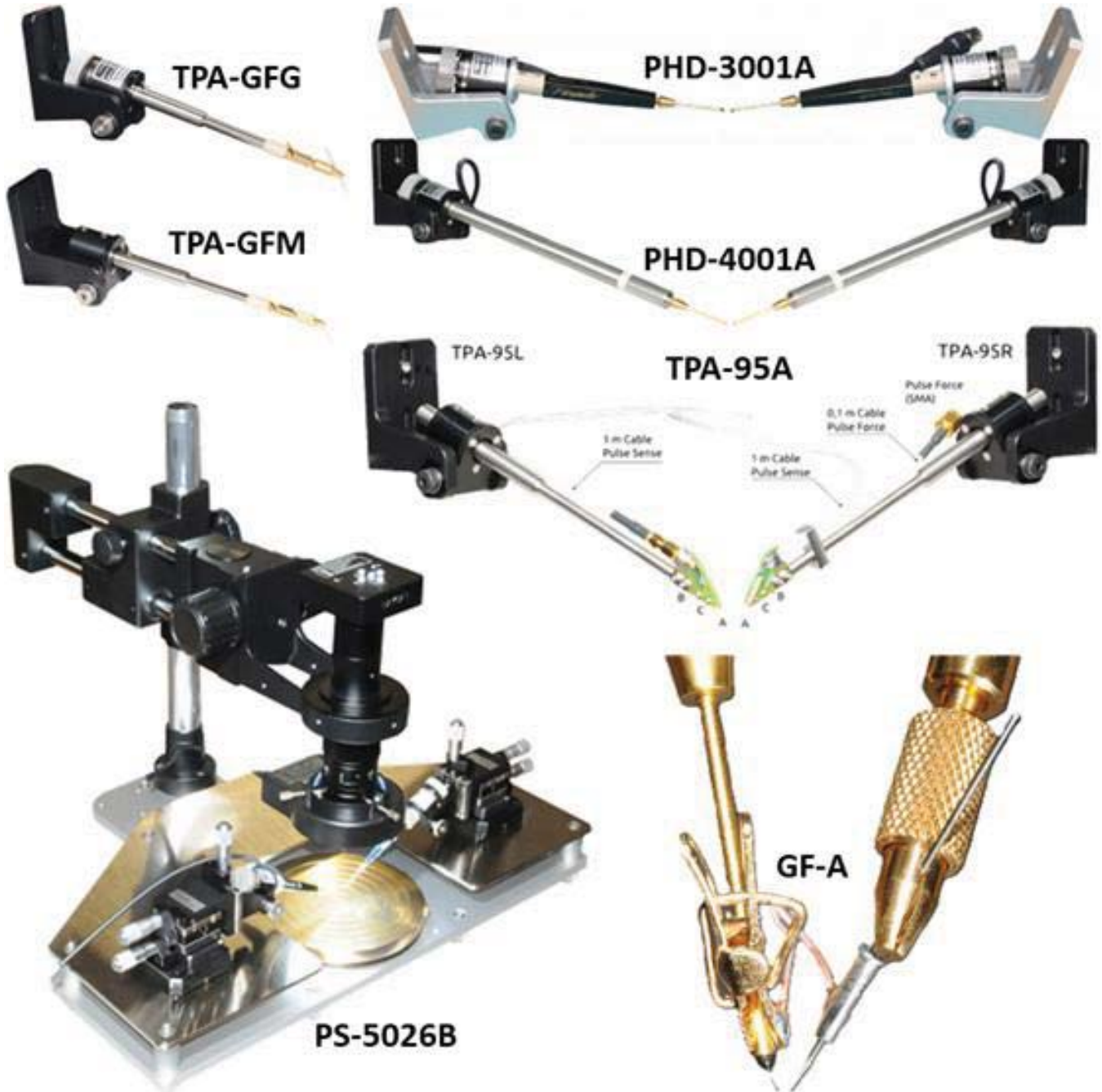


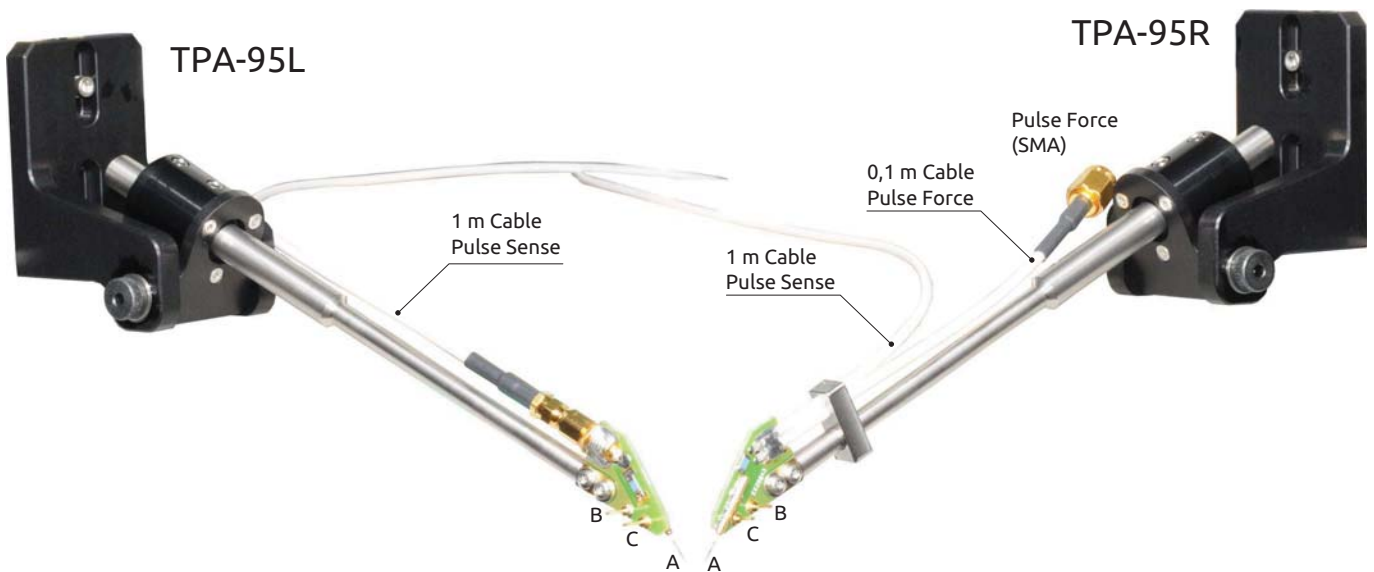
TLP/VF-TLP/HMM/HBM PROBING SOLUTIONS

TPA-95



High Voltage TLP Probe Arm Kit TPA-95

Advanced TLP/HMM/HBM Solutions



1 Features

- Flexible pulse force, pulse sense combined TLP probe arm kit based on TPA-95L and TPA-95R
- High voltage probing capability: 3 kV up to 1.5 μ s pulse width
- Compatible with typical standard micropositioner mechanical interfaces (Fig. 11)
- 4.7 k Ω pulse sense voltage divider, which results in a voltage transfer ratio of $(4700 + 50)/50 = 95 : 1$ into 50 Ω
- Variable probe pitch configuration
- 1 m flexible 50 Ω cables with SMA connector for pulse sense
- 0.1 m flexible 50 Ω cables with SMA connector for pulse force
- Bracket size custom selectable for HPPI probe station PS-5026B
- Tungsten probe tips
- Can be used for chuck backside grounded TLP measurements

2 Description

The TPA-95 probe arm kit consists of two probe arms TPA-95L and TPA-95R including tungsten probe tips and inter-connection cables. The kit is used for variable pitch wafer-level TLP measurements. Both arms include a pulse sense 4.7 k Ω pick-off tee which results in a voltage transfer ratio of 95:1 into 50 Ω .

Fig. 1 and Fig. 2 show the equivalent circuit of the probe arms. TPA-95L can be used for Kelvin-type pulse force / pulse sense configuration. TPA-95R can be used for direct pulse sense configuration. The nodes A, B, C are used to interconnect the probe arms for different measurement configurations.

Fig. 3 to Fig. 6 show several typical application examples, including grounded chuck configuration for backside grounded wafer TLP measurements.

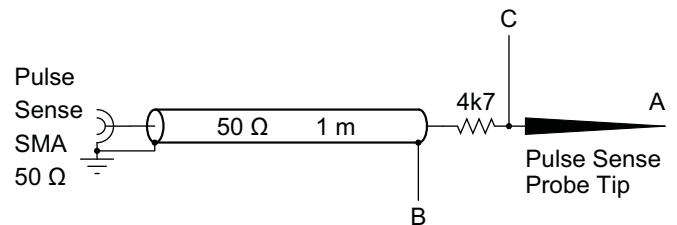


Figure 1: TPA-95L equivalent circuit.

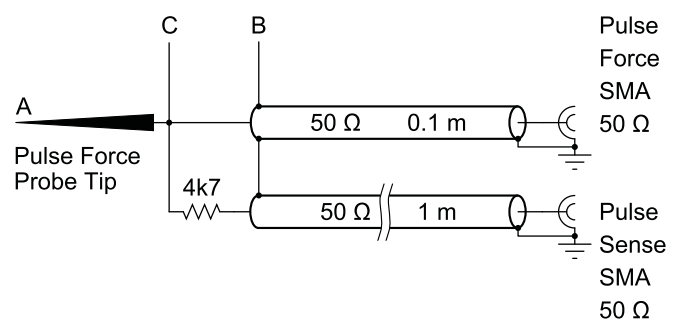


Figure 2: TPA-95R equivalent circuit.

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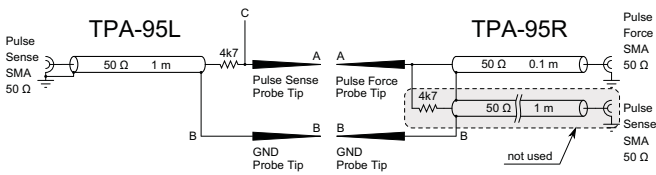


Figure 3: TPA-95 Kelvin pulse force / pulse sense configuration.



Figure 8: Detail view of the TPA-95 with GND needles connected.

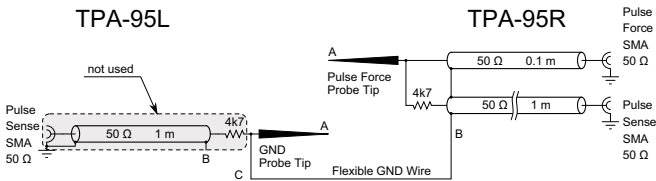


Figure 4: TPA-95 direct pulse sense configuration.

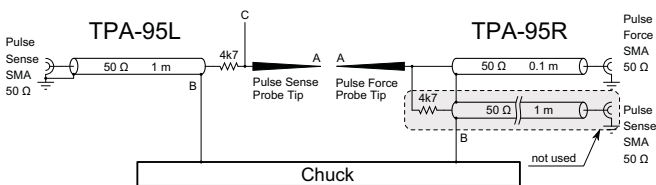


Figure 5: TPA-95 Kelvin pulse force / pulse sense configuration with grounded chuck.



Figure 9: TPA-95 packing including accessories.

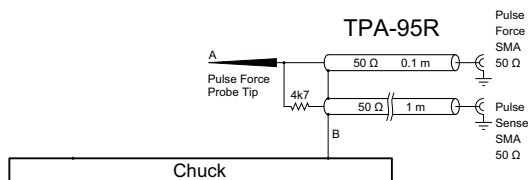


Figure 6: TPA-95 direct pulse sense configuration with grounded chuck.

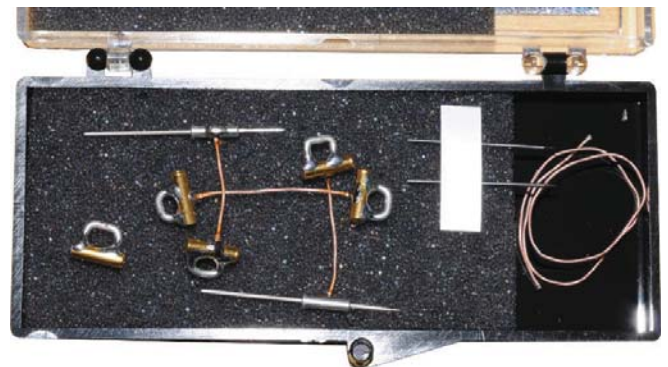


Figure 10: Flexible pitch setup GF-A for TPA-95.

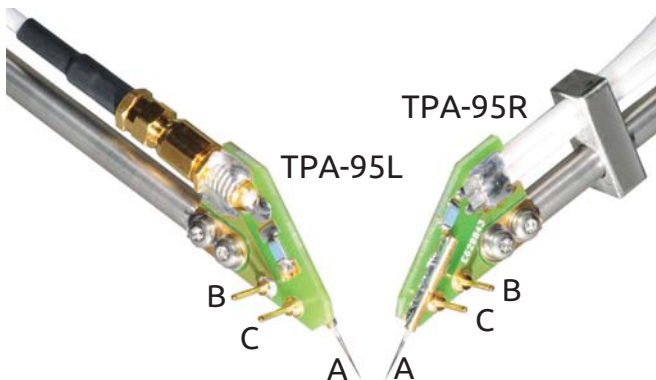


Figure 7: Detail view of the TPA-95 interconnections.

3 Replacement Tungsten Needles

Tungsten carbide probes, 7.5 μm tip radius, 15° taper, 0.508 mm (20 mil) diameter from AMERICAN PROBE & TECHNOLOGIES Inc.; <http://www.americanprobe.com/>

Part	Probe Needle Model No.
TPA-95L	72TC-D3/75 x 0.75"
TPA-95R	72TC-D3/75 x 0.75"
GF-A	72TC-D3/75 x 1"

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4 Mechanical Dimensions

Different probe arm length are custom selectable. Fig. 11 shows typical standard dimensions.

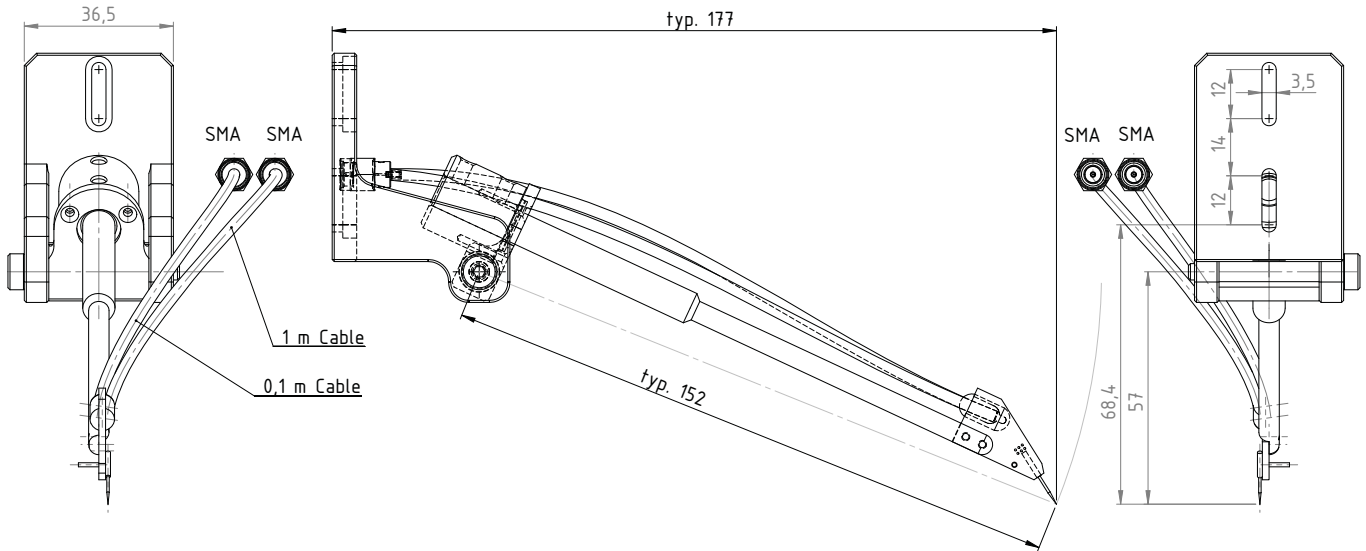


Figure 11: Mechanical dimensions TPA-95R in [mm]. TPA-95L has same dimensions. Note: Dimensions are different if smaller bracket size and shorter shaft have been selected for HPPI probestation PS-5026B.

5 Ordering Information

Pos.	Description	Part No.
01	<p>TLP Probe Arm Kit</p> <ul style="list-style-type: none"> • 1 x TPA-95-R • 1 x TPA-95-L • 4 x screws DIN 912 A2 4-40 x 8 (5/16") • Hex keys: <ul style="list-style-type: none"> - 1 x 3/32" - 1 x 1.5 mm - 1 x 2 mm - 1 x 2.5 mm • GF-A kit for TPA-95 • SMA female/female adapter <p>Bracket size custom selectable for HPPI probe station PS-5026B.</p>	TPA-95

General

The product data contained in this data-sheet is exclusively intended for technically trained staff. You and your technical departments will have to evaluate the suitability of the product for the intended application and the completeness of the product data with respect to such application. Our products are solely intended to be commercially used internally and should not be sold to consumers. This data-sheet is describing the specifications of our products for which a warranty is being granted by HPPI GmbH. Any such warranty is granted exclusively pursuant the terms and conditions of the respective supply agreement. There will be no guarantee of any kind for the product and its specifications. For further information on technology, specific applications of our product, delivery terms, conditions and prices please contact HPPI:

High Power Pulse Instruments GmbH
Stadlerstrasse 6A
D-85540 Haar, Germany
Phone : +49 (0)89 8780698 - 440
Fax : +49 (0)89 8780698 - 444
E-Mail : info@hppi.de

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