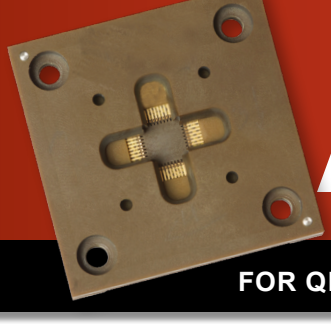


LEADED ROL® 200KR XT™

FOR QFP, SO, SOT AND OTHER LEADED-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 *Leaded ROL® 200KR XT™* Automotive Contactor is just the product you're looking for! This Xtreme Temperature (*XT™*) 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™* Contactor provides additional design margin and certainly satisfies even your roadmap requirements.

The Leaded ROL 200KR XT Automotive Contactor improves test yields and increases test reliability through several features, including:

Electrical Reliability Improves Yields

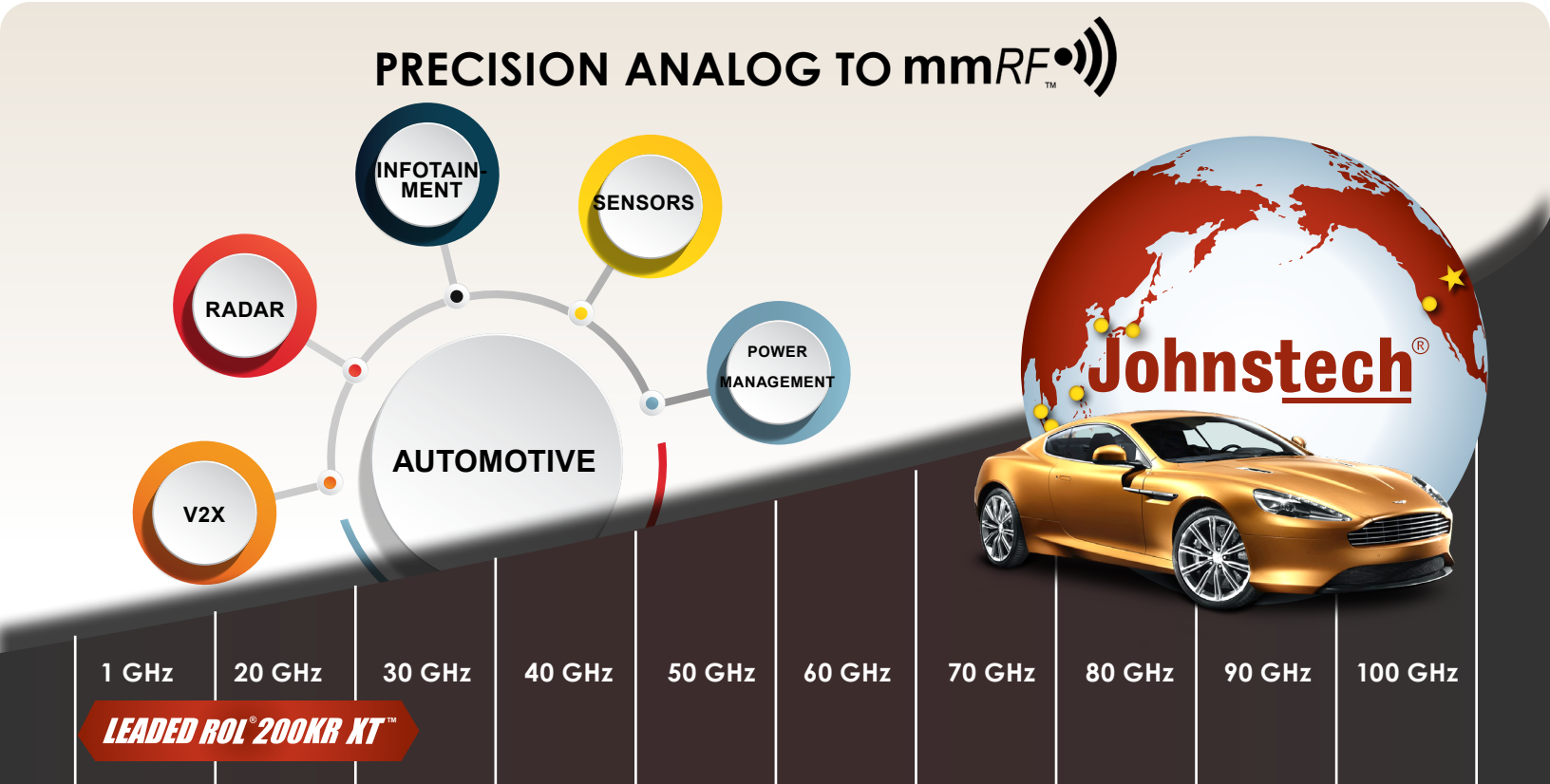
- **Patented, One-Piece ROL® Contacts**
- **Delivers Lowest Contact Resistance (CRES)**
- **High Current Carrying Capability**
- **Low Inductance**
- **Extremely Stable Contact Restistance (CRES)**
- **High Frequency Capability**
- **Wiping Contact Clears Debris**

Mechanically Robust

- **Long Life ROL® Contacts**
- **Temperature Test Stability**
- **Patented Wiping Lengthens MTBA**

Kelvin-Ready™ Versatility

- **Configurable Application Flexibility**
- **Two Contact Profiles Optimize Performance**
- **Superior Load Board Design (see back)**
- **Kelvin Only When And Where Needed**
- **Determine When To Clean**
- **Eliminate / Minimize Retests**
- **Redundant Sense Contact Reliability**
- **Self Cleaning Contacts Clear Debris**



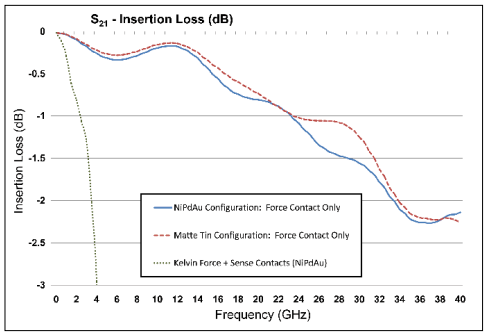
LEADED ROL® 200KR XT™

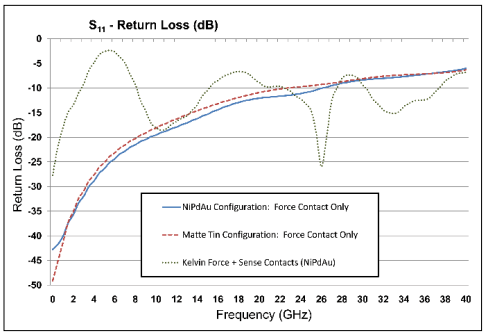
Electrical Specifications	Matte Tin Configuration	NiPdAu Configuration
	Force Contact Only (Force and Sense Contact)	
Inductance:	Self: 0.46 nH (3.09 nH) Mutual: 0.04 nH (0.49 nH)	Self: 0.46 nH (3.26 nH) Mutual: 0.03 nH (0.81 nH)
Capacitance:	Ground: 0.10 pF (0.63 pF) Mutual: 0.02 pF (.118 pF)	Ground: 0.10 pF (0.64 pF) Mutual: 0.02 pF (0.125 pF)
S_{21} Insertion Loss (GSG):	-1 dB @ 23.3 GHz (-1 dB @ 1.8 GHz)	-1 dB @ 23.1 GHz (-1 dB @ 2.4 GHz)
S_{11} Return Loss (GSG):	-20 dB @ 8.2 GHz (-20 dB @ 0.8 GHz)	-20 dB @ 9.4 GHz (-20 dB @ 0.6 GHz)
S_{41} Crosstalk (GSSG):	-20 dB @ 34.7 GHz (-20 dB @ 5.0 GHz)	-20 dB @ 29.9 GHz (-20 dB @ 3.0 GHz)
Average DC Contact Resistance (CRES):	60 mΩ Force Contact 400 mΩ Sense Contact	30 mΩ Force Contact 330 mΩ Sense Contact
Current Carrying Capability*: (Duty Cycle 100%, 50%, 1%)	Force Contact 2.8A, 4.1A, 5.9A Sense Contact 1.0A, 1.8A, 2.3A	Force Contact 3.6A, 5.0A, 7.5A Sense Contact 1.0A, 1.8A, 2.3A
RMS Current Carrying Capacity**: (Duty Cycle 100%, 50%, 1%)	2.8A, 4.0A, 8.9A Force Contact 1.0A, 1.4A, 3.2A Sense Contact	3.6A, 5.1A, 11.4A Force Contact 1.0A, 1.4A, 3.2A Sense Contact
Current Leakage:	<1 pA @ 10 V	

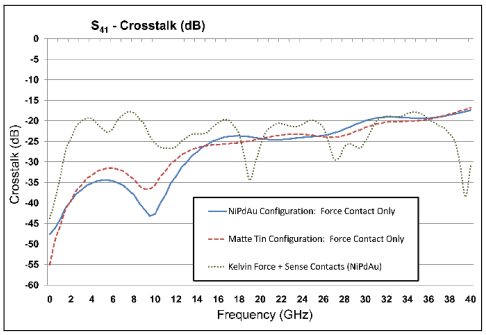
NOTE: Specifications for 0.5mm pitch configurations shown here. These specifications are based on a combination of internal and third-party measured testing.
** Test conditions: 300 msec pulse, 20°C temperature rise. Higher currents allowed for higher temperature rises.*

Mechanical Specifications		Matte Tin	NiPdAu
Compressed Height: Electrical Length		1.34 mm 2.00 mm	1.34 mm 2.00 mm
Contact Force (grams): Force (Force + Sense)	@ -65°C @ 25°C @ +175°C	30 grams (70 grams) 30 grams (70 grams) 40 grams (80 grams)	
Contactor Life***: (# of insertions)		Elastomers = 300,000 Force Contacts = 500,000+ Sense Contacts = 300,000+ Housing = 2,000,000+	
Contact Compliance:		0.20 mm	
Contact Wipe on Lead:		0.22 mm	0.13 mm
Temperature:		-65°C to +175°C	
Housing Material:		High Performance Torlon®	
Force Contacts:		Low-Force XL-2 Kel. Fine Tip	
Nearest Decoupling Area		1.80 mm	

*** 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.*
**** 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.*

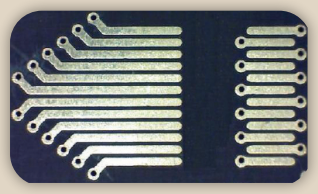




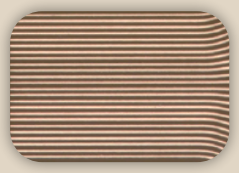


Kelvin-Ready™ Load Boards More Reliable, Less Expensive

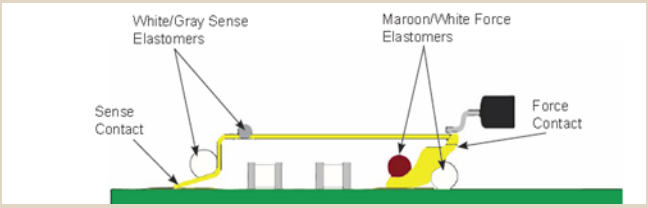
The *Leaded ROL® 200KR load board* solution separates the Force and Sense load board traces in a front and back format, allowing standard size load board traces to route test signals. These relatively larger traces maintain testing reliability and simplify load board design, reducing load board manufacturing expenses relative to other socket designs. For I/Os where Kelvin is not needed, removing the Sense line creates additional load board real estate and can also provide a straight line path to high speed connectors when testing RF and other high speed signals.



Kelvin-Ready™ Front/Back Design



Methodology



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