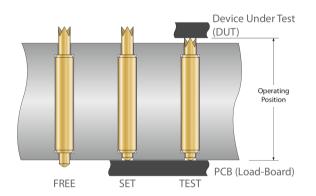
# KITA MARATHON

#### KITA MARATHON PINS

The contact pins of the MARATHON series of KITA are, as the name suggests, true endurance athletes. The bilateral sprung contacts for use in test sockets with grid spacings in the fine pitch range have lifetimes of up to 1 million strokes and feature high current capability and low resistance values.

The grid spacing of Marathon types start from 0.2 mm and reach up to 0.80 mm. At the end of this section you will find two special types: For applications in strong magnetic fields and / or near the absolute zero (superconductivity) the KHW 050-009RG is suitable due to its use of materials. The KHW 050-010C1 is, however, for high temperature applications up to 200 ° C.



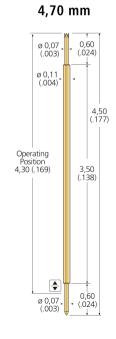
#### **INSTALLATION INSTRUCTIONS**

The double-end spring-loaded contact pins are made for installation in test sockets which usually have a sandwich-layer design. In the tables showing the graphs of the spring forces the probe is shown in its 3 standard stages of condition:

**FREE**: Own preload of the inner spring, no contact on either side **SET**: The test-socket is mounted onto the Load Board, the lower piston springs are compressed somewhat

**TEST**: DUT is installed, Spring Probe force and travel in nominal position. This situation is also called "operating position".

Spring Force Profile					
Free	<b>Set</b> @ 0,15 n	<b>Test</b> nm @ 0,40 mm			
0,02 N	0,03 N	0,06 N			
	Ø 0,07	KHS-017-001CP			
	Ø 0,07	KHS-017-002RP			



Technical Data		
Overall Length	4,70 mm	
Minimum Centre Spacing	0,17 mm	
Maximum Travel	0,50 mm	
Working Travel	0,40 mm	
Temperature Range from	-40°C	
Up to	+120°C	
Typical Resistance	≤500 mΩ	
Current rating	0,31 A	
Materials		
Upper Plunger Palladiun	n alloy	
Bottom Plunger Palladiun	·	
Barrel Alloy	Alloy	

# 0,40 mm Pitch

### **Technical Data**

Overall Length	7,37 mm
Minimum Centre Spacing	0,40 mm
Typical Spring Force	0,16 N
Maximum Travel	0,60 mm
Working Travel	0,30 mm
Temperature Range from	−45°C
Up to	+125°C
Typical Resistance	50 mΩ
Current Load rated/max.	1,0 / 1,5 A

#### Materials

Upper Plunger Steel, gold plated
Bottom Plunger CuBe, gold plated
Barrel Au Clad
Spring Stainless steel, gold plated

# 0,40 mm Pitch

### **Technical Data**

Overall Length	3,90 mm
Minimum Centre Spacing	0,40 mm
Typical Spring Force	0,22 N
Working Travel	0,45 mm
Temperature Range from	-40°C
Up to	+120°C
Typical Resistance	$35~\text{m}\Omega$
Current rating	2.7 A

# Materials

Upper Plunger
Bottom Plunger
Barrel
Spring
CuBe, gold plated
Alloy, gold plated
Music wire, gold
plated

# 0,50 mm Pitch

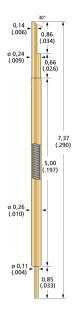
### **Technical Data**

Overall Length	5,50 mm
Minimum Centre Spacing	0,50 mm
Typical Spring Force	0,31 N
Working Travel	0,45 mm
Temperature Range from	-40°C
Up to	+120°C
Typical Resistance	$35~\text{m}\Omega$
Current rating	3,0 A

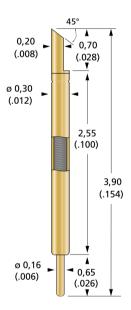
### Materials

Upper Plunger CuBe, gold plated
Bottom Plunger CuBe, gold plated
Barrel Alloy, gold plated
Spring Stainless steel, gold plated

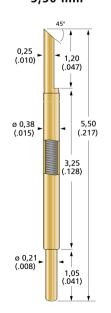
# 7,37 mm



## 3,90 mm



# 5,50 mm



# Spring Force Profile Free Set @ 0,10 mm Test @ 0,3 mm 0,16 N 0,16 N

Spring Force Profile					
Free	<b>Set</b> @ 0,15		<b>Test</b> @ 0,45 mm		
			0,22 N		
	Ø 0,30	K	HS-040-009W1		
7	Ø 0,30	KH:	S-040-010NW2		

Head style W for Pads (QFN, DFN, etc.) Head style NW for Solder balls (BGA)

Minimum array pitch: 0,65 mm



Head style W for Pads (QFN, DFN, etc.) Head style NW for Solder balls (BGA)

Minimum array pitch: 0,80 mm