

# ALPHA™

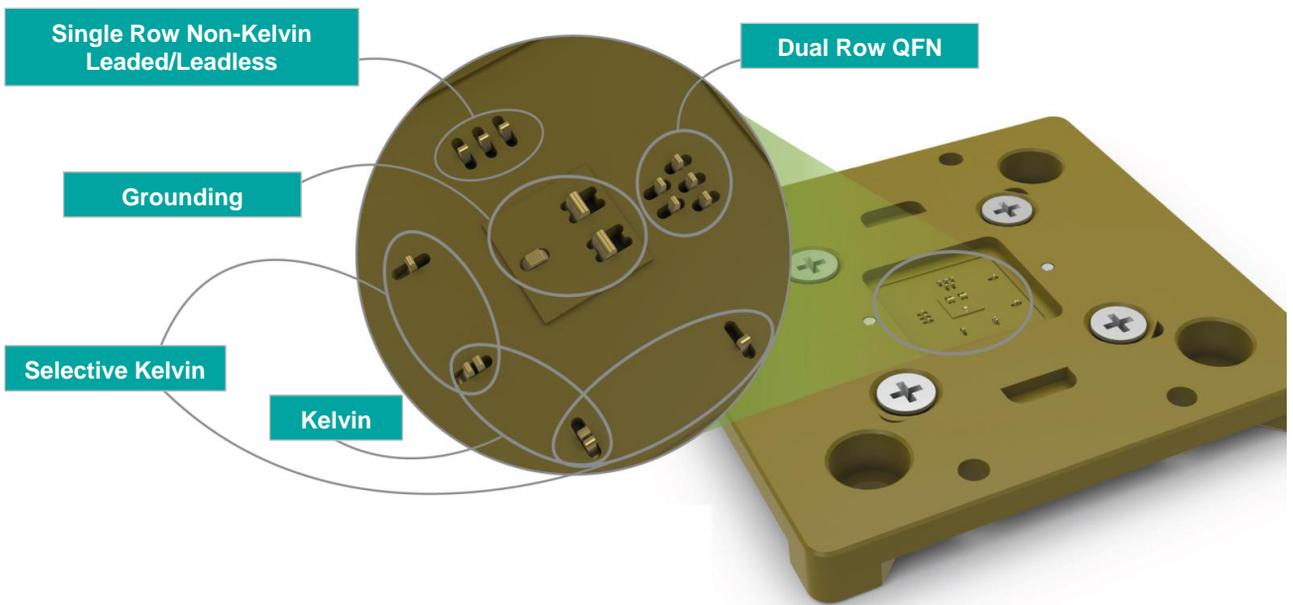
## TEST CONTACTING SOLUTION

## FOR TRI-TEMPERATURE KELVIN AND NON-KELVIN TESTING

Alpha / Alpha-Kelvin is the industry leader and widely accepted for Automotive and Power applications that require consistent contact resistance [CRes/RDS(on)] along with device under test temperature controlled at  $\pm 2^{\circ}\text{C}$  and long mechanical life in production environments.

Alpha Test Contacting Solution is available in Kelvin, Selective-Kelvin, as well as Non-Kelvin configurations and are compatible with most spring probe platforms due to Alpha's "straight-thru" contact technology for SOIC, TSOP, QFP, QFN etc. packages.

Do You Need?	Alpha Offers
Self cleaning	Scrubbing ( $\leq 0.15\text{mm}$ )
Sustainable CRes	Single piece cantilever pin ( $\leq 30\text{m}\Omega$ )
High current testing	$\geq 3.2\text{A}$ continuous
Temperature testing of $-60^{\circ}\text{C}$ to $180^{\circ}\text{C}$	Reliable temperature test with single piece pin construction
Longer lifespan test solution	300k ~ 500k insertion (pin) $\geq 6\text{M}$ insertion (housing)
Sustainable 1 <sup>st</sup> Pass Yield (FPY)	Longer MTBA & MTBF
Loadboard friendly	No wearing on loadboard
Lower Cost of test (CoT)	Higher OEE



**Package Range :** SOIC, SOP, MSOP, TSOP, QFP, DFN, QFN  
**Pitch :**  $\geq 0.4\text{mm}$

## Design Features

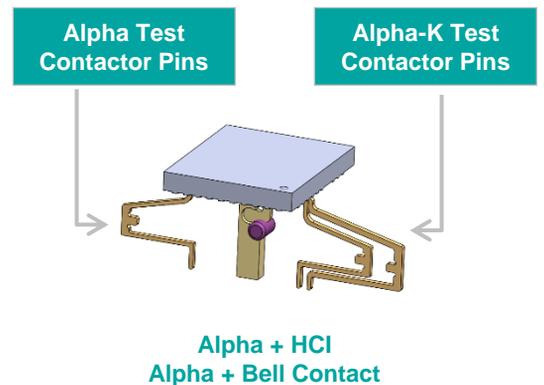
- ✓ Mechanical robustness
- ✓ Versatile and cost effective
- ✓ Excellent Current Carrying Capacity (CCC)
- ✓ Thermal Conditioning Channel (TCC) Technology
- ✓ Short Wiping Stroke (SWS) Technology
- ✓ Advanced Contact Finish (ACF) Technology

Electrical Specification <sup>①</sup>	Dual Contact (Kelvin)	Single Contact (Non-Kelvin)
Self Inductance (nH)	3.61 (Inner) ; 4.56 (Outer)	3.68
Mutual Inductance (nH)	1.6	1.64
Ground Capacitance (pF)	0.65	0.35
Mutual Capacitance (pF)	0.55	0.26
Current Carry Capacity – CCC (A) Duty Cycle 100% (100ms)	2.7 (Inner) ; 3.6 (Outer)	
Resistance (mΩ)	10	≤ 30
S21 (Insertion Loss/Bandwidth) (GSG)	- 1dB @ 3.6GHz	- 1dB @ 13.7GHz
S11 (Return Loss/Bandwidth) (GSG)	- 20dB @ 1.9GHz	- 20dB @ 1.0GHz
S41 (Crosstalk/Bandwidth) (GSSG)	- 20dB @ 0.6GHz	- 20dB @ 0.9GHz

Mechanical Specification	Kelvin	Non-Kelvin
Pin Uncompressed Height (mm)	3.43	
Pin Compliance (mm)	0.15 / 0.20	
Pin Wiping Length (mm)	≤ 0.2	≤ 0.15
Gram Force Per Pin (g)	20 ~ 30	
Number of Insertion- Housing	≥ 6M	
Number of Insertion- Pin (Matte Tin)	300k ~ 500k	
Number of Insertion- Pin (NiPd)		
Operating Temperature (°C)	- 60 to 180	
Socket Material	Torlon® 5030 or equivalent	
Contact Pin Material	BeCu - NiAu	

① Results for 0.2mm thickness of pin

## Grounding Options



**Note \*** : The stated specifications are based on JF Microtechnology's Laboratory Test; the results may vary subjected to the test environment conditions. Information furnished by JF Microtechnology is believed to be accurate and reliable. However, no responsibility is assumed by JF Microtechnology for its use, nor for any infringements of patents or other rights of third parties that may result from its use. Specifications subject to change without notice. No license is granted by implication or otherwise under any patent or patent rights of JF Microtechnology. Trademarks and registered trademarks are the property of their respective owners.

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