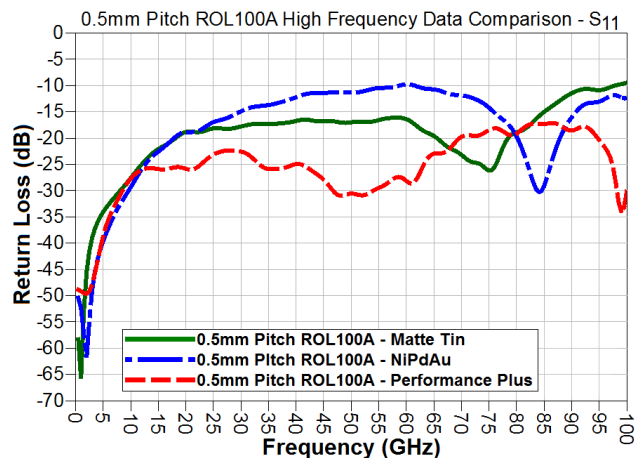
|                     | ROL100A Performance Plus* | Standard ROL100A Matte Tin | Standard ROL100A NiPdAu |
|---------------------|---------------------------|----------------------------|-------------------------|
| <b>Contact</b>      | <b>152144</b>             | <b>153164</b>              | <b>161805</b>           |
| -1dB Insertion Loss | 61.3GHz                   | 45.8GHz                    | 44.6GHz                 |
| -20dB Return Loss   | 69.7GHz                   | 18.2GHz                    | 17.8GHz                 |

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/contact/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. 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

| Mechanical Specifications            |                               | Matte Tin Configuration   | NiPdAu Configuration             |
|--------------------------------------|-------------------------------|---|----------------------------------|
| Physical Compressed Height:          |                               | 0.75 mm   |                                  |
| Contactor Life*** (# of insertions): |                               | Elastomers = 300,000<br>Contacts = 500,000+<br>Housing = 1,000,000+ |                                  |
| Contact Compliance:                  |                               | 0.175 - 0.200 mm  |                                  |
| Contact Force (per contact):         | @ -65°C<br>@ 25°C<br>@ +175°C | 30 grams<br>35 grams<br>44 grams                                    | 11 grams<br>15 grams<br>18 grams |
| Temperature:                         |                               | -65°C to 175°C  |                                  |
| Housing Material:****                |                               | Torlon 5030   |                                  |
| Contacts:                            |                               | Gold-plated   | Low-Force XL-2                   |
| Contact Material:                    |                               | BeCuNiAu  | Gold-plated Alloy                |

temperature rises. Performance will vary depending on pitch, device plating, and mechanical interfacing. \*\*\* 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, and 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 coplanarity; docking coplanarity; and temperature extremes. \*\*\*\* Performance Plus housing is metal with non-conductive inserts. The type of metal and inserts varies and is dependent on the configuration and performance needs of device being tested.



**Johnstech<sup>®</sup>**

Johnstech International Corporation • 1210 New Brighton Boulevard • Minneapolis, MN 55413-1641 USA  
Tel 612.378.2020 • Fax 612.378.2030 • [www.johnstech.com](http://www.johnstech.com) • E-mail [info@johnstech.com](mailto:info@johnstech.com)