

HIGH CURRENT PROBE

The maximum continuous current rating of a spring probe is determined by its design, size and construction. Typical probes are rated from 2 to 8 amps maximum continuous current at working travel. While this is sufficient for most board test applications, higher current applications will require a much more solid and rugged probe to withstand current capabilities of 10 to 150 amps and beyond.

Our high current probes features

- Low resistance plungers
- PogoPlus® bias ball construction
- High current optimized base material and plating
- Higher temperature spring design
- Specialized high current tip geometry

Another high current solution is our Feed-Through Plunger probe line. As the name describes, the plunger moves right through the probe and is made from a single piece, keeping internal resistance of the probe at a minimum.

With increasing current, any resistance within the probe will generate heat. The higher the current the more heat is generated.

Another consideration is test cycle time. All probes are rated at continuously current carrying capability. During a test sequence the current might not be present at all time, giving the probe time to cool off and potentially being able to carry far more than the rated amps on the datasheet. Please contact ECT for details on higher or pulsed current applications.



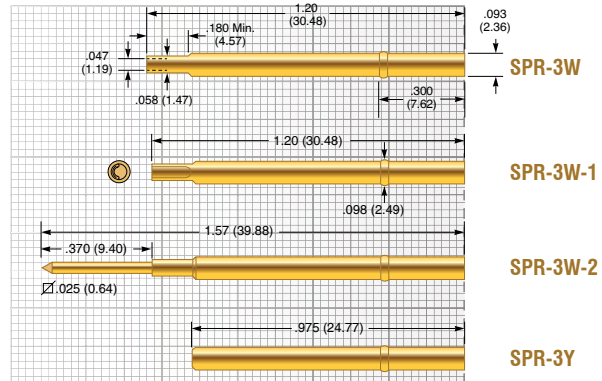
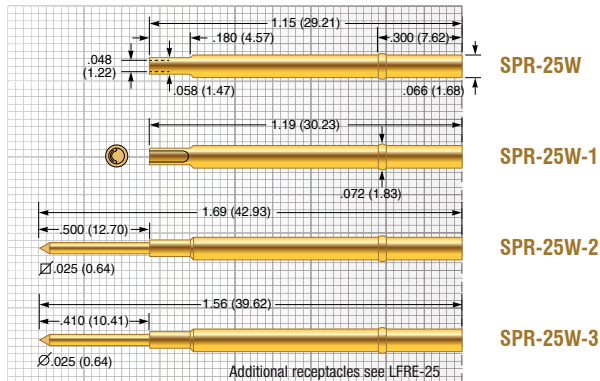
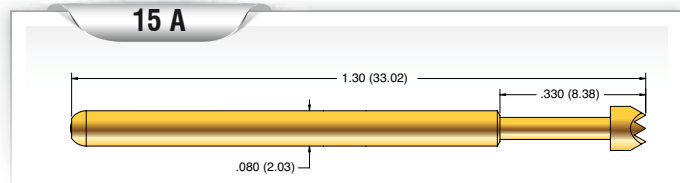
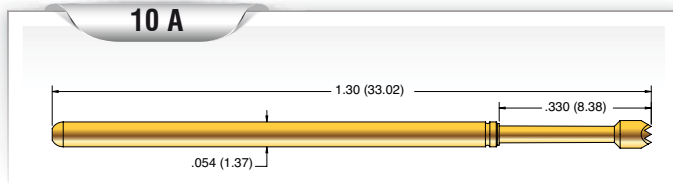
High Current Probe

HCP-25

100 mil (2.54 mm)

HCP-13

125 mil (3.18 mm)



Mechanical

Recommended Travel:	.167 (4.24)
Full Travel:	.250 (6.35)
Operating Temperature:	-55°C to +150°C

Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard		1.29 (37)	4.0 (113)
Alternate	-1	2.23 (63)	8.00 (227)

Electrical (Static Conditions)

Current Rating:	10 amps
Average Probe Resistance:	<25 mOhms

Materials and Finishes

Plunger:	Heat-treated BeCu, Gold plated over hard Nickel
Barrel:	Phosphor Bronze, Gold plated over Silver
Spring:	Stainless Steel, Silver plated
Bias Ball:	Stainless Steel

Receptacle

Hole diameter:	Ø .067 to .069 (1.70 to 1.75)
Suggested drill:	#51 or 1.70 mm
Material Housing:	Work-hardened Nickel Silver, Gold plated over hard Nickel
Material Post:	Phosphorous Bronze, Gold plated

Mechanical

Recommended Travel:	.167 (4.24)
Full Travel:	.250 (6.35)
Operating Temperature:	-55°C to +150°C

Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard		1.44 (41)	4.5 (128)
Alternate	-1	2.43 (69)	8.00 (227)

Electrical (Static Conditions)

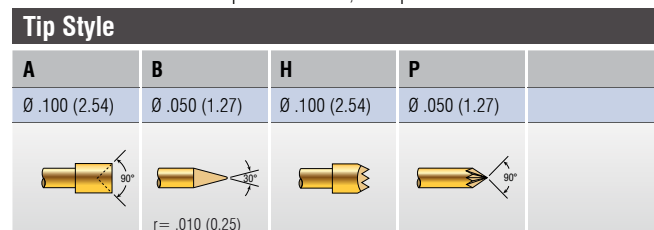
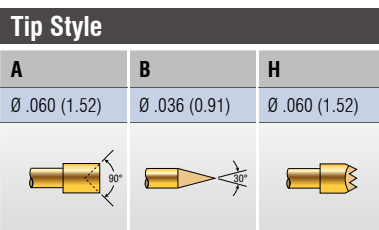
Current Rating:	15 amps
Average Probe Resistance:	<25 mOhms

Materials and Finishes

Plunger:	Heat-treated BeCu, Gold plated over hard Nickel
Barrel:	Phosphor Bronze, Gold plated over Silver
Spring:	Stainless Steel, Silver plated
Bias Ball:	Stainless Steel
Terminal Ball:	Stainless Steel

Receptacle

Hole diameter:	Ø .094 to .096 (2.39 to 2.44)
Suggested drill:	#41 or 2.40 mm
Material Housing:	Work-hardened Nickel Silver, Gold plated over hard Nickel
Material Post:	Phosphorous Bronze, Gold plated

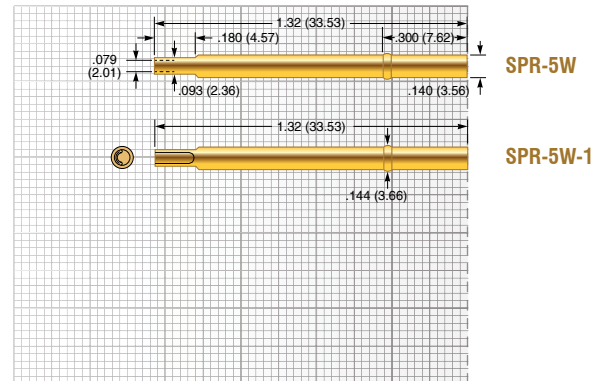
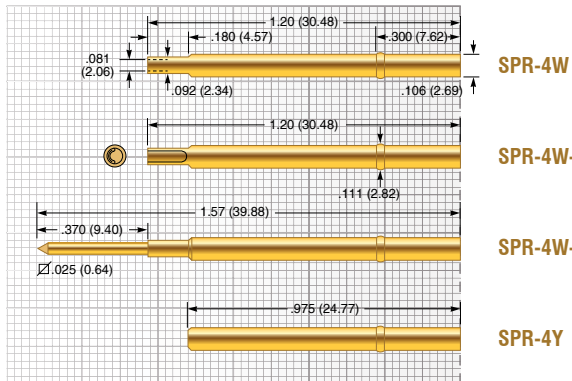
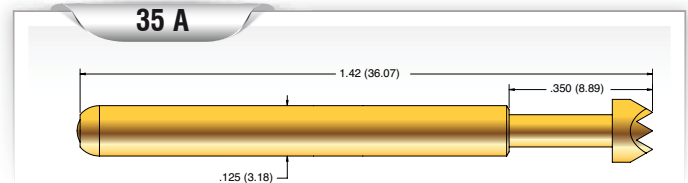
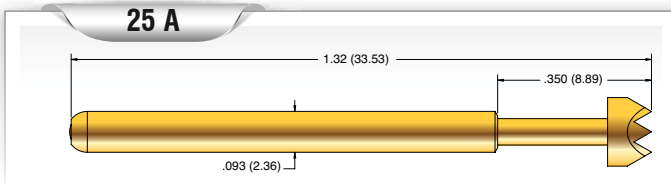


HCP-14

187 mil (4.75 mm)

HCP-15

187 mil (4.75 mm)



Mechanical

Recommended Travel:	.167 (4.24)
Full Travel:	.250 (6.35)
Operating Temperature:	-55°C to +150°C

Mechanical

Recommended Travel:	.167 (4.24)
Full Travel:	.250 (6.35)
Operating Temperature:	-55°C to +150°C

Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard		0.86 (24)	4.8 (136)
Alternate	-1	4.32 (122)	12.0 (340)

Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard		3.76 (107)	16.0 (456)
Alternate	-1	6.05 (172)	24.0 (680)

Electrical (Static Conditions)

Current Rating:	25 amps
Average Probe Resistance:	<25 mOhms

Electrical (Static Conditions)

Current Rating:	35 amps
Average Probe Resistance:	<25 mOhms

Materials and Finishes

Plunger:	Heat-treated BeCu, Gold plated over hard Nickel
Barrel:	Phosphor Bronze, Gold plated over Silver
Spring:	Stainless Steel, Silver plated
Bias Ball:	Stainless Steel
Terminal Ball:	Stainless Steel

Materials and Finishes

Plunger:	Heat-treated BeCu, Gold plated over hard Nickel
Barrel:	Phosphor Bronze, Gold plated over Silver
Spring:	Stainless Steel, Silver plated
Bias Ball:	Stainless Steel
Terminal Ball:	Stainless Steel

Receptacle

Hole diameter:	Ø .107 to .109 (2.72 to 2.77)
Suggested drill:	2.75 mm
Material Housing:	Work-hardened Nickel Silver, Gold plated over hard Nickel
Material Post:	Phosphorous Bronze, Gold plated

Receptacle

Hole diameter:	Ø .141 to .143 (3.58 to 3.63)
Suggested drill:	3.60 mm
Material Housing:	Work-hardened Nickel Silver, Gold plated over hard Nickel

Tip Style

A	B	H		
Ø .156 (3.96)	Ø .060 (1.52)	Ø .156 (3.96)		

$r = .010 (0.25)$

Tip Style

A	B	H		
Ø .156 (3.96)	Ø .080 (2.03)	Ø .156 (3.96)		

$r = .010 (0.25)$



Dimensions in inches (millimeters). Specifications subject to change without notice. Consult factory for other temperature requirements, and applications below -40°C. Stocking Disclaimer: Stocking levels for part numbers listed in this catalog are subject to change. Availability is based on current levels of usage and demand.

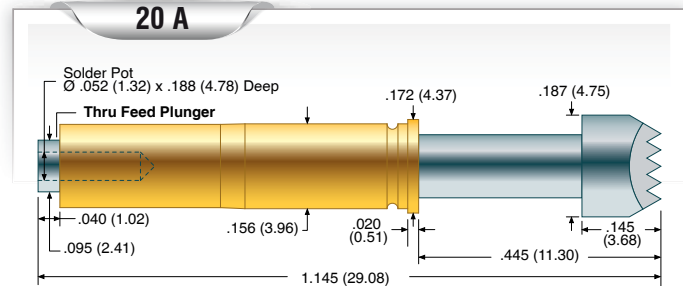
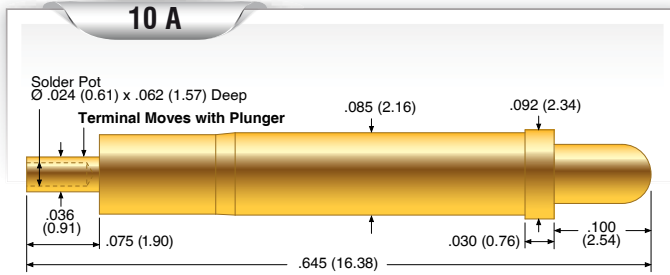


P3325

125 mil (3.18 mm)

P2447-1W

225 mil (5.72 mm)



Mechanical

Recommended Travel: .066 (1.68)
 Full Travel: .100 (2.54)
 Operating Temperature: -55°C to +105°C

Spring Force in oz. (grams)

	Preload	Rec. Travel
Standard	5.0 (142)	8.3 (235)

Electrical (Static Conditions)

Current Rating: 10 amps
 Average Probe Resistance: <10 mOhms

Materials and Finishes

Plunger: Hardened BeCu, Gold plated
 Barrel: Brass
 Spring: Music Wire

Mounting Options

Hole diameter: Ø .086 (2.18)
 Suggested drill: #44 or 2.18 mm

Tip Style

0	1		
Ø .061 (1.55)	Ø .090 (2.29)		



Mechanical

Recommended Travel: .200 (5.08)
 Full Travel: .300 (7.62)
 Operating Temperature: -55°C to +150°C

Spring Force in oz. (grams)

	Preload	Rec. Travel
Standard	6.0 (170)	14.0 (397)

Electrical (Static Conditions)

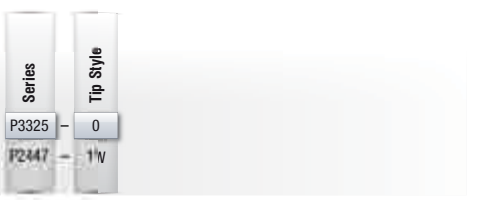
Current Rating: 20 amps
 Average Probe Resistance: <10 mOhms

Materials and Finishes

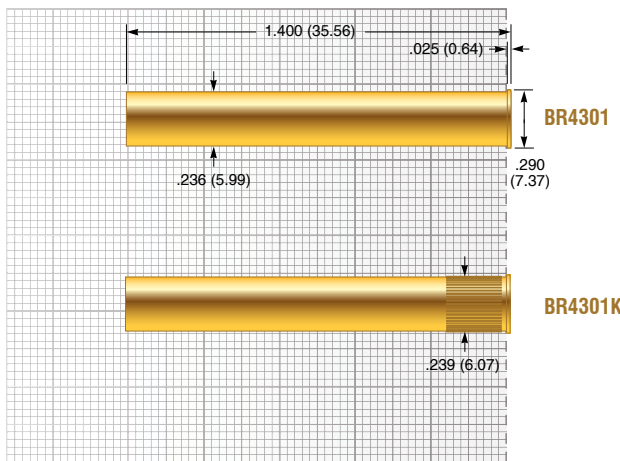
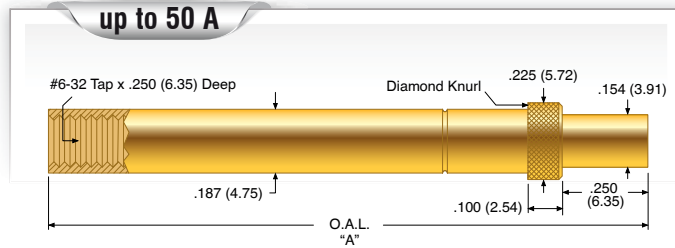
Plunger: Hardened BeCu, Nickel plated
 Barrel: Brass
 Spring: Stainless Steel

Mounting Options

Hole diameter: Ø .157 (3.99)
 Suggested drill: #22 or 3.99 mm



P4301



Tip Style					
1F	1R	1W	1Z	2F	2R
Ø .154 (3.91)	Ø .154 (3.91)	Ø .154 (3.91)	Ø .200 (5.08)	Ø .154 (3.91)	Ø .154 (3.91)

up to 50 A

Mechanical

Recommended Travel: .167 (4.24)
 Full Travel: .250 (6.35)
 Operating Temperature: -55°C to +150°C

Spring Force in oz. (grams)

	Preload	Rec. Travel
Standard	16 (454)	25.7 (729)

Electrical (Static Conditions)

Current Rating BeCu: 40 amps
 Current Rating Tellurium Copper: 50 amps
 Average Probe Resistance: <5 mOhms

Materials and Finishes

Plunger (1F) Tellurium Copper, Gold plated
 Plunger: BeCu, Gold plated
 Barrel: Tellurium Copper, Gold plated
 Spring: Stainless Steel
 Ball: Stainless Steel

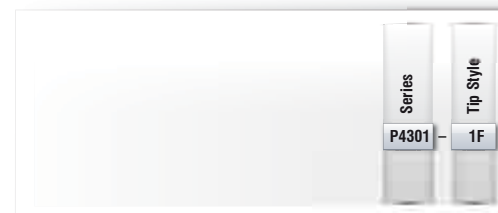
Probe Overall Length

Model No.	Overall Length (Dim. A)
P4301-1F, -1R, -1W	1.75 (44.45)
P4301-1Z	1.86 (47.24)
P4301-2F, -2R	2.00 (50.80)

Receptacle

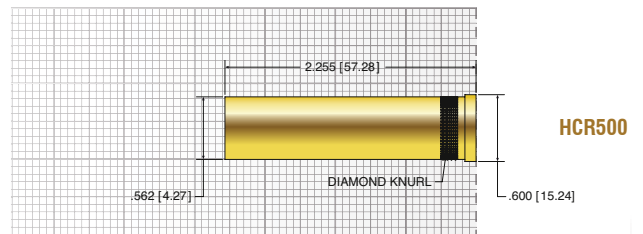
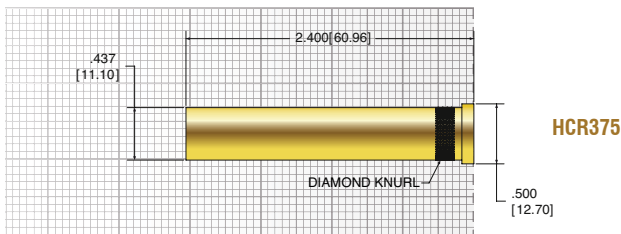
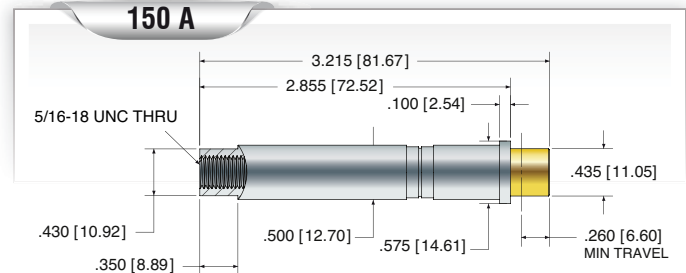
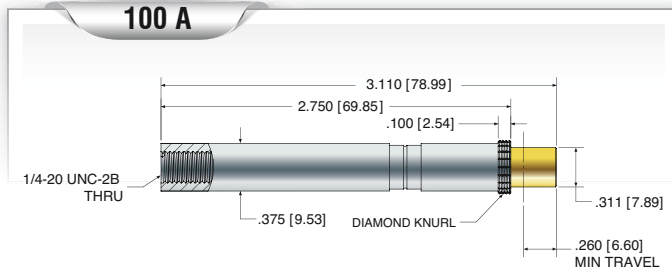
Hole diameter: Ø .238 (6.05)
 Suggested drill: #B or 6.05 mm
 Material Housing: Phosphor Bronze, Gold plated

Dimensions in inches (millimeters). Specifications subject to change without notice. Consult factory for other temperature requirements, and applications below -40°C. Stocking Disclaimer: Stocking levels for part numbers listed in this catalog are subject to change. Availability is based on current levels of usage and demand.



HC375

HC500



Mechanical

Recommended Travel: .250 (6.35)
 Full Travel: .360 (9.14)
 Operating Temperature: -55°C to +155°C

Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard	-4	27.2 (771)	64 (1814)
Alternate	-6	24.0 (680)	96 (2722)

Electrical (Static Conditions)

Current Rating: 100 amps
 Average Probe Resistance: <25 mOhms

Materials and Finishes

Plunger: BeCu Gold plated
 Barrel: Brass Silver plated
 Spring: Stainless Steel

Mechanical

Recommended Travel: .250 (6.35)
 Full Travel: .260 (6.60)
 Operating Temperature: -55°C to +155°C

Spring Force in oz. (grams)

	Preload	Rec. Travel
Standard	22.08 (626)	220.8 (6260)

Electrical (Static Conditions)

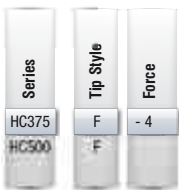
Current Rating: 150 amps
 Average Probe Resistance: <25 mOhms

Materials and Finishes

Plunger: BeCu Gold plated
 Barrel: Brass Silver plated
 Spring: Stainless Steel Silver plated

Receptacle

Hole Diameter: Ø .571 - Ø .5679 (14.50 mm)
 Suggested drill: 14.50 mm
 Material Housing: Work-hardend Brass, Gold plated over hard Nickel



Tip Style (additional styles on request)

F			
Ø .311 (7.89)			

Tip Style (additional styles on request)

F			
Ø .435 (11.05)			