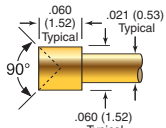
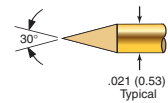


TO ORDER, CALL 909-625-9390

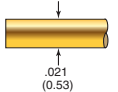
**HPA-1A  
SPA-1A**



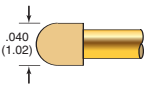
**HPA-1B  
SPA-1B**



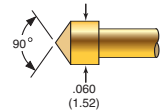
**HPA-1C  
SPA-1C**



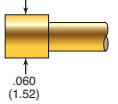
**HPA-1D  
SPA-1D**



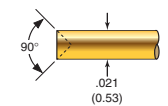
**HPA-1E  
SPA-1E**



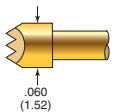
**HPA-1F  
SPA-1F**



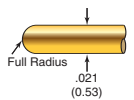
**HPA-1G  
SPA-1G**



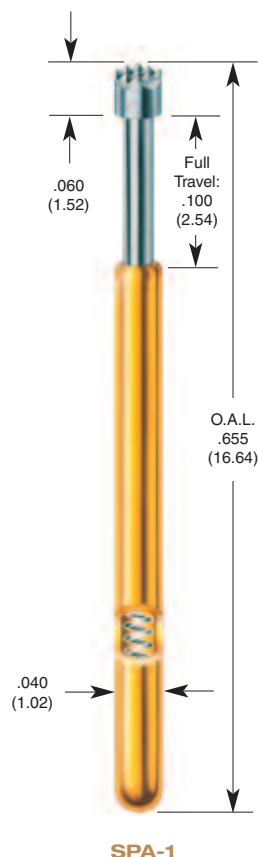
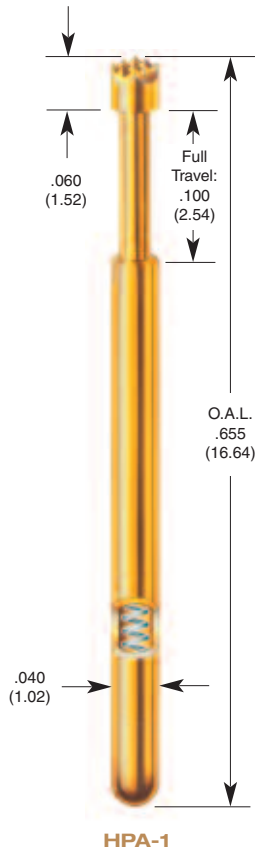
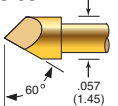
**HPA-1H  
SPA-1H**



**HPA-1J  
SPA-1J**



**HPA-1T  
SPA-1T**



**HPA-1**

**SPA-1**

**Probe Specifications HPA-1 SPA-1**

<b>Mechanical</b>		
Full Travel:	.100 (2.54)	.100 (2.54)
Recommended Working Travel:	.067 (1.70)	.067 (1.70)
Mechanical Life Exceeds:	1 x 10 <sup>6</sup> cycles	1 x 10 <sup>6</sup> cycles

<b>Operating Temperature</b>	-55°C to +150°C	-55°C to +150°C
Consult factory for other temperature requirements, and applications below -40° C.		

<b>Electrical (Static Conditions)</b>		
Current Rating:	3 amps	3 amps
Maximum continuous current, non-inductive at working travel		

<b>Average Probe Resistance</b>	35 mΩ	50 mΩ
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<b>Materials and Finishes</b>		
Plunger:	Heat-treated beryllium copper, gold plated over hard nickel	Heat-treated beryllium copper, rhodium plated over hard nickel
Barrel:	Work-hardened phosphor bronze, HPA-GOLD™ plated (I.D. and O.D.) over hard nickel	Work-hardened phosphor bronze, HPA-GOLD™ plated (I.D. and O.D.) over hard nickel
Spring:	Stainless steel, silver plated	Stainless steel, silver plated

**Receptacle Specifications**

<b>Mounting Hole Size:</b>	.053/.055 (1.35/1.40)	.053/.055 (1.35/1.40)
A #54 or 1.4 mm drill is most commonly used.		

<b>Recommended Wire Gauge:</b>	24-28 AWG	24-28 AWG
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<b>Connections:</b>	<b>SPR-1W Crimp</b> <b>SPR-1W-1 Solder cup</b> <b>SPR-1W-2/SPR-1W-2M Wire wrap/square post. Vacuum leak rate not to exceed 1 x 10<sup>-4</sup> CFM @ 15 psi</b>	<b>SPR-1W Crimp</b> <b>SPR-1W-1 Solder cup</b> <b>SPR-1W-2/SPR-1W-2M Wire wrap/square post. Vacuum leak rate not to exceed 1 x 10<sup>-4</sup> CFM @ 15 psi</b>
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<b>Materials and Finishes</b>		
Housing:	Work-hardened nickel silver, gold plated over hard nickel	Work-hardened nickel silver, gold plated over hard nickel
Square Post:	Phosphorous bronze, gold plated	Phosphorous bronze, gold plated

The HPA-1 and SPA-1 may be used to test bare PCBs on mixed test centers with the HPA-0 and HPA-74 probes, see pages 28 and 33.

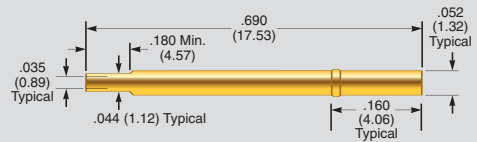
**Spring Force in oz. (grams)**

Spring Type	Preload	2/3 Travel
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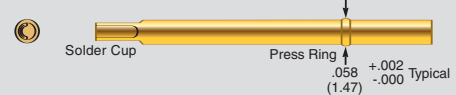
To order, add dash number to Model Number.		
Standard as shown	1.1 (31)	2.5 (71)
Alternate -1	1.3 (37)	4.5 (128)

Optional spring forces and materials are available.

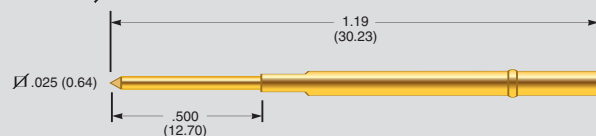
**SPR-1W**



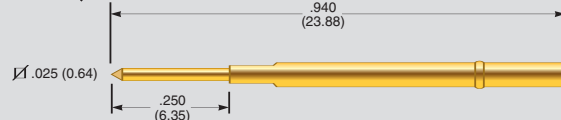
**SPR-1W-1**



**SPR-1W-2**



**SPR-1W-2M**



Bare PCB Test Probes



Actual Size