

GAMMA™

TEST CONTACTING SOLUTION (PATENT NO. 10,466,300)

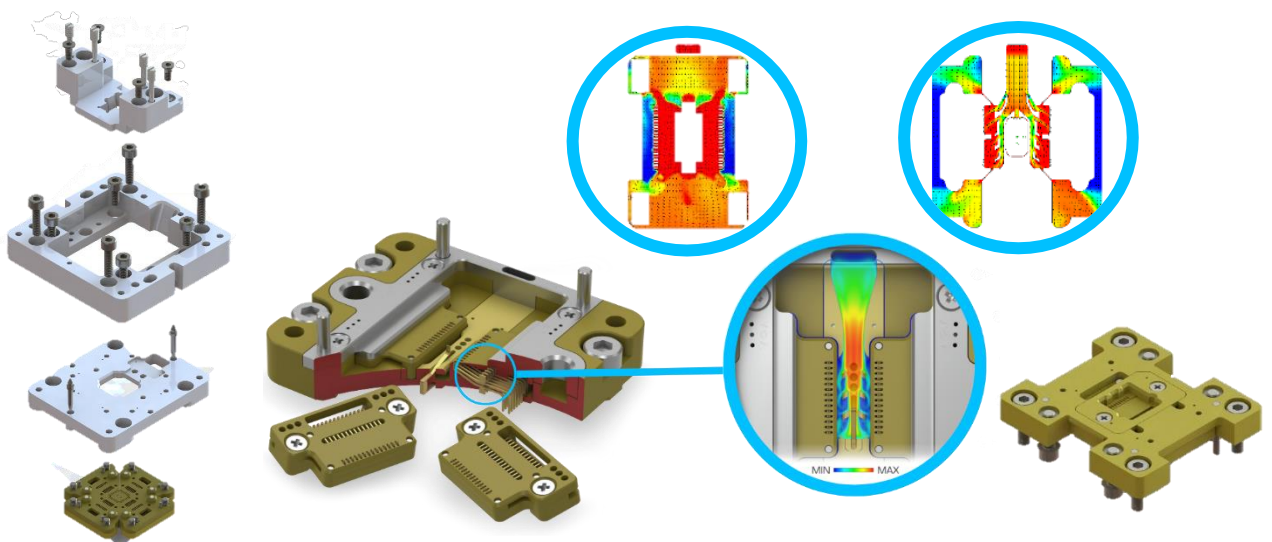
FOR PRECISION TEMPERATURE TESTING



The industry's leading precision thermal contacting solution for Mixed-Signal & Automotive ICs from mid to high power test applications with precise Kelvin contactor for Leaded & Leadless devices.

Gamma features a customized cantilever contact pin & proprietary housing design with compression-mount contactor; delivers high performance in electrical & mechanical specifications from the laboratory to high volume final test.

Key Features	Gamma Contact Technology Delivers
Self cleaning	Scrubbing of $\approx 0.17\text{mm}$ (Kelvin)
Tri-temperature testing (-60°C to 180°C) with $\pm 2^{\circ}\text{C}$ thermal control	Reliable temperature test with single piece pin construction & proprietary housing design
Longer lifespan test solution	300k ~ 500k insertions (Pin – on Matte Tin & NiPd) $\geq 2\text{M}$ insertions (Housing)
Sustainable 1 st pass yield (FPY)	Longer MTBA, MTBR & MTBF
Loadboard friendly	No mechanical movement & wearing on loadboard
Lower cost of test (CoT)	Higher OEE
Replaceable components	Modular design for ease of maintenance



Targeted Applications



Design Features

- ✓ ± 2°C thermal control
- ✓ Module assembly
- ✓ Contact forces down to 25g per pin
- ✓ Tri-Temperature testing of - 60°C to 180°C
- ✓ Scrubbing Kelvin solution for ≥ 0.4mm pitch

Electrical Specifications	Gamma uSWS ^①	Gamma HD ^②
Self Inductance (nH)	7.57 (Inner) 8.38 (Outer)	6.10 (Inner) 6.34 (Outer)
Mutual Inductance (nH)	4.87 (Inner) 5.50 (Outer)	3.90 (Inner) 4.09 (Outer)
Ground Capacitance (pF)	0.36 (Inner) 0.37 (Outer)	0.50 (Inner) 0.50 (Outer)
Mutual Capacitance (pF)	0.26 (Inner) 0.27 (Outer)	0.37 (Inner) 0.37 (Outer)
Contact DC Resistance (mΩ)	≤ 30	≤ 25
Current Carrying Capacity (A) <i>Duty Cycle 100%</i>	3.5 (Inner) 3.9 (Outer)	7.9 (Inner) 8.8 (Outer)
Current Leakage (pA) @ 10V	≤ 1	

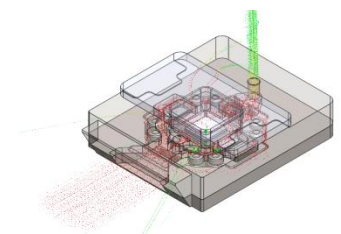


Gamma uSWS
Kelvin Wiping length 0.1mm

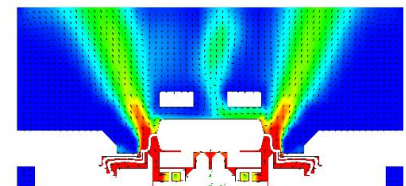


Typical Wiping length 0.28mm

Mechanical Specifications	Gamma uSWS ^①	Gamma HD ^②
Contact Uncompressed (mm)	3.57	4.20
Contact Compliance (mm)	0.20	0.40
Contact Tip Coplanarity (mm)	± 0.05 *	
Total Kelvin Contact Wiping Length (mm)	< 0.17*	~ 0.25* (Single) ~ 0.77* (Kelvin)
Gram Force per Contact (g)	50 ~ 70 * per kelvin	180 ~ 220 * per kelvin
Number of Insertions – Housing	≥ 6M *	≥ 6M *
Number of Insertions – Module	≥ 2M *	
Number of Insertions – Pin (Matte Tin)	300k ~ 500k *	
Number of Insertions – Pin (NiPd)		
Operating Temperature (°C)	- 60 ~ 180	
Socket Material	Torlon® 5030 or equivalent	
Contact Pin Material	BeCu - NiAu	



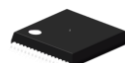
Contactor temperature simulation



TCC Technology – Excellent thermal stability

Package Range : DFN, QFN, SOP, SOIC, MSOP, TQFP, QFP or Customize Package

Test Handlers : Pick-and-Place, Gravity, Turret or Customize Handler



- ① Results for Gamma uSWS is based on 0.3mm pin thickness;
- ② Results for Gamma HD is based on 0.8mm pin thickness.

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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