GENERAL PURPOSE - REPLACEABLE PROBES

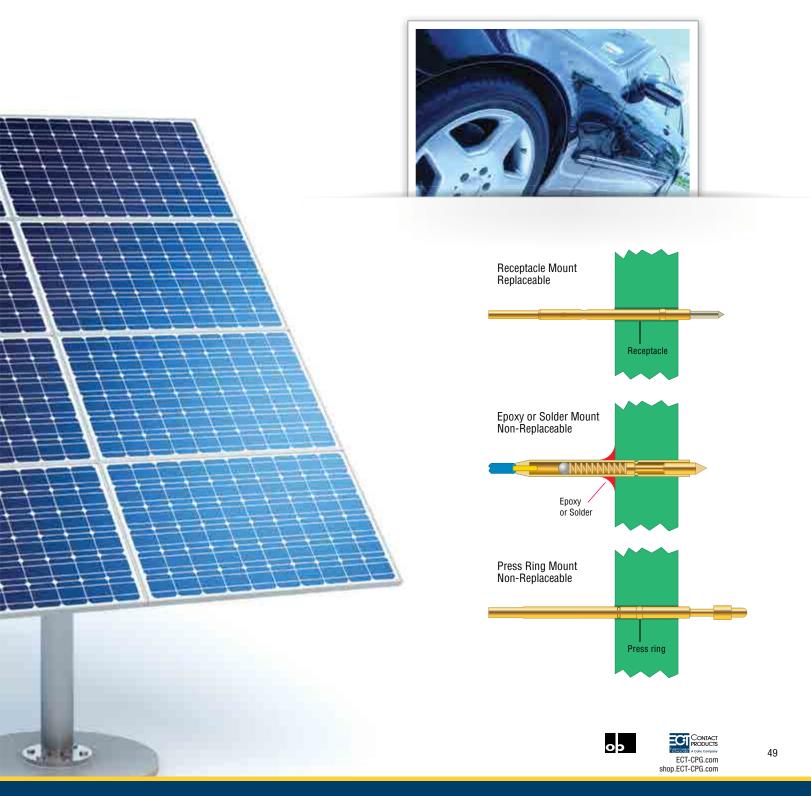
Replaceable Probes are those designed for typical Automotive and Industrial Board Test and standard continuity test, contacting industry norm test points such as leads, vias and pads.

All of the probes in this section are designed for high volume testing and are replaceable through the use of a mating receptacle mounted into a retaining plate or retaining block via a "press-ring" or knurl.

A replaceable probe is retained by a separate component, the receptacle, which is permanently fixed into a retention plate to which electrical connection is made. Removal of the probe does not damage or break the electrical connection. Typical probe retention is achieved by detents in the receptacle or additionally with a "Pylon" bend in the probe itself to prevent anti walkout.

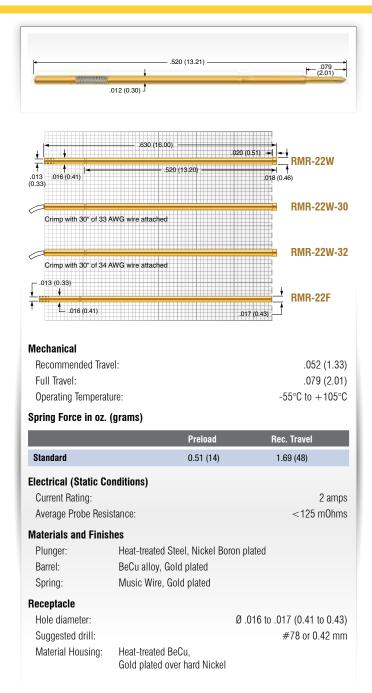
ECT offers an extensive selection of General Purpose Probes for a wide variety of application in various industries, making ECT spring probes the first choice of test engineers worldwide.

Replaceable



RMP-22B

20 mil (0.51 mm)

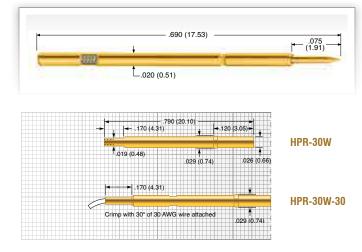


Tip Style		
В		
Ø .008 (0.20)		





30 mil (0.76 mm)



Mechanical

Recommended Travel:	.050 (1.27)
Full Travel:	.075 (1.91)
Operating Temperature:	-55°C to $+105^{\circ}C$

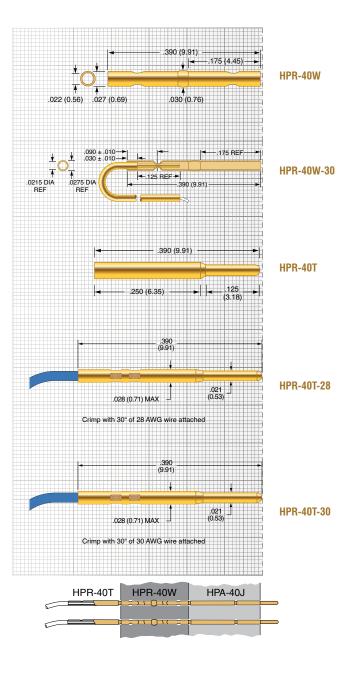
Spring Force in oz. (grams)

opining i orec in ez. (g			
		Preload	Rec. Travel	
Standard		0.39 (11)	1.39 (39)	
Electrical (Static Co	nditions)			
Current Rating:			2 amps	
Average Probe Resis	tance:		<50 mOhms	
Materials and Finish	es			
Plunger:	Heat-treated BeCu, Gold plated over hard Nickel			
Barrel:	Work hardened	BeCu,		
	Gold plated over	er hard Nickel		
Spring:	Music Wire, Go	old plated		
Receptacle				
Hole diameter:		Ø.0	0265 to .0276 (0.67 to 0.70)	
Suggested drill:			#71 or 0.70 mm	
Material:	Work hardened	BeCu,		
	Gold plated over	er hard Nickel		

Tip Style						
В	G	J	U			
Ø .014 (0.36)	Ø .014 (0.36)	Ø .014 (0.36)	Ø .012 (0.30)			
	90°					

Replaceable Probe

.660 (16.76) .550 (13.97) .550 (13.97) ↓ .110 ↓ .228 (0.70) .021 (0.53)



General Purpose

HPA-40

39 mil (1.00 mm)

Mechanical Recommended Travel: .050 (1.2) Full Travel: .075 (1.9) Operating Temperature: -55°C to +150° Spring Force in oz. (grams)						
Standard	_	Preload 0.79 (22)		c. Travel 75 (49)		
Standard0.79 (22)1.75 (49)Electrical (Static Conditions)Current Rating:2 ampsAverage Probe Resistance:<35 mOhms						
Tip Style A Ø .035 (0.89)	B Ø.021 (0.53)	C Ø.021 (0.53)	G Ø.021 (0.53)	J Ø.021 (0.53)		



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.027 (0.69) ौ

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.022 (0.56)

Recommended Travel:

Operating Temperature:

1

2

Mechanical

Full Travel:

Standard

Alternate

Plunger:

Barrel:

Spring:

Receptacle Hole diameter:

Tip Style

Ø.021 (0.53)

2

10 30 В

10 2 S

1C

Suggested drill:

Material Housing:

10

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Ball:

Current Rating:

Average Probe Resistance:

Materials and Finishes

P2662A

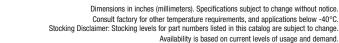
50 mil (1.27 mm)

 .130 (3.30) .027 (0.69) - .105 (2.67) · .710 (18.03) .575 (14.60) .690 (17.53) .690 (17.53) .180 -.100 (2.54) 😽 100 (2.54) PR261-0 (4.57) S2662A-3ED +.110 (2.79) '∔ Collar height Collar height = .040 (1.02) .080 (2.04) .034 (0.86) .034 (0.86) .038 (0.97) .0285 (0.72).690 (17.53) PR261-0F ÷ Flush Mount .038 (0.97) PR261-1 .067 (1.70) Collar height = .040 (1.02)690 (17.53) .090 (2.29) PR261-1F -55°C to +85°C Flush Mount Spring Force in oz. (grams) Order Code Preload Rec. Travel Mechanical 0.70 (20) 1.7 (48) Recommended Travel: .050 (1.27) .068 (1.73) Full Travel: 2.5 (71) 0.60 (17) Operating Temperature: -55°C to +85°C **Electrical (Static Conditions)** Spring Force in oz. (grams) 3 amps <30 m0hms **Order Code** Preload Rec. Travel Standard 1.00 (28) 1.8 (51) 1 Heat-treated BeCu, Gold plated over hard Nickel Alternate 2 0.50 (14) 2.5 (71) Phosphorous Bronze, Gold plated BeCu, Silver plated **Electrical (Static Conditions)** Stainless Steel Current Rating: 3 amps Average Probe Resistance: <30 m0hms Ø .0350 to .0365 (0.89 to 0.93) **Materials and Finishes** #64 or 0.92 mm Heat-treated BeCu, Gold plated over hard Nickel Plunger: Nickel Silver, Gold plated Barrel: Phosphorous Bronze, Gold plated BeCu, Silver plated Spring: Stainless Steel Ball: 1**R** 2V Receptacle Ø.021 (0.53) Ø.021 (0.53) Ø.040 (1.02) Ø .0350 to .0365 (0.89 to 0.93) Hole diameter: Suggested drill: #64 or 0.92 mm Material Housing: Nickel Silver, Gold plated r= .013 (0.33) Tip Style 1C 1Q 1R 2V Ø .021 (0.53) Ø.021 (0.53) Ø.021 (0.53) Ø.040 (1.02)

P2662B

50 mil (1.27 mm)





r= .013 (0.33)

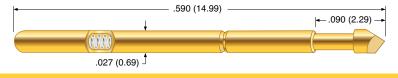
20CE

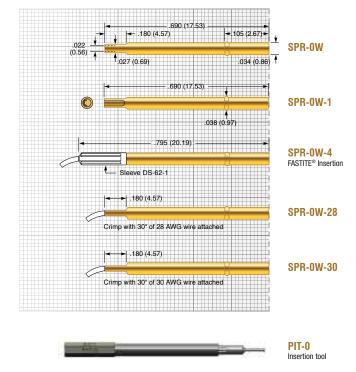
P2662B 6

Platin

6 P2662A

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.





Tip Style	Tip Style					
В	D	G	T	U		
Ø .021 (0.53)	Ø .035 (0.89)	Ø .021 (0.53)	Ø .035 (0.89)	Ø .018 (0.46)		
90'		90°	45°			

Mechanical			
Recommended T	ravel:	.050 (1.27)	
Full Travel:		.050 (1.27)	
Operating Tempe	rature: -55	°C to +105°C	
Spring Force in o	oz. (grams)		
	Preload	Rec. Travel	
Standard	1.55 (44.00)	3.2 (91)	
Electrical (Static	Conditions)		
Current Rating:		3 amps	
Average Probe R	esistance:	<35 mOhms	
Materials and Fi	nishes		
Plunger:	Heat-treated BeCu, Gold plated over hard I	Nickel	
Barrel:	Work hardened Phosphor Bronze, Gold plated over hard Nickel		
Spring:	Music Wire, Gold plate	ed	
Receptacle			
Hole diameter:	Ø .035 to .0365	(0.89 to 0.93)	
Suggested drill:	#6	64 or 0.92 mm	
Material Housing	: Work-hardened Nickel		
	Gold plated over hard	Nickel	



CONTACT PRODUCTS

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General Purpose

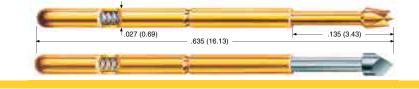
HPA-50

50 mil (1.27 mm)

Replaceable Probe

HPA-0 / SPA-0

50 mil (1.27 mm)



Mechanical

Recommended Travel:	.067 (1.70)
Full Travel:	.100 (2.54)
Operating Temperature • Standard Spring: • Alternate Spring:	-55°C to +150°C -55°C to +105°C

Spring Force in oz. (grams)

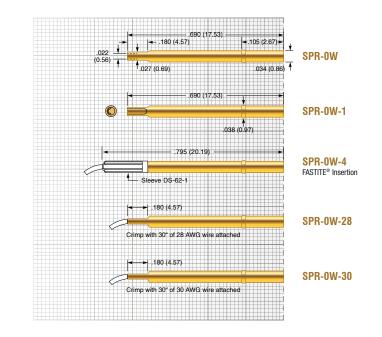
	Order Code	Preload	Rec. Travel
Standard		0.61 (17)	2.80 (79)
Alternate	- 1	0.78 (22)	3.70 (105)

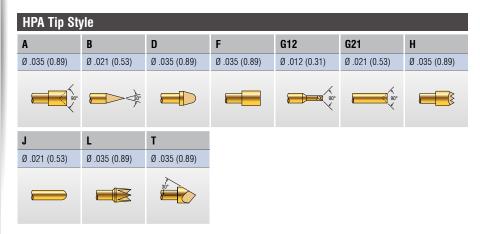
Electrical (Static Conditions)

Current Rating:	3 amps	
Average Probe F	<35 mOhms	
Average Probe F	<50 m0hms	
Materials and Fi	inishes	
Plunger HPA: Heat-treated BeCu,		
	Gold plated over h	ard Nickel
Dlunger CDA	Heat treated BeCu	

Plunger SPA:	Heat-treated BeCu,
	Rhodium plated over hard Nickel
Barrel:	Work hardened Phosphor Bronze, Gold plated over hard Nickel
Spring	
 Standard: 	Stainless Steel, Silver plated
Alternate:	Music Wire, Silver plated
Receptacle	
Hole diameter:	Ø .035 to .0365 (0.89 to 0.93)
Suggested drills	#64 or 0.02 mm

Suggested drill: #64 or 0.92 mm Material Housing: Work-hardened Nickel Silver, Gold plated over hard Nickel





SPA Tip Style						
A	В	D	G12	G21	H	J
Ø .035 (0.89)	Ø .021 (0.53)	Ø .035 (0.89)	Ø .012 (0.31)	Ø .021 (0.53)	Ø .035 (0.89)	Ø .021 (0.53)
90°			90°	\$90°		
L	T					
Ø .035 (0.89)	Ø .035 (0.89)					
	30"					



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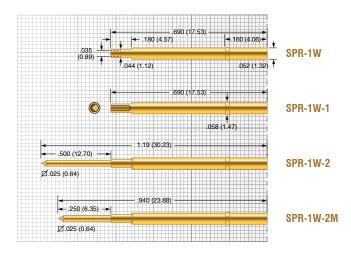
Replaceable Probe

General Purpose



HPA-1 / SPA-1

75 mil (1.91 mm)



HPA Tip St	yle					
Α	В	C	D	E	F	G
Ø .060 (1.52)	Ø.021 (0.53)	Ø .021 (0.53)	Ø .040 (1.02)	Ø .060 (1.52)	Ø .060 (1.52)	Ø.021 (0.53)
				90°		90°
Н	J	L	Т			
H Ø .060 (1.52)	J Ø .021 (0.53)	L Ø .030 (0.76)	T Ø .057 (1.45)			

SPA Tip Style							
Α	В	C	D	E	F	G	
Ø .060 (1.52)	Ø .021 (0.53)	Ø .021 (0.53)	Ø .040 (1.02)	Ø .060 (1.52)	Ø .060 (1.52)	Ø.021 (0.53)	
1				90°		20°	
H	J	T					
Ø .060 (1.52)	Ø.021 (0.53)	Ø .057 (1.45)					
		30°					

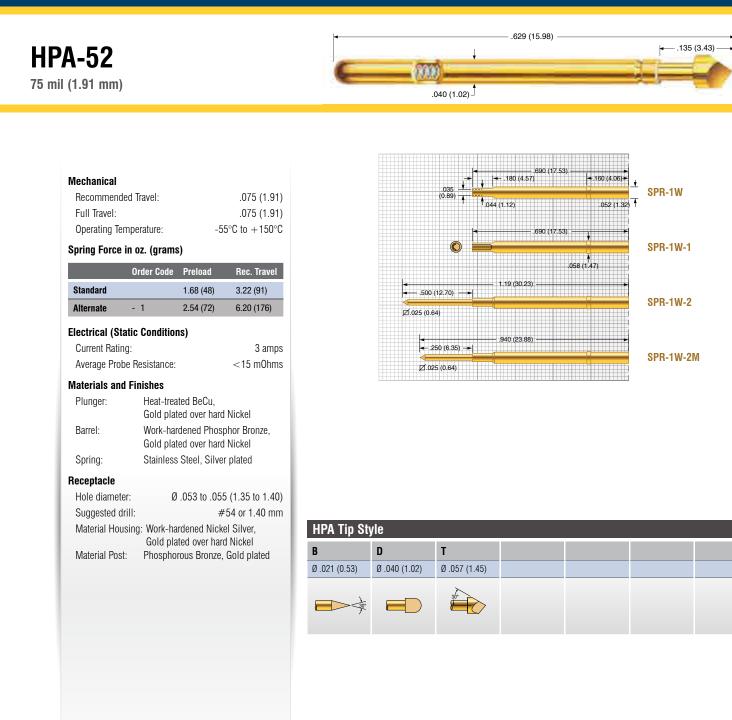
Mechanical				
Recommended T	ravel:		.06	67 (1.70)
Full Travel:			.1(00 (2.54)
Operating Tempe	rature:		-55°C to	+150°C
Spring Force in o	z. (grams)		
01	rder Code	Preload	Rec	. Travel
Standard		1.10 (31)	2.5	(71)
Alternate -	1	1.30 (37)	4.5	(128)
Electrical (Static	Condition	s)		
Current Rating:				3 amps
Average Probe R	esistance H	IPA:	<35	5 mOhms
Average Probe R	esistance S	SPA:	<50) mOhms
Materials and Fir	nishes			
Plunger HPA:	Heat-treat Gold plate	,	urd Nicke	I
Plunger SPA:	Heat-treat Rhodium	,	er hard N	ickel
Barrel:	Work hard Gold plate			
Spring:	Stainless	Steel, Sil	ver plate	b
Receptacle				
Hole diameter:	Ø	.053 to .0	55 (1.35	to 1.40)
Suggested drill:			#54 or	1.40 mm
Material Housing	:Work-har Gold plate			,
Material Post:	Phosphor	ous Bronz	e, Gold p	plated





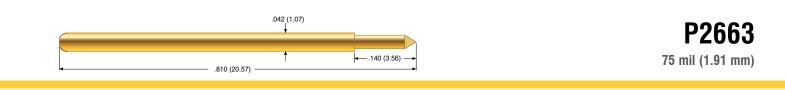


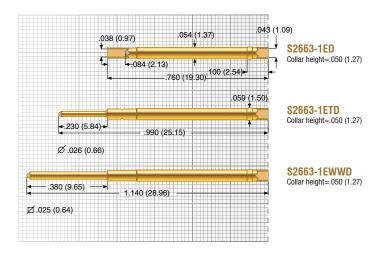
Replaceable Probe











Tip Style				
1C	1P	1R	1V	1W
Ø .030 (0.76)	Ø .060 (1.52)	Ø .030 (0.76)	Ø .050 (1.27)	Ø .060 (1.52)
60°	90°	r= .018 (0.46)	120°	

Mechanical Recommend	ed Travel:		.067 (1.70)
Full Travel: Operating Ter	mnerature:	_54	.090 (2.29) 5°C to +150°C
Spring Force			5 0 10 + 150 0
	Order Code		Rec. Travel
Standard	- 1	1.50 (42)	3.3 (94)
Alternate	- 2	1.00 (12)	2.0 (57)
Flootrical (Ct	atia Canditia	. ,	- (-)
Electrical (Sta Current Ratin		ns)	3 amps
	e Resistance		<10 mOhms
0			
Materials and Plunger:		d BeCu, Gold	nlatod
Barrel:		orous Bronze,	
Spring:	Stainles	,	αυία μιαιού
Ball:	Stainles		
Receptacle			(1 40 to 1 40)
Hole diamete		J561 to .057t	6 (1.43 to 1.46) 1.45 mm
Suggested di Material Hou	sing:Brass, G	hatela blo	1.4J IIIII
Material Post		orous Bronze,	Gold plated









Replaceable Probe



Mechanical

HPA-74

100 mil (2.54 mm)

Recommended Travel:	.075 (1.91)
Full Travel:	.100 (2.54)
Operating Temperature Standard Spring: 	-55°C to +150°C
 Alternate Spring: 	-55°C to +105°C

Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard		1.71 (48)	3.0 (85)
Alternate	- 1	2.82 (80)	5.0 (141)

Electrical (Static Conditions)

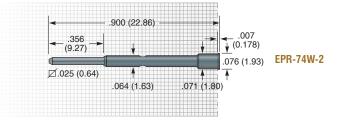
Current Rating:	3 amps
Average Probe Resistance:	<35 mOhms

Materials and Finishes

Plunger:	Heat-treated BeCu,
	Gold plated over hard Nickel
Barrel:	Work hardened Phosphor Bronze, Gold plated over hard Nickel
Spring	
Standard:	Stainless Steel, Silver plated
 Alternate: 	Music Wire, Silver plated

Probe Overall Length

Model No.	Overall Length (Dim. A)
HPA-74A, B	.598 (15.19)
HPA-74C	.586 (14.88)
HPA-74E, T135, T HPA-74T65, T80	156 .610 (15.49)
HPA-74T75	.620 (15.75)
Receptacle	
Hole diameter:	Ø .067 to .069 (1.70 to 1.75)
Suggested drill:	#51 or 1.70 mm
Material:	Nickel Silver alloy

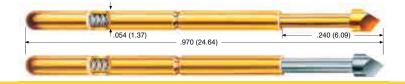


HPA Tip Style)				
A	В	C	E	T65	T75
Ø .080 (2.03)	Ø .041 (1.04)	Ø .041 (1.04)	Ø .080 (2.03)	Ø.080 (2.03) Ø.065 (1.65)	
			· •		
40.				7 51 P	
T80	T135	T156		, 51 F	
- T	T135 Ø .135 (3.43)			, si k	



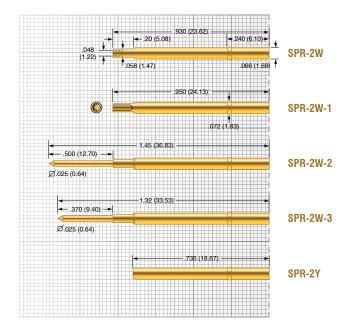
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EPA-2 / SPA-2

100 mil (2.54 mm)



EPA / SPA Tip Style							
A	B30	B40	C30	C40	D	E	
Ø .075 (1.91)	Ø .030 (0.76)	Ø .040 (1.02)	Ø .030 (0.76)	Ø .040 (1.02)	Ø .050 (1.27)	Ø .075 (1.91)	
90°						90°	
F	G30	G40	Н	J30	J40	L	
Ø .075 (1.91)	Ø .030 (0.76)	Ø .040 (1.02)	Ø .075 (1.91)	Ø .030 (0.76)	Ø .040 (1.02)	Ø .050 (1.27)	
		90°					
Р	Т	X					
Ø .075 (1.91)	Ø .075 (1.91)	Ø .050 (1.27)					
90°	30						

Mechanical Recommended Travel: Full Travel: Operating Temperature:		-5	.107 (2.72) .160 (4.06) 5°C to +105°C	
Spring Force in	oz. (grams	;)		
(Order Code	Preload	Rec. Travel	
Standard		1.08 (31)	3.5 (99)	
Alternate -	1	2.64 (75)	6.5 (184)	
Ultra High -	2	4.09 (116)	10.0 (283)	
Average Probe Resistance EPA: <35 mOhm				
Barrel:		Work hardened Nickel Silver, Gold plated over hard Nickel		
Spring:		Music Wire, Silver plated		
Ball: Stainless Steel, Gold plated		plated		
Receptacle Hole diameter	a	067 to .06	0 (1 70 to 1 75)	
Suggested drill:			9 (1.70 to 1.75) ∉51 or 1.70 mm	
Material Housing: Work-hardened Nickel Silver, Gold plated over hard Nickel			el Silver,	
Material Post:	laterial Post: Phosphor		rous Bronze, Gold plated	







Pylon Probe



Mechanical

Recommended Travel:	.084 (2.13)
Full Travel:	.114 (2.90)
Operating Temperature:	-55° C to $+150^{\circ}$ C

Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard	1	2.00 (57)	3.6 (102)
Alternate	2	3.00 (85)	5.7 (162)

Electrical (Static Conditions)

Current Rating:	5 amps
Average Probe Resistance:	<10 mOhms

Materials and Finishes

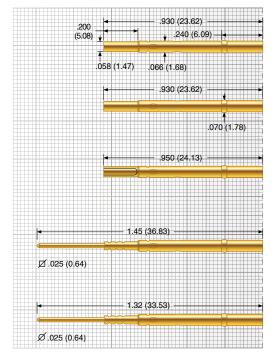
Plunger:	Heat-treated BeCu, Gold plated over hard Nickel
Barrel:	Phosphorous Bronze, Gold plated
Spring:	Stainless Steel
Ball:	Stainless Steel

Probe Overall Length

Model No.	Overall Length (Dim. A)	Plunger Extension (Dim. B)	
P2664G	.895 (22.73)	0.165 (4.19)	
P2664G-1C	.845 (21.46)	0.115 (2.92)	
P2664G-2R	.935 (23.75)	0.205 (5.21)	

Receptacle

Hole diameter:	Ø .069 (1.75)	
Suggested drill:	1.75 mm	
Material Housing: Nickel Silver, Gold plated		
Material Post:	Phosphorous Bronze, Gold plated	



PR541-0 Collar height=.060 (1.52)

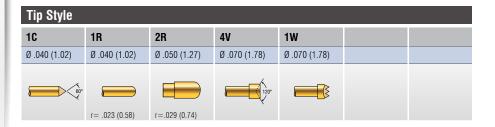
Collar height=.060 (1.52

PR541-0F Flush Mount

PR541-1 Collar height=.060 (1.52) PR541-1F Flush Mount

PR541-2 Collar height=.060 (1.52) PR541-2F Flush Mount

PR541-3 Collar height=.060 (1.52) PR541-3F Flush Mount





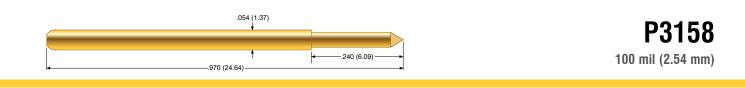
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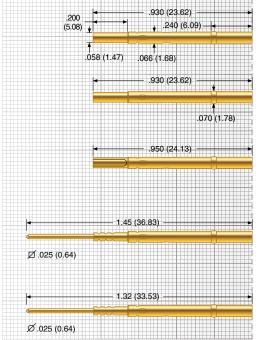




.114 (2.90)

.170 (4.32)





PR541-0 Collar height=.060 (1.52)
PR541-0F Flush Mount
PR541-1 Collar height=.060 (1.52) PR541-1F Flush Mount
PR541-2 Collar height=.060 (1.52) PR541-2F Flush Mount

PR541-3 Collar height=.060 (1.52) PR541-3F Flush Mount

Tip Style						
3C	1R	1Q	2Q	1V	1W	
Ø .040 (1.02)	Ø .040 (1.02)	Ø .060 (1.52)	Ø .025 (0.64)	Ø .070 (1.78)	Ø .070 (1.78)	
Steel	r= .023 (0.58)			120°		

Operating Temperature: -55°C to +105°C Spring Force in oz. (grams) Order Code Preload Rec. Travel Standard 2.70 (77) 6.9 (196) 1 2 1.30 (37) 2.8 (79) Alternate **Electrical (Static Conditions)** Current Rating: 8 amps <10 m0hms Average Probe Resistance: **Materials and Finishes** Heat-treated Steel or BeCu, Gold Plunger: plated over hard Nickel Barrel: Phosphorous Bronze, Gold plated Music Wire Spring: Ball: Stainless Steel Receptacle Hole diameter: Ø.069 (1.75) Suggested drill: 1.75 mm Material Housing: Nickel Silver, Gold plated

Phosphorous Bronze, Gold plated

Mechanical

Full Travel:

Material Post:

Recommended Travel:



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.





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Mechanical

Recommended Travel:	.167 (4.24)
Full Travel:	.230 (5.84)
Operating Temperature:	-55° C to $+105^{\circ}$ C

Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard	1	2.50 (71)	6.5 (184)
Alternate	2	1.70 (48)	3.5 (99)
Elevated	3	2.50 (71)	8.2 (232)

Electrical (Static Conditions)

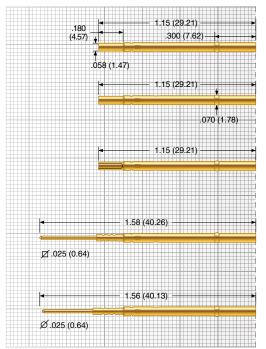
Current Rating:	8 amps
Average Probe Resistance:	<10 mOhms

Materials and Finishes

Plunger:	Hardened Steel or BeCu, Gold plated over hard Nickel
Barrel:	Phosphorous Bronze, Gold plated
Spring:	Music Wire
Ball:	Stainless Steel

Receptacle

Hole diameter:	Ø .069 (1.75)
Suggested drill:	1.75 mm
Material Housing	Nickel Silver, Gold plated:
Material Post:	Phosphorous Bronze, Gold plated



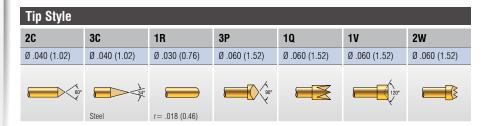
PR54-0 Collar height=.030 (.762)

PR54-0F Flush Mount

PR54-1 Collar height=.030 (.762) PR54-1F Flush Mount

PR54-2 Collar height=.030 (.762) PR54-2F Flush Mount

PR54-3 Collar height=.030 (.762) PR54-3F Flush Mount





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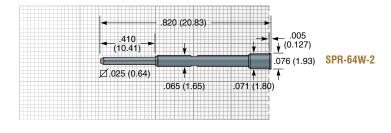


HPA-64 / SPA-64

100 mil (2.54 mm)







HPA / SPA Tip Style					
-1	-2	-3	-4	-7	-8
Ø .077 (1.96)	Ø .077 (1.96)	Ø .077 (1.96)	Ø .065 (1.65)	Ø .156 (3.96)	Ø .075 (1.99)
✓	042 (1.07) 37° +		×37°		
-9	-10				
Ø .047 (1.19)	Ø .047 (1.19)				
	0 📄				

Mechanical Recommended Travel: Full Travel: Operating Temperature: Spring Force in oz. (gram:		.050 (1.27) .050 (1.27) 5°C to +150°C
	Preload	Rec. Travel
Standard	1.10 (31)	3.85 (109)
Electrical (Static Conditions)		

conditions)	
	3 amps
esistance HPA / SPA:	<50 mOhms
ishes	
Heat-treated BeCu, Go over hard Nickel	old plated
Work hardened Nickel Gold plated over hard	,
Work hardened Nickel	Silver
	esistance HPA / SPA: ishes Heat-treated BeCu, Go over hard Nickel Work hardened Nickel Gold plated over hard

01 01 / 1.	
ng:	Stainless Steel, Silver plated

Probe Overall Length

Spri

Model No.	Overall Length (Dim. A)
HPA/SPA-64-1, -4, -7	.375 (9.53)
HPA/SPA-64-2, -3	.365 (9.27)
HPA/SPA-64-8	.385 (9.78)
SPA-64-9, -10	.363 (9.22)
HPA-64-9, -10	.365 (9.27)

Receptacle

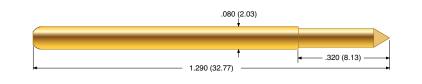
-	
Hole diameter:	Ø .067 to .069 (1.70 to 1.75)
Suggested drill:	#51 or 1.70 mm
Material:	Nickel Silver alloy







Pylon Probe



Mechanical

P2665

125 mil (3.18 mm)

Recommended Travel:	.167 (4.24)
Full Travel:	.230 (5.84)
Operating Temperature:	-55°C to +150°C

Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard	1	1.50 (43)	3.0 (85)
Alternate	2	2.50 (71)	5.8 (164)

Electrical (Static Conditions)

Current Rating:	15 amps
Average Probe Resistance:	<10 m0hms

Materials and Finishes

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

Probe Overall Length

Model No.	Overall Length (Dim. A)	Plunger Extension (Dim. B)
P2665G	1.29 (32.77)	0.320 (8.13)
P2665G-2W	1.27 (32.26)	0.300 (7.62)

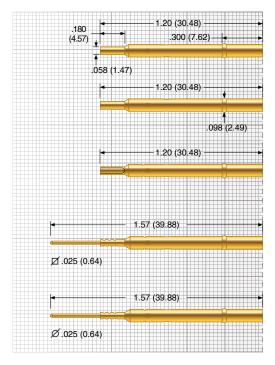
Receptacle

 Hole diameter:
 Ø .094 to .096 (2.39 to 2.44)

 Suggested drill:
 #41 or 2.40 mm

 Material Housing:Nickel Silver, Gold plated

 Material Post:
 Phosphorous Bronze, Gold plated



PR80-0 Collar height=.090 (2.29)

PR80-0F

Flush Mount

PR80-1F

Flush Mount **PR80-1** Collar height=.090 (2.29)

PR80-2F Flush Mount PR80-2

PR80-2 Collar height=.090 (2.29)

PR80-3F

Flush Mount PR80-3 Collar height=.090 (2.29)





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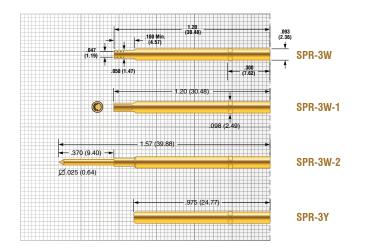
Replaceable Probe

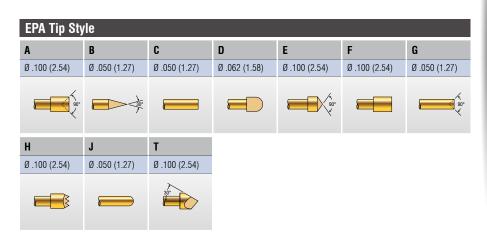
General Purpose



EPA-3 / SPA-3

125 mil (3.18 mm)





SPA Tip Style						
A	В	C	D	E	F	G
Ø .100 (2.54)	Ø .050 (1.27)	Ø .050 (1.27)	Ø .062 (1.58)	Ø .100 (2.54)	Ø .100 (2.54)	Ø .050 (1.27)
		,		90°		
Н	J	T				
Ø .100 (2.54)	Ø .050 (1.27)	Ø .100 (2.54)				
		30				

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.

Mechanical	
Recommended Travel:	.167 (4.24)
Full Travel:	.250 (6.35)
Operating Temperature • Standard Spring: • Alternate Spring: • Ultra High Spring:	-55°C to +85°C -55°C to +150°C -55°C to +150°C

Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard		1.60 (45)	4.5 (128)
Alternate	- 1	2.52 (71)	6.5 (184)
Ultra High	- 2	4.18 (119)	11.7 (332)

Electrical (Static Conditions)

Current Rating:	6 amps			
Average Probe R	<35 mOhms			
Average Probe R	<50 m0hms			
Materials and Finishes				
Plunger EPA: Heat-treated BeCu, Gold plated over hard Nickel				

Plunger SPA:	Heat-treated BeCu,
	Rhodium plated over hard Nickel
Barrel:	Work hardened Nickel Silver,
	Gold plated over hard Nickel
Spring	
Standard:	BeCu, Silver plated
Alternate:	Stainless Steel, Silver plated
Ultra High:	Stainless Steel
Ball:	Brass, Gold plated
eceptacle	
Hole diameter:	Ø .094 to .096 (2.39 to 2.44)

Re

	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		

Special

A "P" at the end of the part number in the "Special" field indicates the end of the barrel will have a slight bulge and is used with receptacles lacking detents.







65

Replaceable Probe

EPA-4 / SPA-4

187 mil (4.75 mm)



Mechanical

Recommended Travel:	.167 (4.24)
Full Travel:	.250 (6.35)
Operating Temperature	
 Standard Spring: 	-55°C to +85°C
 Alternate Spring: 	-55°C to +150°C
 Ultra High Spring: 	-55°C to +150°C

Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard		2.20 (62)	4.8 (136)
Alternate	- 1	3.20 (90)	6.9 (196)
Ultra High	- 2	6.70 (190)	11.8 (335)

Electrical (Static Conditions)

Current Rating:	7 amps
Average Probe Resistance EPA:	<35 mOhms
Average Probe Resistance SPA:	<50 mOhms

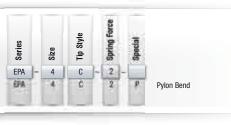
Materials and Finishes

Plunger EPA:	Heat-treated BeCu,
	Gold plated over hard Nickel
Plunger SPA:	Heat-treated BeCu,
	Rhodium plated over hard Nickel
Barrel:	Work hardened Nickel Silver,
	Gold plated over hard Nickel
Spring	
Standard:	BeCu, Silver plated
 Alternate: 	Stainless Steel, Silver plated
 Ultra High: 	Stainless Steel
Ball:	Brass, Gold plated
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

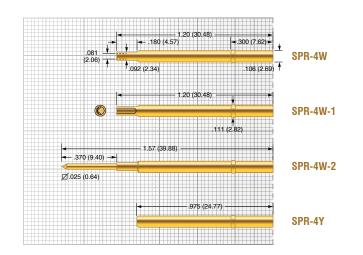
Gold plated over hard Nickel Material Post: Phosphorous Bronze, Gold plated

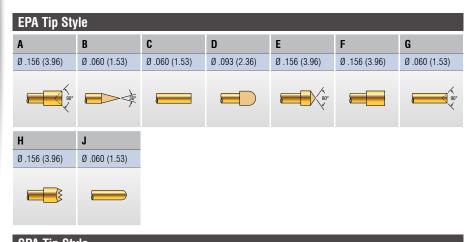
Special

A "P" at the end of the part number in the "Special" field indicates the end of the barrel will have a slight bulge and is used with receptacles lacking detents.



Pylon[®]





SPA Tip Style							
Α	В	C	D	E	F	G	
Ø.156 (3.96)	Ø .060 (1.53)	Ø .060 (1.53)	Ø .093 (2.36)	Ø .156 (3.96)	Ø .156 (3.96)	Ø .060 (1.53)	
90°)					
Н	J						
Ø.156 (3.96)	Ø .060 (1.53)						

Tip Style

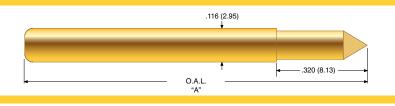
Ø .098 (2.49)

1R

Ø.120 (3.05)

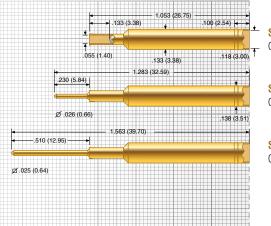
1C

General Purpose



P2757 187 mil (4.75 mm)

.167 (4.24)



1W

Ø.154 (3.91)

2W

Ø .250 (6.35)

3W

Ø.122 (3.10)

-	S2757-2ED
-	Collar height=.090 (2.29)
	00757 0570

S2757-2ETD Collar height=.090 (2.29)

S2757-2EWWD Collar height=.090 (2.29)

	Mechanical
•	Recommended Travel:
9)	Full Travel:

Full Travel:			.230 (5.84)			
Operating Te	mperature:	-55°C to +150°C				
Spring Force	in oz. (grams	5)				
	Order Code	Preload	Rec. Travel			
Standard	1	2.00 (57)	4.0 (113)			
Alternate	2	3.50 (99)	6.9 (194)			
Electrical (Static Conditions)Current Rating:20 ampsAverage Probe Resistance:<10 mOhms						
Materials and Finishes						
Plunger: Heat-treated BeCu, Gold or Silver plated over hard Nickel						
Barrel: Phosphorous Bronze, Gold plated			Gold plated			
Spring:	Stainless	Stainless Steel				
Ball: Stainless Steel						
Probe Overall Length						

Overall Length (Dim. A)
1.210 (30.73)
1.205 (30.61)
1.205 (30.61)

Receptacle

Hole diameter:	Ø .1350 to .1365 (3.43 to 3.47)			
Suggested drill:	#29 or 3.45 mm			
Material Housing:Brass, Gold plated				
Material Post:	Phosphorous 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.

1V

Ø.152 (3.86)





Replaceable Probe

EPA-5 / SPA-5

187 mil (4.75 mm)



Mechanical

Recommended Travel:	.167 (4.24)
Full Travel:	.250 (6.35)
Operating Temperature	
 Light Spring: 	-55°C to +85°C
 Standard Spring: 	-55°C to +150°C
 Ultra High Spring: 	-55°C to +105°C

Spring Force in oz. (grams)

Spring roice in	oz. (yraina	<i>)</i>	
	Order Code	Preload	Rec. Travel
Light	- 1*	1.96 (56)	3.5 (99)
Standard		6.13 (174)	16.0 (454)
Ultra High	- 2	12.90 (366)	48.0 (1361)
* Available ONLY i	n SPA-5		
Electrical (Stat	ic Conditior	ıs)	
Current Rating:			8 amps
Average Probe Resistance EPA:			<35 m0hms
Average Probe	SPA:	<50 mOhms	
Materials and F	inishes		
Plunger EPA:		ted BeCu, ed over hard	Nickel
Plunger SPA: Heat-treated BeCu, Rhodium plated over hard Nickel			
Barrel:		dened Nickel ed over hard	,
Spring • Light: • Standard:	,	lver plated Steel, Silver	nlated
- Ultro Light			•

• Ultra High:	wusic wire, Silver plated
Ball:	Brass, 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				

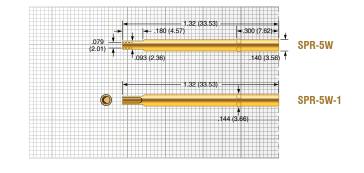
Special

A "P" at the end of the part number in the "Special" field indicates the end of the barrel will have a slight bulge and is used with receptacles lacking detents.







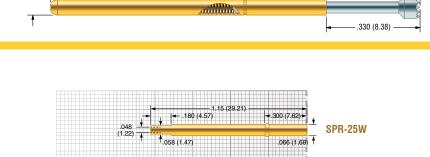


EPA Tip Style						
Α	В	E	Н			
Ø .156 (3.96)	Ø .080 (2.03)	Ø .156 (3.96)	Ø .156 (3.96)			
		90°				

SPA Tip Style						
A	В	Н				
Ø .156 (3.96)	Ø .080 (2.03)	Ø .156 (3.96)				

Solar Panel Probe

Ø.054 (1.37)



1.30 (33.02)

	- 1.19 (30.23)	
	.072(1.83)	SPR-25W-1
		SPR-25W-2 EPR-25W-2
₹ 2/.025	694 (17.36)	SPR-25W-2L EPR-25W-2L
4	4 (26.52)	SPR-25W-2LL EPR-25W-2LL
∅.025 (0.64)	+	* SPR-25W-3

Tip Style					
H	HF				
Ø .060 (1.52)	Ø .080 (2.03)				

Solar Panel Test Probe SPP-25 Benefit Summary

Spring probe technology is an ideal solution to provide electrical connection to obtain I-V curve measurements, or providing reliable contact for your challenging high current or low voltage connections. SPP-25 probes feature low, stable resistance, a center close for enhanced pointing accuracy, tip styles designed to distribute spring force across a large area, and two force options; 4oz and 6oz. The probes are specifically designed to yield a linear force -compression relationship as the probe is actuated. This minimizes potentially harmful jumps or steps in force.

Mechanical Recommended Full Travel: Operating Tem Spring Force in	perature:		.167 (4.24) .250 (6.35) °C to +105°C	
	Order Code	Preload	Rec. Travel	
Standard	-4	0.84 (23.8)	4.0 (113)	
Alternate	-6	3.08 (87.3)	6.0 (170)	
0			8 amps 8 mOhms	
Materials and Finishes				
Plunger: Barrel: Spring • Standard: • Alternate:	Nickel Si Stainless	BeCu, LFRE proprietary plating Nickel Silver, Gold plated Stainless Steel Music Wire		
Receptacle				
Hole diameter: Suggested dril Material • SPR Housir	l:	Ø .067 to .069 (1.70 to 1.75) #51 or 1.75 mm g: Work-hardended Nickel Silver, Gold		
	plated ov ng: Nickel Si	<mark>rer hard Nicke</mark> Iver, unplated rous Bronze, (



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69

op



SPP-25

100 mil (2.54 mm)

Epoxy Mount

GENERAL PURPOSE - EPOXY OR SOLDER MOUNT

The ECT / Pylon line of standard products includes non-replaceable Pogo contacts. They differ from replaceable contacts in that they do not require a socket or receptacle and are designed to be permanently mounted. Non-replaceable probes are designed for industrial applications where typical probe life meets or exceeds those of the end-use product. They are often located inside the end product where probe replacement is either impossible or end-product damage would occur.

Electrical connections are usually made with a soldered connection for electrical and mechanical stability.

The probe is retained in the retention plate with either epoxy or solder on the outside of the probe body.

Non-replaceable Pogo contacts are another example of ECT and Pylon's quality and innovation and how it can work for you.

EPOXY MOUNT INSTRUCTIONS

ECT non-replaceable products may be retained in mounting holes using solder or adhesives.

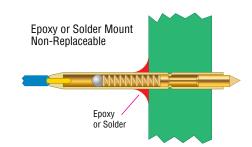
- Solder mount If conductivity is required, we recommend utilizing solder mounting for retention.
- Epoxy mount If conductivity is not required, utilizing epoxy adhesives for mounting is acceptable.

Adhesives used are typically two-part epoxies, and can be either conductive or non-conductive dependent upon the application. ECT does not recommend the use of fast setting Superglue style adhesives as they can outgas and may put a nearly invisible barrier on contact surfaces. Epoxy mounting, when properly utilized, provides excellent holding or retention ability compared to traditional mounting techniques such as solder mounting.

Several types of epoxies are available for use, depending on whether conductivity is required, the desired set time, the temperature of application and the requirements and temperature in the end use.

The following epoxy adhesives are known to work well in typical customer applications:

- DEVCON #14277 Two-part epoxy
- Loctite 3140 Hysol Epoxy Resin
- Loctite 3164 Hysol Epoxy Hardener
- DURALCO #4525 Room temperature curing epoxy





EPOXY MOUNTING PROCEDURE

- 1. The probe barrel must be clean and free of any coatings, paint, or other materials.
- 2. Additionally, the plated through hole, or mounting hole must be clean and free of any coatings, paint, or other materials.
- 3. To install the probe, apply a thin layer of conductive epoxy to the clean inside area of the mounting hole or to the clean outside of the probe barrel, according to manufacturer's directions.
- 4. If desired, apply a release agent, on all other surfaces to keep the epoxy from adhering to undesirable locations. Utilize a release agent which is compatible with your process.
- 5. If the depth of the mounting hole is shallow, ensure that a fixture is used to ensure perpendicularity of the probe to the mounting plane.
- 6. Once the epoxy hardens, or sets up to an acceptable stiff plastic consistency, remove any fixturing or release agents.

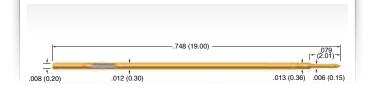






MEP-22B

20 mil (0.51 mm)



MEPJ-22BD

20 mil (0.51 mm)

.071 ←(1.80)→		.810 (20.60)	.071 .015 (0.38) ↓ +(1.80)
.008 (0.21)	.013 (0.32)		.020 (0.50) + + .008 (0.21

Mechanical

Recommended Travel:	.050 (1.27)
Full Travel:	.079 (2.01)
Operating Temperature:	-55°C to +105°C

Spring Force in oz. (grams)

		Preload	Rec. Travel
Standard		0.51 (14)	1.69 (48)
Electrical (Static Co	nditions)		
Current Rating:			2 amps
Average Probe Resi	stance:		<125 m0hms
Materials and Finis	hes		
Plunger:	Heat-treated Steel,	, Nickel Boron plated	
Barrel:	BeCu alloy, Gold p	olated	
Spring:	Music Wire, Gold	plated	
Mounting			
Hole diameter:		Ø .0135 to	.0140 (0.34 to 0.36)
Suggested drill:			#80 or 0.35 mm

Tip Style		
В		
Ø .006 (0.15)		
60*		



EC



Mechanical

Recommended Travel:	.052 (1.33)
Full Travel:	.079 (2.01)
Operating Temperature:	-55°C to +105°C

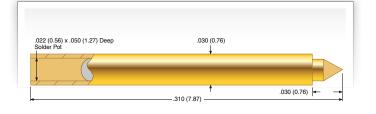
Spring Force in oz. (grams)

	(0)			
		Preload	Rec. Travel	
Standard		0.38 (11)	1.69 (48)	
Electrical (Static C	onditions)			
Current Rating:			2 amps	
Average Probe Res	istance:		<125 m0hms	
Materials and Fini	shes			
Plunger:	Heat-treated	l Steel, Nickel Boron p	plated	
Barrel:	Phosphor B	Phosphor Bronze, Gold plated		
Spring:	Music Wire,	Gold plated		
Mounting				
Hole diameter:		Ø .01	35 to .0140 (0.34 to 0.36)	
Suggested drill:			#80 or 0.35 mm	
	_			
Tip Style				
B				

В		
Ø .008 (0.20)		
HIB & DUT		

A-S

50 mil (1.27 mm)



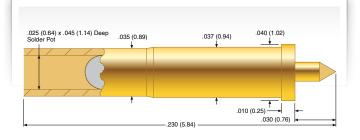
Mechanical

Recommended Travel:	.020 (0.51)
Full Travel:	.030 (0.76)
Operating Temperature:	-55°C to +150°C

Spring Force in oz. (grams)

	Preload	Rec. Travel
Standard	0.5 (14)	2.0 (57)
Electrical (Static	Conditions)	
Current Rating:		2 amps
Average Probe F	lesistance:	<30 m0hms
Materials and Fi	nishes	
Plunger:	Heat treated BeCu, Gold plated	
Barrel:	Phosphor Bronze, Gold plated	
Spring:	Stainless Steel, Gold plated	
Ball:	Stainless Steel, Gold plated	
Epoxy Mounting		
Hole diameter:		Ø .0315 (0.80)
Suggested drill:		#68 or 0.79 mm

Tip Style				
C	R			
Ø .021 (0.53)	Ø .021 (0.53)			



Mechanical

A-A-S

39 mil (1.00 mm)

Recommended Travel:	.020 (0.51)
Full Travel:	.030 (0.76)
Operating Temperature:	-55°C to +150°C

Spring Force in oz. (grams)

		Preload	Rec. Travel
Standard		0.7 (20)	1.3 (37)
Electrical (Static	Conditions)		
Current Rating:			2 amps
Average Probe F	lesistance:		<30 mOhms
Materials and Fi	nishes		
Plunger:	Heat treated	BeCu or Brass, Gold	l plated
Barrel:	Brass, Gold (plated	
Spring:	Stainless Ste	el, Gold plated	
Ball:	Stainless Ste	el, Gold plated	
Mounting			
Hole diameter:			Ø .0380 (0.97)
Suggested drill:			#62 or 0.97 mm

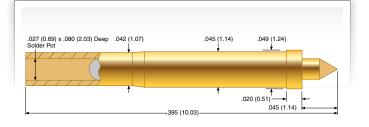
Tip Style				
C	R	V		
Ø .014 (0.36)	Ø .014 (0.36)	Ø .014 (0.36)		
	Brass	120°		







C-S 75 mil (1.91 mm)



Mechanical

Recommended Travel:	.030 (0.76)
Full Travel:	.045 (1.14)
Operating Temperature:	-55°C to +150°C

Spring Force in oz. (grams)

		Preload	Rec. Travel
Standard		0.5 (14)	3.4 (96)
Electrical (Static Co	onditions)		
Current Rating:			5 amps
Average Probe Resi	stance:		<30 mOhms
Materials and Finis	hes		
Plunger:	Heat treated Be	Cu, Gold plated	
Barrel:	Brass, Gold plat	ed	
Spring:	Stainless Steel,	Gold plated	
Ball:	Stainless Steel,	Gold plated	
Epoxy Mounting			
Hole diameter:			Ø .0465 (1.18)
Suggested drill:			#56



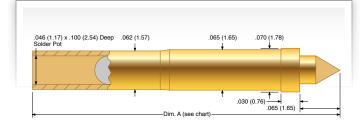






E-S

100 mil (2.54 mm)



Mechanical

Recommended Travel:	.043 (1.09)
Full Travel:	.065 (1.65)
Operating Temperature:	-55°C to +150°C

Spring Force in oz. (grams)

		Preload	Rec. Travel
Standard		1.0 (29)	2.75 (78)
Electrical (Static C Current Rating:			5 amps < 30 mOhms
Average Probe Res Materials and Finis			< 30 11011115
Plunger:	Heat treated BeCu	, Gold plated	
Barrel: Spring: Ball:	Brass, Gold plated Stainless Steel, Gold plated Stainless Steel, Gold plated		
Epoxy Mounting Hole diameter: Suggested drill:			Ø .0670 (1.70) #51
Probe Overall Lenç	jth		
Model No.		Overall L	ength (Dim A)
E-S-C, F,R		.495 (12.57)	
E-S-V, W		.540 (13.72)	

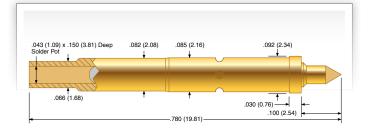
Tip Style					
C	F	R	۷	W	
Ø .045 (1.14)	Ø .045 (1.14)	Ø .045 (1.14)	Ø .090 (2.29)	Ø .070 (1.78)	

G-S

125 mil (3.18 mm)



125 mil (3.18 mm)



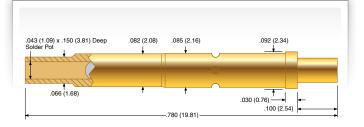
Mechanical

Recommended Travel:	.066 (1.68)
Full Travel:	.100 (2.54)
Operating Temperature:	-55°C to +150°C

Spring Force in oz. (grams)

		Preload	Rec. Travel	
Standard		2.0 (57)	6.0 (170)	
Electrical (Stati Current Rating:	5 amps			
Average Probe	Resistance:		<30 mOhms	
Materials and F	inishes			
Plunger:		Heat treated BeCu, Gold plated or		
	Heat treate	ed Brass, Gold pla	ated	
Barrel:	Brass, Go	Brass, Gold plated		
Spring:	Stainless	Stainless Steel, Gold plated		
Ball:	Stainless Steel, Gold plated			
Epoxy Mounting				
Hole diameter:			Ø .0860 (2.18)	
Suggested drill:			#44	
Tip Style				
C	R	W		
Ø .045 (1.14)	Ø .045 (1.14)	Ø .090 (2.29)		

The Style			
C	R	W	
Ø .045 (1.14)	Ø .045 (1.14)	Ø .090 (2.29)	
	Brass		



Mechanical

Recommended Travel:	.067 (1.68)
Full Travel:	.100 (2.54)
Operating Temperature:	-55°C to +150°C

Spring Force in oz. (grams)

		Preload	Rec. Travel
Standard		3.0 (85)	6.0 (170)
Electrical (Static C	onditions)		
Current Rating:			5 amps
Average Probe Res	istance:		<30 mOhms
Materials and Finis	shes		
Plunger:	Heat treated BeC	u, Gold plated	
Barrel:	Brass, Gold plate	ed	
Spring:	Stainless Steel,	Gold plated	
Ball:	Stainless Steel,	Gold plated	
Mounting			
Hole diameter:			Ø .0860 (2.18)
Suggested drill:			#44

Tip Style			
F	R		
Ø.061 (1.55)	Ø.061 (1.55)		

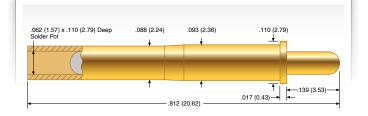






P2532

156 mil (3.96 mm)

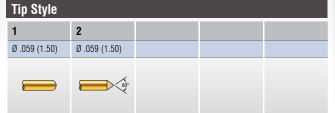


Mechanical

Recommended Travel:	.093 (2.36)
Full Travel:	.139 (3.53)
Operating Temperature:	-55°C to +150°C

Spring Force in oz. (grams)

	Pr	reload	Rec. Travel
Standard	1.(0 (28)	2.3 (65)
Electrical (Static Co	nditions)		
Current Rating:			5 amps
Average Probe Resis	tance:		<30 mOhms
Materials and Finish	es		
Plunger:	Heat-treated BeCu, G	Gold plated over ha	rd Nickel
Barrel:	Brass, Gold plated		
Spring:	Stainless Steel, Gold	d plated	
Ball:	Stainless Steel, Gold	d plated	
Epoxy Mounting			
Hole diameter:			Ø .0945 (2.40)
Suggested drill:		7	⊭41 mm or 2.40 mm





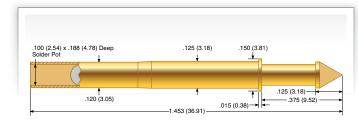


op



P2550

187 mil (4.75 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		1.00 (28)	3.20 (91)
High	-8	4.00 (113)	6.70 190)
Electrical (Stati Current Rating: Average Probe	,		5 amps <30 mOhms
Materials and F	inishes		
Plunger:	Heat-treated	BeCu, Gold plated ov	ver hard Nickel
Barrel:	Brass, Gold	plated	
Spring:	Stainless Ste	eel, Gold plated	
Ball:	Stainless Ste	eel, Gold plated	
Epoxy Mounting			
Hole diameter:			Ø .126 (3.20)
Suggested drill	:		#30 or 3.20 mm

Tip Style				
8	0	6	9	
Ø .156 (3.96)	Ø .122 (3.10)	Ø .154 (3.91)	Ø .125 (3.18)	
	60°			

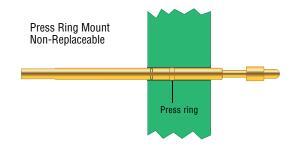
GENERAL PURPOSE - PRESS RING MOUNT

The ECT / Pylon line of standard products includes non-replaceable Pogo contacts. They differ from replaceable contacts in that they do not require a socket or receptacle and are designed to be permanently mounted. Non-replaceable probes are designed for industrial applications where typical probe life meets or exceeds those of the end-use product. They are usually located inside the end product where probe replacement is either impossible or end-product damage would occur.

Electrical connections are typically made by crimping or soldering a wire at the terminal of the probe.

The probe is retained in the retention plate by its press ring, which deforms during the installation process and therefore provides a permanent mount.

Press Ring Mount



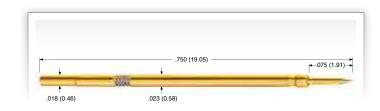






MEP-20

25 mil (0.635 mm)



Mechanical

Recommended Travel:	.050 (1.27)
Full Travel:	.075 (1.91)
Operating Temperature:	-55°C to +105°C

Spring Force in oz. (grams)

		Preload	Rec. Travel
Standard		.39 (11)	1.39 (39)
Electrical (Static Con	ditions)		
Current Rating:			2 amps
Average Probe Resist	ance:		<50 m0hms
Materials and Finishe	s		
Plunger:	Heat-treated Be	Cu, Gold plated	over hard Nickel
Barrel:	Work hardened	BeCu,	
	Gold plated over	er hard Nickel	
Spring:	Music Wire, Sil	ver plated	
Mounting			
Hole diameter:		Ø.	0205 to .0215 (0.52 to 0.55
Suggested drill:			#75 or 0.52 mm
Minimum mounting p	late thickness		.250 (6.35
Order versions			
MEP-20x	Crimp		
MEP-20x-30	Crimp with 30 i	nches of 30 AW	G wire attached
Application			
1. The MEP-20 can a on centers less that		in a staggered p	attern to access test pads
		C movimum inc	ulation dia 019 (0.48)

- 2. Recommended wire gauge 30 AWG, maximum insulation dia. .019 (0.48).
- Shrink tubing is recommended for use on alternating receptacles to reduce the possibility of electrical shorting.

