

LEADED ROL[®] 200KR2 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[®] 200KR2 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 200KR2 XT Automotive Contactor improves test yields and increases test reliability through several features, including:

FEATURES & BENEFITS (0.5 Pitch)		
INDUCTANCE	Force	Force + Sense
	Self: 0.719 nH Mutual: 0.258 nH	Self: 3.90 nH Mutual: 0.24 nH
PITCH	≥ 0.5mm	
TEMPERATURE	-65°C to 175°C	
CURRENT CARRY CAPABILITY @ 100%	1.8A Force Contact; 0.8A Sense Contact	

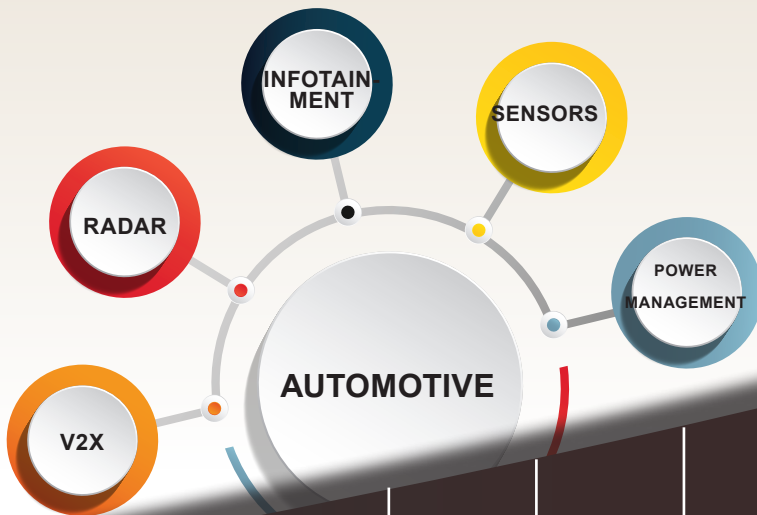
Electrical Reliability Improves Yields

- Patented, One-Piece ROL[®] Contacts
- Delivers Lowest Contact Resistance (CRES)
- High Current Carrying Capability
- Low Inductance
- Extremely Stable Contact Resistance (CRES)
- High Frequency Capability
- Wiping Contact Clears Debris
- Temperature Test Stability

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

PRECISION ANALOG TO mmRF[™]



1 GHz

20 GHz

30 GHz

40 GHz

50 GHz

60 GHz

70 GHz

80 GHz

90 GHz

100 GHz

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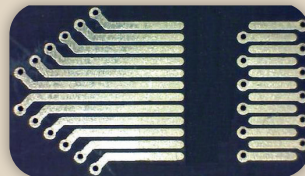
Electrical Specifications	Force Contact Only (Non-Kelvin I/O's)	Force + Sense (Kelvin I/O's)
Inductance:	Self: 0.719 nH Mutual: 0.258 nH	Self: 3.90 nH Mutual: 0.24 nH
Capacitance:	Ground: 0.301 pF Mutual: 0.090 pF	Ground: 0.30 pF Mutual: 0.13 pF
Average DC Contact Resistance (CRES):	<40 mΩ Force Contact <330 mΩ Sense Contact	< 1 mΩ System
Current Carrying Capability*: (Duty Cycle 100%, 50%, 1%)	1.8 A, 2.4 A, 4.9 A Force Contact 0.8 A, 1.2 A, 1.6 A Sense Contact	
RMS Current Carrying Capability**: (Duty Cycle 100%, 50%, 1%)	1.8 A, 2.5 A, 17.6 A Force Contact 0.8 A, 1.1 A, 8.0 A Sense Contact	
Current Leakage:	<1 pA @ 10 V	
Nearest Decoupling Area:	1.62 mm	

Mechanical Specifications	Matte Tin and NiPdAu Configurations	
Compressed Height*** (Force Contact)	1.34 mm <i>APPLICATION ALERT</i>	
Electrical Length:	2.00 mm (Force Contact)	
Contact Force**** (per contact): Force Contact Only	@ 25°C	25 grams (55 grams)
Component Life***** (# of insertions, Typical Performance):	Elastomers = 300,000 Force Contacts = 500,000+ Sense Contacts = 300,000+ Housing = 2,000,000+	
Contact Compliance:	0.20 mm	
Temperature:	-65°C to +175°C	
Housing Material:	Torlon® 5030	
Force Contacts:	Gold-Plated or Low-Force XL-2 Kelvin Fine Tip	

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. *** APPLICATION ALERT - The Leaded ROL 200 KR2 contactor is drop-in compatible in many applications. However, some applications of this contactor may require handler system plunger and/or manual actuator lead-backer modifications to be fully drop-in compatible. Contact your Johnstech Representative or Application Engineer for further information and assistance with handler plunger and/or manual actuator lead-backer modifications and setup for the Leaded ROL 200 KR2 contactor. **** Typical values based on Johnstech internal testing. ***** 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*[®] 200KR2 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



Spring Pin Side-by-Side Design

Methodology

