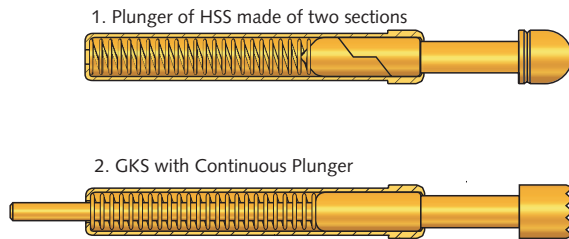


High-current Test Probes

In the case of high-current Test Probes, the plunger is split in two sections. During the stroke movement, the two plunger sections are deflected away from each other in the radial direction. This leads to the enlargement of the contact zones, i.e. the signal transfer areas. This then allows higher currents to be applied.



Alternatively to this standard high-current Test Probe design, such Test Probes with a continuous plunger (i.e. with a tail-end on the plunger) can also be used. Due to the direct signal flow, this design provides a very constant and stable low resistance. However, when using such a design, it must be taken into consideration that the cable (which is connected to the tail-end of the plunger) is constantly under stress due to the movement. This handicap is also apparent when using highly flexible, braided cable.

High-current Test Probes

HSS-118	104
HSS-120	105
HSS-520/520 M	106
HSS-150	107
HSS-2259	108
HSS-2513	108
HSS-2516	108
HSS-2526	108
HSS-2532	108

Screw-in HSS from page 143 on

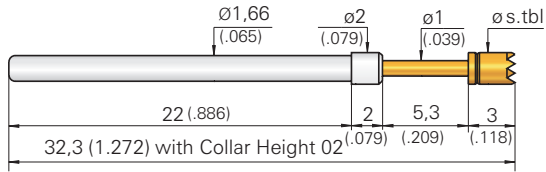
HSS 118

High Current Probe up to 16 A

Grid:
 ≥ 2,54 mm
 ≥ 100 Mil

Installation Height: 10,3 resp. 18,3 mm (.406/ .720)
Recommended Stroke: 4,0 resp. 6,4 mm (.157/ .252)

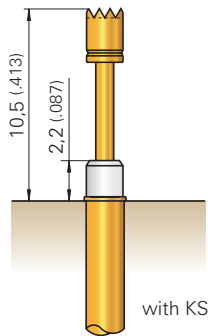
Mounting and Functional Dimensions



Collar Height and Installation Height

The Installation Height of the Tip (Dimension without Receptacle) is determined by the Collar Height.

Collar Height	Installation Height
02	10,3 mm (.406)
03	11,3 mm (.445)
04	12,3 mm (.484)
05	13,3 mm (.524)
06	14,3 mm (.563)
07	15,3 mm (.602)
08	16,3 mm (.642)
09	17,3 mm (.681)
10	18,3 mm (.720)



Mechanical Data

For Tip Styles with Diameter ≥ 1 mm (.039)
Working Stroke: 4,0 mm (.157)
Maximum Stroke: 5,3 mm (.209)
For Tip Styles with Diameter ≤ 1 mm (.039)
Working Stroke: 6,4 mm (.252)
Maximum Stroke: 8,0 mm (.315)

Spring Force at Work. Stroke: 1,5 N (5.4oz)
alternative: 0,8 N (2.9oz)****; 1,1 N (3.7oz)****; 2,25 N (8.1oz)

Electrical Data

Current Rating: max. 16 A
 with Spring Force ≥ 1,5 N + Plunger of BeCu
 **** Spring force < 1.5 N are not recommended for high-current applications
R_i typical: < 10 mΩ

Materials

Plunger: BeCu or Steel, gold-plated
Barrel: Brass, silver-plated
Spring: Steel, gold-plated or Stainless Steel
Receptacle: Brass, gold-plated

Mounting Hole Size

HSS-118 and KS-112 xx
with Receptacle: see KS-112, Page 50
without Receptacle: ø 1,65 mm (.0650)

Operating Temperature

Standard: -100° up to +200° C

Available Tip Styles

Material	Tip Style	Plating	Further Versions	
			ø	ø (inch)
3 02		A		
3 03		A		
3 05		A	0,65	(.026)
3 05		A		
3 05*		S		
3 06		A	1,30 1,60 2,50 3,50	(.051) (.063) (.098) (.138)
2 14		A		
3 17		A	2,00	(.079)
3 19		A		
3 53**		S		

* pressed-in Silver stud
 ** pressed-in Silver stud, Tip Length 3,5 mm (.138)
 Installation Height plus 0,5 mm (.020)

Applications:

- High-current transfer during Functional Test
- Power-Supply-Test
- Burn-in-Test
- Contacting element in permanent use
- Usage with AC and DC

Note:
 HSS-118 are used with Receptacles of the Series KS-112 (see Page 50).

Insertion and Extraction Tools for HSS and KS see Page 118.

Note:
 Screw-in Version see HSS-118 ... M on Page 144.

Ordering Example

Series	Tip Material 2 = Steel 3 = BeCu	Tip Style	Tip Diameter (1/100 mm)	Plating A = Gold S = Silver	Spring Force (dN)	Collar Height (mm)
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Test Probe:

H S S 1 1 8 3 1 7 1 7 5 A 1 5 0 2

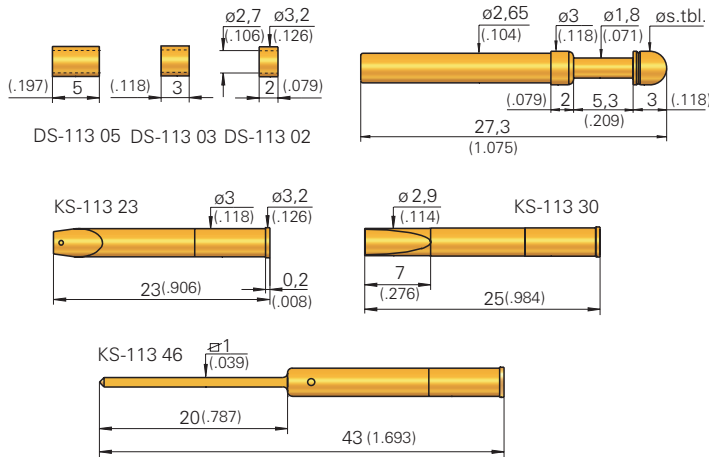
Receptacles for HSS-118:

K S - 1 1 2 3 0 K S - 1 1 2 4 7

Grid:
 ≥ 4,00 mm
 ≥ 160 Mil

Installation Height: 10,3/13,3/18,3 mm (.406 - .720)
Recommended Stroke: 4,0 mm (.157)

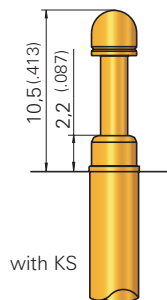
Mounting and Functional Dimensions



Collar Height and Installation Height

The Installation Height of the Tip (Dimension without Receptacle) is determined by the Collar Height.

Collar Height	Installation Height (without Receptacles)
02	10,3 mm (.406)
05	13,3 mm (.524)
10	18,3 mm (.720)



Mechanische Daten

Working Stroke: 4,0 mm (.157)
Maximum Stroke: 5,3 mm (.209)
Spring Force at Work. Stroke: 1,5 N (5.4oz)
alternative: 1,0 N (3.6oz)***; 2,25 N (8.1oz); 3,0 N (10.8oz)

Electrical Data

Current Rating: max. 24 A
 with Spring Force ≥ 1,5 N + Plunger of BeCu
 *** Spring force < 1.5 N are not recommended for high-current applications
R_i typical: < 10 mΩ

Operating Temperature

Standard: -100° up to +200° C

Materials

Plunger: BeCu or Steel, gold-plated
Barrel: Brass, gold-plated
Spring: Steel, gold-plated or Stainless Steel
Receptacle: Brass, gold-plated

Mounting Hole Size

HSS-120 and KS-113:
with Receptacle: ∅ 2,98 - 2,99 mm (.1173 - .1177)
without Receptacle: ∅ 2,65 mm (.1043)

Available Tip Styles

Material	Tip Style	Plating	Further Versions	
			∅	∅ (inch)
3 02		A	4,00	(.157)
3 03		A		
3 05		A		
3 05		A	3,00	(.118)
3 05**		S		
3 06		A	3,00 4,00	(.118) (.157)
3 17		A		
3 19		A		
2 51*		A		
3 53***		S		
3 55*		A		

* Tip Length 5 mm (.197) - Installation Height with Collar Height 02: 12,5 mm (.492)
 ** pressed-in Silver stud
 *** pressed-in Silver stud, Tip Length 3,5 mm (.138) Installation Height plus 0,5 mm (.020)

Applications:

- High-current transfer during Functional Test
- Power-Supply-Test
- Burn-in-Test
- Contacting element in permanent use
- Usage with AC and DC

Tools:

Insertion and Extraction Tools for HSS see Page 118.

Note:

Screw-in Version see HSS-120 ... M on Page 145.

Ordering Example

Series	Tip Material 2 = Steel 3 = BeCu	Tip Style	Tip Diameter (1/100 mm)	Plating A = Gold S = Silver	Spring Force (dN)	Collar Height (mm)
Test Probe:	HSS	120	306	300	A	1502
Receptacles for HSS-120:	KS-113	30	KS-113	23	KS-113	46

HSS 520 / 520 M

Short-Stroke High-Current Probe up to 24 A

Grid:

≥ 4,0 mm

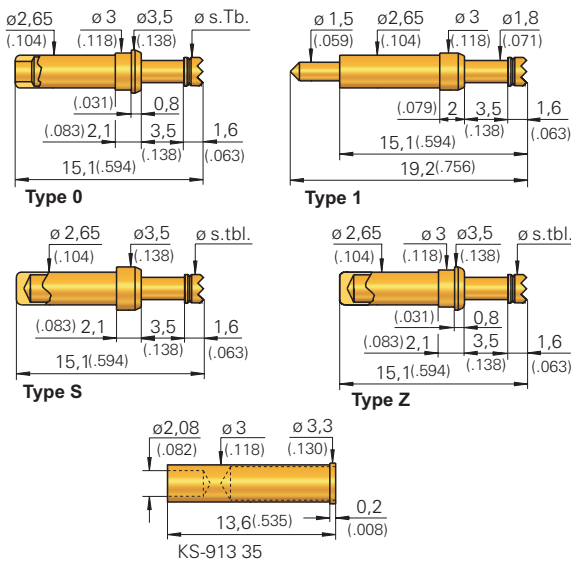
≥ 160 Mil

Installation Height: 7,2 mm (.283)

Recommended Stroke: 2,8 mm (.110)

Mounting and Functional Dimensions

HSS-520



Mechanical Data

Working Stroke: 2,8 mm (.110)
Maximum Hub: 3,5 mm (.138)
Spring Force at Work. Stroke: 1,5 N (5.4oz)

Electrical Data

Current Rating: 24 A
R_j typical: < 20 mΩ

Materials

Plunger: BeCu, gold-plated
Barrel: Brass, gold-plated
Spring: Stainless Steel
Receptacle: Brass, gold-plated

Mounting Hole Size

in Material CEM 1 and FR 4:
for KS-913 35: ∅ 2,98 - 2,99 mm (.1173 - .1177)
for KS-913 35 M-R: ∅ 3,00 - 3,02 mm (.1181 - .1189)
without Receptacle: ∅ 2,65 mm (.1043)

Note:

Typ Version

- 0 End of Probe Barrel open
- 1 End of Probe Barrel with solder terminal
- M End of Probe Barrel with thread M2 for KS-913 35 M (-R)
- S End of Probe Barrel closed; can be soldered into PCB
- Z End of Probe Barrel closed; can be soldered into PCB

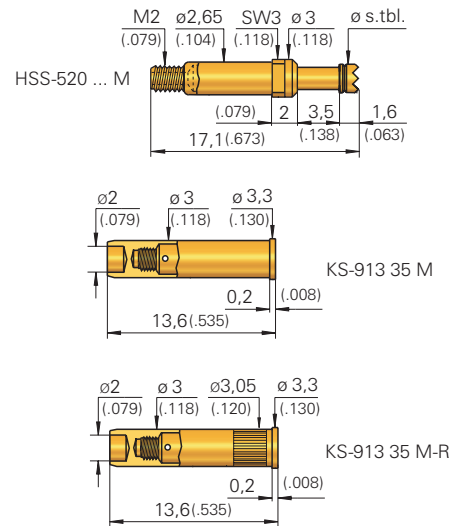
Warning: Soldering the Probes demands great care. High temperatures must not reach the inside of the barrel, because this could destroy the spring.

The Receptacle KS-913 35 can only be combined with the Probe Types 0, S and Z. The Receptacle KS-913 35 M can only be combined with the Probe Type M.

Available Tip Styles

Material	Tip Style	Plating	Further Versions	
			∅	∅ (inch)
3 06		A		
3 06		A		

HSS-520 ... M



Collar Height and Installation Height

The Installation Height of the Tip is determined by the Collar Height.

Collar Height	Installation Height
02	7,2 mm (.283)

Operating Temperature

Standard: -100° up to +200° C

Tools:

Insertion and Extraction Tools for GKS and KS see Page 118.

Note:

HSS-520 ... M will be screwed into Receptacle KS-913 35 M (-R), using special tools (see Page 170/171).

Recommended Screw-in Torque:
 Min.: 5 Ncm / Max.: 10 Ncm

Ordering Example

Series	Tip Material	Tip Style	Tip Diameter (1/100 mm)	Plating	Spring Force (dN)	Collar Height (mm)	Type
	3 = BeCu			A = Gold R = Rhodium			1, 0, S, M, Z

Test Probe:

H S S 5 2 0 3 0 6 2 3 0 A 1 5 0 2 M

Receptacles:

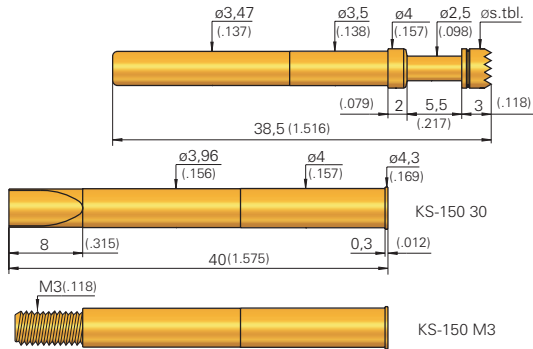
K S - 9 1 3 3 5 K S - 9 1 3 3 5 M K S - 9 1 3 3 5 M - R

Grid:
 ≥ 5,08 mm
 ≥ 200 Mil

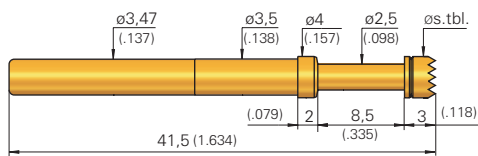
Installation Height: 10,8 / 13,8 mm (.425/ .543)
Recommended Stroke: 4,4 / 7,4 mm (.173/ .291)

Mounting and Functional Dimensions

HSS-150



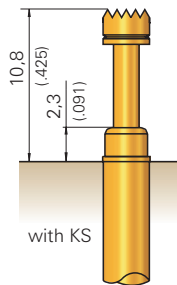
HSS-150 ... H



Collar Height and Installation Height

The Installation Height of the Tip is determined by the Collar Height.

Collar Height	Installation Height (with Receptacles)
02	10,8 mm (.425)
02 H	13,8 mm (.543)



Mechanical Data

Working Stroke: 4,4 mm (.173)
 Typ "H": 7,4 mm (.291)
Maximum Stroke: 5,5 mm (.217)
 Typ "H": 8,5 mm (.335)
Spring Force at Work. Stroke: 3,0 N (10.8oz)
alternative: 5,0 N (18.1oz)

Electrical Data

Current Rating: 50 A
 (for short loads up to 80 A)
R_i typisch: ≤ 10 mΩ

Operating Temperature

Standard: -100° up to +200° C

Materials

Plunger: BeCu, gold-plated or Silver stud
Barrel: Brass, gold-plated
Spring: Stainless Steel
Receptacle: Brass, gold-plated

Mounting Hole Size

HSS-150 and KS-150:
with Receptacle: ∅ 3,98 - 3,99 mm (.1567 - .1571)
without Receptacle: ∅ 3,50 mm (.1378)

Available Tip Styles

Material	Tip Style	Plating	Further Versions	
			∅	∅ (inch)
3 02		A		
3 03		A		
3 05*		S		
3 06		A	3,00	(.118)
3 17		A		
3 19		A		

* pressed-in Silver stud

Available Tip Styles

Special Version HSS-150 ... H

Material	Tip Style	Plating	Further Versions	
			∅	∅ (inch)
3 06		A		

Total Length 41,5 mm (1.634), Special Designation "H"

Applications:

- High-current transfer during Functional Test
- Power-Supply-Test
- Burn-in-Test
- Contacting element in permanent use
- Usage with AC and DC

* Tip Style 05 S

The pressed-in silver stud prevents burning or welding of the test probe to the test point.

Note:

Screw-in Version see HSS-150 ... M on Page 146.

Ordering Example

Series	Tip Material 3 = BeCu	Tip Style	Tip Diameter (1/100 mm)	Plating A = Gold S = Silver	Spring Force (dN)	Collar Height (mm)	Special Designation (alternative "H")
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Test Probe:

H S S 1 5 0 3 0 5 4 0 0 S 3 0 0 2

Test Probe:

H S S 1 5 0 3 0 6 4 0 0 A 3 0 0 2 H

Receptacles for HSS-150:

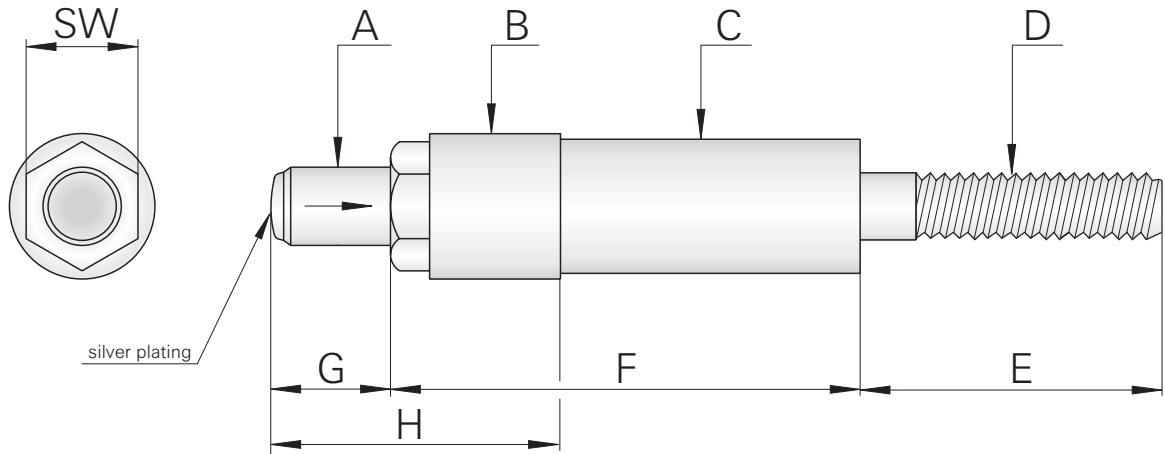
K S - 1 5 0 3 0 K S - 1 5 0 M 3

HSS 2259-2532

High-Current Probe from 25 A up to 400 A

Installation Heights: see below
Recommended Stroke: 7,0 mm (.276)

High Current Test Probe



Order-No.	Maxim. Current (A)	Transition Resistance (mΩ)	Spring Force Pre-Load N (oz)	Spring Force Work. Stroke N (oz)	Ø A mm (inch)	Ø B mm (inch)	Ø C mm (inch)	D (Thread)	E mm (inch)	F mm (inch)	G mm (inch)	H mm (inch)	SW Spanner Size	Silver Plating mm (inch)
2259	25	1,0	5 (18.1)	10 (36.0)	4,9 (.193)	9 (.354)	9 (.354)	M5	20 (.787)	28 (1.102)	9,5 (.374)	37,5 (1.476)	SW 7 (.276)	Ø 4 (.157)
2513	35	0,7	6 (21.7)	12 (43.2)	7 (.276)	13 (.512)	12 (.472)	M6	27 (1.063)	42 (1.654)	10,5 (.413)	25,7 (1.012)	SW 10 (.394)	Ø 6 (.236)
2516	100	0,5	7 (25.2)	17 (61.2)	9 (.354)	16 (.630)	15 (.591)	M6	27 (1.063)	42,2 (1.661)	12 (.472)	27 (1.063)	SW 12 (.472)	Ø 6 (.236)
2526	200	0,3	38 (136.8)	58 (208.8)	16 (.630)	26 (1.024)	25 (.984)	M8	27 (1.063)	52 (2.047)	11 (.433)	40 (1.575)	SW 20 (.787)	3 x Ø 6 3 x (.236)
2532	400	0,1	70 (252.0)	116 (417.6)	25,9 (1.020)	32 (1.260)	32 (1.260)	M14	51 (2.01)	52 (2.047)	11 (.433)	63 (2.480)	-	3 x Ø 8 3 x (.315)

Mechanical Data

Working Stroke: 7,0 mm (.276)
Maximum Stroke: see Table above - column "G"

Electrical Data

see Table above

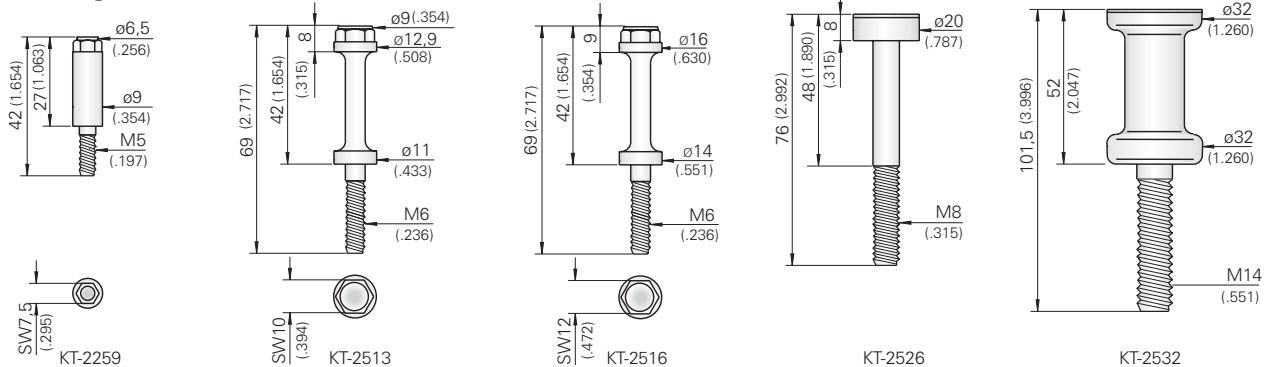
Operating Temperature

+1° up to +85° C

Materials

Plunger: Brass, silver-plated
Silver-plating on the Contact Surface
Barrel: Brass, silver-plated
Spring: Stainless Steel

Contacting Terminal for High Current Test Probes (with silver plating)



Ordering Example

Test Probe:

H S S 2 2 5 9

Contact Terminal:

K T 2 2 5 9

Materials

Contact Terminals: Brass, silver-plated
Silver-plating on the Contact Surface