Fine Pitch Probe

ICT / FCT



Metrix Summary

center spacing

· Bias ball design

· Unified receptacles across all test

• Large variety of tips and receptacles

· Proprietary LFRE plunger plating



ECT-CPG.com shop.ECT-CPG.com



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.

-40W

HPR-

HPR-40T

STT-80W

1W-2

ECR-

Plate

Receptacle Plate

Guide

-40W

HPB.





MTX-50 50 mil (1.27 mm)



Tip Style						
Н	1	18	115	135	140	J
Ø .047 (1.19)	Ø .022 (0.56)	Ø .020 (0.51)	Ø .021 (0.53)	Ø .022 (0.56)	Ø .022 (0.56)	Ø .022 (0.56)
		90°	155*	₽₩.	40°	
L	L18	Т	T1	T24	Т30	T67
Ø .040 (1.02)	Ø .018 (0.46)	Ø .047 (1.19)	Ø .020 (0.51)	Ø .022 (0.56)	Ø .022 (0.56)	Ø.067 (1.70)
		3		¥ ^{15°}	¥30°	30-
Z	Z1					
Ø .047 (1.19)	Ø .038 (0.97)	Metrix				

Metrix Introduction

For test center spacing below 50mil, conventional ICT Probes reach their limits. ECT Metrix Probes overcome this issue by providing test

center spacing as low as 39mil. In a conventional probe/receptacle design, the pitch is limited by the largest diameter, which typically is the diameter of the receptacle. The Metrix probe has a stepped down diameter tail. This allow you to plug the probe into a receptacle sitting underneath the probe. Now, since the probe is placed above the receptacle, it allows you to use a receptacle with the same or lesser diameter as the spring probe. Valuable space is saved between the two adjacent probes which now can be placed in a tighter spacing.

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			
Recommend	ded Travel:		.167 (4.24)
Full Travel:			.250 (6.35)
Operating Te	emperature:	-5	5°C to +150°C
Spring Force	in oz. (gram	IS)	
	Order Code	Preload	Rec. Travel
Standard	- 4	0.72 (20)	4.0 (113)
Alternate	- 6	2.39 (68)	6.0 (170)
Elevated	- 7	1.68 (48)	7.0 (198)
High	- 8	1.73 (49)	8.0 (227)
Ultra High	-10	2.84 (81)	10.0 (283)
Electrical (St	tatic Conditio	ons)	
Current Rati	ng:	•	6 amps
Average Pro	be Resistance	:	<10 mOhms
Materials an	d Finishes		
Plunger:	High pe LFRE pr	rformance all oprietary plat	oy ing
Barrel:	BeCu, G	old plated ov	er hard Nickel
Spring:	Stainles	s Steel	
Ball:	Stainles	s Steel	
Receptacle			
Hole diamet	er:		Ø .028 (0.70)
Suggested of	drill:	#	70 or 0.70 mm
Recommend	ded wire gauge	e:	28-30 AWG
Material Ho	Isina		

 HPR-40T: Work-hardened Nickel Silver, Gold plated over hard Nickel
 HPR-40W: Work-hardened Nickel Silver, Gold plated over hard Nickel
 STT: Work-hardened BeCu, Gold plated over hard Nickel



CI CONTACT PRODUCTS

ECT-CPG.com shop.ECT-CPG.com

Fine Pitch Long Travel Probe

ICT / FCT



Mechanical

Recommend	led Travel:		.315 (8.00)		
Full Travel:			.400 (10.16)		
Operating Te	emperature	-5	55°C to +150°C		
Spring Force	in oz. (grar	ns)			
	Order Cod	e Preload	Rec. Travel		
Standard	- 4.5	0.49 (14)	4.00 (113)		
Electrical (St	atic Conditi	ons)			
Current Ratii	ng:		3 amps		
Average Pro	be Resistanc	e:	<15 mOhms		
Materials and Finishes					
Plunger:	High p LFRE p	erformance al roprietary plat	loy ting		
Barrel:	BeCu,	Gold plated ov	ver hard Nickel		
Spring:	Stainle	ss Steel			
Ball:	Stainle	ss Steel			
Receptacle					
Hole diamet	er:		Ø .028 (0.70)		
Suggested of	Irill:	#	≇70 or 0.70 mm		
Recommend	led wire gaug	je:	28-30 AWG		
Material Hou	using				
• HPR-40T	: Work-h plated	ardened Nick over hard Nicł	el Silver, Gold kel		
• HPR-40V	V: Work-h plated	ardened Nick over hard Nick	el Silver, Gold «el		
• STT:	Work-h over ha	ardened BeCu ard Nickel	ı, Gold plated		



STT-80W (Pre-wired versions -28, -30) HPR-40W HPR-40T with HPR-40W HPA-40 with HPR-40W

ECR-1W-2



Metrix



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.

op

Fine Pitch Long Travel Probe

1.641 (41.68) 1.161 (29.49) .480 (12.19) ŧ .037 (0.94) .020 (0.51)

MXLT-50 50 mil (1.27 mm)

ICT / FCT



STT-80W (Pre-wired versions -28, -30)
HPR-40W
HPR-40T with HPR-40W
HPA-40 with HPR-40W
ECR-1W-2



T30 Ø .022 (0.56)

J¥ 30° TO



Dimensions in inches (millimeters). Specifications subject to change without notice. Consult factory for other temperature requirements, and applications below -40 $^\circ\text{C}.$ 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.



echanical	
Recommended Travel:	.315 (8.00)
Full Travel:	
 Standard Spring: 	.400 (10.16)
 Alternate Spring: 	.350 (8.89)
 High Spring: 	.350 (8.89)
Operating Temperature:	-55°C to $+105$ °C

Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Standard	- 4.5	1.09 (31)	4.5 (128)
Alternate	- 7	0.75 (21)	7.0 (198)
High	- 9.6	1.50 (43)	9.6 (272)

Electrical (Static Conditions)

Current Rating:		6 amps			
Average Probe R	esistance:	< 10 mOhms			
Materials and Finishes					
Plunger:	High performance allo LFRE proprietary platin	ry ng			
Barrel:	BeCu, Gold plated over	er hard Nickel			
Spring					
Standard:	Music Wire				
Alternate:	Music Wire				
High:	Music Wire				
Ball:	Stainless Steel				
Receptacle					
Hole diameter:		Ø .028 (0.70)			
Suggested drill:	#	70 or 0.70 mm			

R

Hole diameter:		Ø .028 (0.70)
Suggested drill:		#70 or 0.70 mm
Recommended	wire gauge:	28-30 AWG
Material Housin • HPR-40T: • HPR-40W:	g Work-hardened N plated over hard I Work-hardened N	lickel Silver, Gold Nickel lickel Silver, Gold
• STT:	Work-hardened B over hard Nickel	eCu, Gold plated







GE-1 il (1.91 mm)					↓ 	040 (1.02)	1.30 (33.02) - Micro-Wij	-90	<330 (8.3
Mechanical Recommend	ed Travel:		.192 (4.88)			.035 (0.89)	1.19 (3 - 214 (5.44) - 044 (1.12)	0.23) -	± LTR-1W
Operating Te	mperature:	-55	.275 (6.99) 5°C to +150°C				1,19 (3	0.23)	
Spring Force	in oz. (gran	ns)							LTR-1W-1
	Order Code	e Preload	Rec. Travel					.058 (1.47)	
Alternate	- 5.5	1.39 (39)	5.5 (156)		4	.500 (12.70)	1.69 (42.93)		ITR-1W-2
Elevated	- 7	1.82 (52)	7.0 (198)		↓ ☑.0	025 (0.64)			ELTR-1W-
Ultra High	- 8	1.91 (54)	8.0 (227)						
Electrical (St	atic Conditi	ons)			.694 (1	7.36) — 🛏	1.88 (47.75)		LTR-1W-2
Current Ratir	ng:		6 amps		,⊠́.025 (0.64)		<u></u>		ELTR-1W-
Average Pro	pe Resistance	2:	<10 mOhms	L.		2 23 (56 74)		
Materials and	d Finishes Work by	ardanad Staal			1.04 (26.42) -	*			LTR-1W-2
Fluilger.	LFRE p	roprietary plati	ng	☑.025 (0.6	i4)				ELIK-IW-
Barrel:	Work ha Gold pl	ardened Phosp ated over hard	hor Bronze, Nickel						
Spring:	Stainles	ss Steel							
Receptacle									
Hole diamet	er:	Ø .053 to .055	6 (1.35 to 1.40)	T A					
Suggested d	rill:	#	54 or 1.40 mm	Tip Style					
LTR House	ing: Work-h plated (ardened Nickel over hard Nicke	l Silver, Gold el	Ø .031 (0.79)	I15 Ø .031 (0.79)				
• ELTR Hou	ising:Work-h unplate	ardened Nickel d	Silver,		<i></i>				
Post:	Phosph	orous Bronze,	Gold plated						



Lead Free Contact Products

ECT's EDGE series was designed to overcome some of the industries toughest testing challenges while providing superior performance and reliability.

EDGE features ECT's innovative flat plunger technology that improves internal electrical performance and tip-to-target contact, making EDGE the perfect solution for demanding test applications such as penetrating OSP and no-clean flux residues.

Micro-Wipe

EDGE's Micro-Wipe technology provides a constant low-friction internal contact yielding stable resistance without the need of lubricant. The absence of lube prevents the build up of "black stuff" on the plunger, and early probe failure, due to particle accumulation.





op





EDGE-25











PADS

Blade Tip

The EDGE probe tips feature a very hard 650 knoop LFRE plated steel base material which is up to 10x sharper than traditional machined or ground probe tips. EDGE tips are sharper, and last longer, resulting in more reliable pad and via testing, and an overall lower cost of test!

Flat Technology

Unlike traditional radial screw machine designs, ECT's photolithographic manufacturing process does not induce material stresses and provides for:

- Econonomical and repeatable, high volume production
- · Improved surface finishes
- More consistent blade formation and tolerance control
- Outstanding plating quality

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					
Recommende	d Travel:		.192 (4.88)		
Full Travel:			.275 (6.99)		
Operating Tem	perature:	-55	°℃ to +150°℃		
Spring Force in	ı oz. (gran	ıs)			
	Order Code	e Preload	Rec. Travel		
Alternate	- 5.5	1.64 (46)	5.5 (156)		
Elevated	- 7	2.94 (83)	7.0 (198)		
Ultra High	-10	3.85 (109)	10.0 (283)		
Electrical (Stat	tic Conditio	ons)			
Current Rating	:	,	8 amps		
Average Probe	Resistance):	<8 mOhms		
Materials and	Finishes				
Plunger:	Work ha	ardened Steel, roprietary platir	ng		
Barrel:	Work ha Gold pla	ardened Phosp ated over hard	lened Phosphor Bronze, ed over hard Nickel		
Spring:	Stainles	ss Steel			
Receptacle					
Hole diameter	:	Ø .067 to .069	(1.70 to 1.75)		
Suggested dri	11:	#:	51 or 1.75 mm		
Material					
 SPR Housing: Work-hardened Nicker plated over hard Nicker 			Silver, Gold I		
• EPR Housi	ng: Nickel S	Silver, unplated			
Post:	Phosph	orous Bronze,	Gold plated		





JIAS



21

ECT LFRE: CLEANER PROBES, CLEANER ENVIRONMENT

The Lead Free Challenge

Lead free solder can cause many problems in Circuit Testing. Lead Free Solder has a higher reflow temperature, which can result in harder and stickier solder flux resin and a thicker, harder oxide layer. This thicker layer of resin and oxide is more difficult to penetrate and increases wear on the pogo pin. Lead free solder resin and oxides can also increase debris transfer to spring probes. These are many of the issues found in OSP and No-Clean applications. ECT has developed a new test probe, specifically designed to solve these problems.

ECT Lead Free POGO® Series

ECT's LFRE probe line incorporates a number of features that will significantly reduce the issues that arise when switching to lead free solder as well as those contact issues that arise with OSP and No-Clean solder flux.

• LFRE Plating

Our Lead Free probe incorporates a Harder and Slicker plating that not only resists wear but also reduces solder and debris transfer.

• Higher Preload

All of our LFRE probes incorporate higher preloads. Higher preload reduces spring force variation with board flex and increases the initial impact penetration, resulting in higher first pass yields.

• PogoPlus Bias Ball Design

The PogoPlus internal bias ball design guarantees uninterrupted electrical contact with the probe sidewall virtually eliminating probe related false opens.

• Pointing Accuracy

ECT's LFRE and POGO probe incorporates a double roll close, which offers the industries best pointing accuracy. Increased pointing accuracy is of benefit when using Lead Free solder and/or No-Clean as the probe is less likely to touch the edge of the pad where the solder flux accumulates.



LFRE Plating vs. the Industry Standard Plating

The industry standard for plated POGO pins is Gold electroplate alloyed either with cobalt or nickel to enhance its hardness. Hardness is increased from 90 Knoop for 99.7 % pure electroplated gold to 130 to 200 Knoop when alloyed with nickel or cobalt. ECT's LFRE plating is significantly harder than the industry's standard gold plating. Our new proprietary plating has a hardness range of 550 to 650 Knoop. This makes the probe tips more durable and less susceptible to solder and material transfer.





Plating

Industry Standard Gold

Contaminant Transfer



Industry Standard Gold



LFRE Plating



LFRE Plating





LFRE-39 39 mil (1.0 mm)

107 (1 0 1)



Tip Style (additional tips available)						
Н	I	115	L15	T15		
Ø .028 (.711)	Ø .015 (0.38)	Ø .015 (0.38)	Ø .015 (0.38)	Ø .015 (0.38)		
	1 000000000000000000000000000000000000	155*	.015	× 15°		

Recommende	a fraver:	.167 (4.24)		
Full Travel:		.250 (6.35)		
Mechanical Li	fe*:	50,000 cycles		
Operating Terr	perature:	-55	5°C to +150°C	
Spring Force in	n oz. (gram	s)		
	Order Code	Preload	Rec. Travel	
Standard	- 5.4	0.62 (18)	5.4 (153)	
Electrical (Sta	tic Conditio	ns)		
Current Rating	:		2 amps	
Average Probe	Resistance:	<50 n	nOhms average	
Materials and	Finishes			
Plunger:	High per LFRE pro	ormance alloy prietary plating		
Barrel:	Nickel S	lver, Gold plated		
Spring:	Stainless	s Steel		
Receptacle				
Hole diameter	: Q	.0307 to .03	17 (.77 to .80)	
Suggested dri	11:		1/32" or .8 mm	
SPR Housing:	Work-ha over hard	rdened BeCu, I Nickel	Gold plated	
SPT Housing:	Work-ha over hard	rdened Brass, Gold plated I Nickel with nylon insulator		
* Life specificat	ions are base	d on lab results	s but are	
dependent on c	leaning freque	ency and the specific customer		
application, incl	uding DUT ma	terials, handle	r kit, mainte-	

Mechanical

nance, etc.

. **т**

÷

series ITLE - 360 TILE - 24 Spring Force





LFRE-72 50 mil (1.27 mm)		.03	∲ 1 (0.78)	— 1.70 (43.18) ——	<u>.</u>	↓	Ť
MechanicalRecommended Travel:.167 (4.24)Full Travel:.250 (6.35)Operating Temperature:-55°C to 150°CSpring Force in oz. (grams)Vorder CodePreloadRec. TravelLight- 20.60 (17)2.0 (57)Standard- 41.53 (43)4.0 (113)Alternate- 62.14 (61)6.0 (170)Elevated- 72.67 (76)7.0 (198)High- 83.12 (88)8.0 (227)Ultra High- 103.83 (109)10.0 (283)Electrical (Static Conditions)Current Rating:3 ampsAverage Probe Resistance:< 15 mOhmsMaterials and FinishesPlunger:High performance alloy LFRE proprietary platingBarrel:Work hardened BeCu,				- 1.57 (39,6 - 190 (4,83) (0.76) 1 57 (39,6 1 72 (43,69) = 9ve DS-62-1 1.57 (39,1 190 (4,83)		HPR-72W HPR-72W FASTITE® Inse	.1 -4 tion -28 -30
Gold plated over hard Nickel	Tin Style <i>a</i>						
Ball: Stainless Steel			ADLE)	115	140		T1
Receptacle	Ø .035 (0.89)	Ø .017 (0 43)	Ø .017 (0.43)	Ø .017 (0.43)	Ø .017 (0 43)	Ø .017 (0 43)	Ø .019 (0.48)
Hole diameter: Ø .039 (0.99) Suggested drill: #61 or 0.99 mm Material Housing:Hardened BeCu, Gold plated	✓ ✓ ✓ ✓ ✓ ✓ Ø .019 (0.48)	2.5.01 (0.10) 90° T38 Ø.038 (0.97)	U Ø .019 (0.48)				







LFRE-1 75 mil (1.91 mm)



Tip Style (additional tips available)						
Α	В	H	1	18	115	135
Ø .047 (1.19)	Ø .022 (0.56)	Ø .047 (1.19)	Ø.021 (0.51)	Ø .020 (0.51)	Ø.021 (0.53)	Ø .022 (0.56)
			90°	90°	155*	₽₩.
140	J	L	L18	L24	Т	T1
Ø .021 (0.53)	Ø .022 (0.56)	Ø .033 (0.84)	Ø .018 (0.46)	Ø .022 (0.56)	Ø .047 (1.19)	Ø .022 (0.56)
40°				E.	30-	
T24	T30	UN	V	Z	Z1	
Ø .022 (0.56)	Ø .022 (0.56)	Ø .021 (0.53)	Ø .047 (1.19)	Ø .047 (1.19)	Ø .038 (0.97)	
4 ^{15°}	¥ 30°					



Mechanical					
Recommended 1	ravel:		.167 (4.24)		
Full Travel:		.250 (6.35)			
Operating Tempe	erature:	-5	5°C to +150°C		
Spring Force in oz. (grams)					
0	rder Code	Preload	Rec. Travel		
Light -	2	0.83 (24)	2.0 (57)		
Standard -	4	0.62 (18)	4.0 (113)		
Alternate -	6	2.39 (68)	6.0 (170)		
Elevated -	7	1.68 (48)	7.0 (198)		
High -	8	1.73 (49)	8.0 (227)		
Ultra High - 1	10	2.84 (81)	10.0 (283)		
Electrical (Static	Condition	is)			
Current Rating:			6 amps		
Average Probe R	esistance:		<10 m0hms		
Materials and Finishes					
Plunger:	High perf LFRE pro	ormance alle prietary plati	oy ng		
Barrel:	Work hard Gold plat	dened Phosp ed over hard	ohor Bronze, Nickel		
Spring:	Stainless	Steel			
Ball:	Stainless	Steel			
Receptacle					
Hole diameter:	Ø	.053 to .055	5 (1.35 to 1.40)		
Suggested drill:		#	54 or 1.40 mm		
Material					
• LTR Housing:	Work-har plated ov	dened Nicke er hard Nick	l Silver, Gold el		
 ELTR Housing 	g:Work-har	dened Nicke	l Silver,		
Post-	Phoenbox	rous Bronzo	Cold plated		
1051.	i nosphoi	ous biolize,	dola platea		







High Performance Lead Free Probe

RE-25	5			-		ł	— 1.30 (33.02) —		.330 (8.38) –	
il (2.54 mi	n)				.0	54 (1.37)				
Markarian								21)		
Mechanical	de d Trevel		107 (4.04)			.048			SPR-25W	
Full Trovolu	ded fraver:		.107 (4.24)			1.058	(1.47)	.066 (1.68	A	
Operating 1	amporaturo:	54	.200 (0.30)							
	emperature.	-00	0 0 10 + 100 0				1.19 (30.2	23)	000 05W	4
Spring Forc	e in oz. (gra	ms)							3PK-20W-	
	Order Co	de Preload	Rec. Travel				2 24 24 24 24 24 24 25 25 25 25 25 25 25 25 25 25 25 25 25	.072 (1.83)	1	
Light	- 2	0.75 (21)	2.0 (57)		 .50	00 (12.70) 🛏	1.69 (42.93)		SPR-25W-	2
Standard	- 4	1.50 (43)	4.0 (113)		⊲ ⊠.02	5 (0.64)			EPR-25W-	2
Alternate	- 6	2.58 (73)	6.0 (170)						1	
Elevated	- 6.5	2.56 (73)	6.5 (184)		.694 (17.5	36) — 🖬	3 (47.75)		SPB-25W-	21
High	- 8	2.84 (81)	8.0 (227)		☑.025 (0.64)				EPR-25W-	2L
Ultra High	- 10	1.77 (50)	10.0 (283)							
Premium	- 12	4.49 (127)	12.0 (340)	-		2.23 (56.74 •)	*	SDB-25W-	211
Super	- 16	3.90 (111)	16.0 (454)	4	0				EPR-25W-	2LL
Electrical (S	static Condi	tions)		⊿.025 (0.6	4)				1	
Current Rat	ina:		8 amps		-	10 (10 41) 뇌	-1.56 (39.62)			
Average Pro	be Resistan	ce:	<8 mOhms						SPR-25W-	3
Materials a	nd Finishes				J.028	o (0.64)			1	
Plunger:	High r	performance allo	iy 🔤							
	LFRE	proprietary platii	ng	Tin Style "						
Barrel:	Work I	hardened Phosp	hor Bronze,			HDLE)	1170	1.	10	14
Coring:	GOIO F	Diated over riard	NICKEI	A	B	H	H/9	I	18	n
Ball	Staint	ess Steel		0.060 (1.52)	Ø .034 (0.86)	10.060 (1.52)	0.079 (2.01)	0.033 (0.84)	0.033 (0.84)	Ø.
	Otalini	000 01001						90°		
		Ø 067 to 060	(1.70 to 1.75)	90°					90°	
Hole diame	tor.	0.001 10.003	(1.10101.10)							
Hole diame	eter: drill:	#	51 or 1 75 mm						1.9	
Receptacle Hole diame Suggested Material	eter: drill:	#	51 or 1.75 mm	135	140	J	L	L18	L36	Τ
Receptacle Hole diame Suggested Material • SPR Ho	eter: drill: using: Work-	## hardened Nickel	51 or 1.75 mm Silver,	I35 Ø .034 (0.86)	I40 Ø .033 (0.84)	J Ø .025 (0.64)	L Ø .050 (1.27)	L18 Ø .018 (0.46)	L36 Ø .034 (0.86)	T Ø.
Heceptacle Hole diame Suggested Material • SPR Ho	eter: drill: using: Work- Gold p	#ardened Nickel	51 or 1.75 mm Silver, Nickel	I35 Ø .034 (0.86)	I40 Ø .033 (0.84)	J Ø .025 (0.64)	L Ø .050 (1.27)	L18 Ø .018 (0.46)	L36 Ø .034 (0.86)	۲ Ø.
Heceptacle Hole diame Suggested Material • SPR Ho • EPR Ho Post	eter: drill: using: Work- Gold p using: Nickel Phosn	# hardened Nickel plated over hard Silver, unplated borous Bronze	Silver, Nickel	135 Ø .034 (0.86)	140 Ø .033 (0.84)	J Ø .025 (0.64)	L Ø.050 (1.27)	L18 Ø.018 (0.46)	L36 Ø .034 (0.86)	Ø.
Receptacle Hole diame Suggested Material • SPR Ho • EPR Ho Post:	eter: drill: using: Work- Gold p using: Nickel Phosp	# hardened Nickel plated over hard Silver, unplatec horous Bronze,	Silver, Nickel Gold plated	135 Ø .034 (0.86)	140 Ø .033 (0.84)	J Ø .025 (0.64)	L Ø .050 (1.27)	L18 Ø.018 (0.46)	L36 Ø.034 (0.86)	Ø.
Receptacle Hole diame Suggested Material • SPR Ho • EPR Ho Post:	ter: drill: <mark>Gold r using: Nickel</mark> Phosp	# hardened Nickel plated over hard Silver, unplated horous Bronze,	Silver, Nickel Gold plated	I35 Ø.034 (0.86) ₩ ₩ T1	140 Ø.033 (0.84) ↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓	J Ø.025 (0.64)	L Ø .050 (1.27)	L18 Ø.018(0.46)	L36 Ø .034 (0.86)	Т Ø. Z
Receptacle Hole diame Suggested Material • SPR Ho • EPR Ho Post:	ter: drill: <u>Gold (</u> using: Nickel Phosp	# a hardened Nickel plated over hard Silver, unplatec horous Bronze,	Silver, Nickel Gold plated	I35 Ø.034 (0.86) Image: Constraint of the second	I40 Ø.033 (0.84) Image: Constraint of the second seco	J Ø.025 (0.64)	L Ø .050 (1.27) T79 Ø .079 (2.01)	L18 Ø.018 (0.46)	L36 Ø.034 (0.86) V Ø.055 (1.40)	Т Ø Z
Receptacle Hole diame Suggested Material • SPR Ho • EPR Ho Post:	ter: drill: Gold r using: Nickel Phosp	# a hardened Nickel olated over hard Silver, unplateo horous Bronze,	Silver, Nickel Gold plated	I35 Ø.034 (0.86) ✓ ✓ ✓ T1 Ø.030 (0.74)	I40 Ø.033 (0.84) Image: Constraint of the second seco	J Ø.025 (0.64) T36 Ø.034 (0.86)	L Ø.050 (1.27) T79 Ø.079 (2.01)	L18 Ø.018 (0.46)	L36 Ø.034 (0.86) V Ø.055 (1.40)	т Ø Z Ø

Z1

Ø.051 (1.30)



ECT-CPG.com shop.ECT-CPG.com







High Performance Bias Ball Probe

U...-S

Ø.019 (0.48)



Compression

Decompression

LFRE / PogoPlus® Prob

Displacement (Inches)

Resistance (Milliohms)

25

Gold plated over hard Nickel







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

sion cycle of the probe.

test process.

Resistance performance comparison of a PogoPlus® bias design to a conventional bias

design, during the full compression / decompres-

The resistance vs. displacement graph shows the LFRE/POGO® probe has a more consistent

resistivity performance resulting in significantly

fewer probe false opens and tighter control of the



POGO-72 50 mil (1.27 mm)





Double-Close Design

Conventional single-close probes provide marginal pointing accuracy. The double-close design of the LFRE / PogoPlus probe constrains the plunger to a tighter range of vertical motion for more accurate pointing precision.



Mechanical	
Recommended Travel:	.167 (4.24)
Full Travel:	.250 (6.35)

Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel
Light	- 2	0.60 (17)	2.0 (57)
Standard	- 4	1.53 (43)	4.0 (113)
Alternate	- 6	2.14 (61)	6.0 (170)
Elevated	- 7	2.67 (76)	7.0 (198)
High	- 8	3.12 (89)	8.0 (227)
Ultra High	-10	3.38 (109)	10.0 (283)

Electrical (Static Conditions)

Current Rating:		3 amps
Average Probe R	esistance:	$<\!15\mathrm{mOhms}$
aterials and Fir	nishes	
Plunger:	Heat-treated tool Steel Gold plated over hard I	or BeCu, Nickel
Barrel:	Work hardened BeCu, Gold plated over hard I	Nickel
Spring:	Stainless Steel	
Ball:	Stainless Steel	

Receptacle

Μ

Hole diameter:	Ø .039 (0.99)
Suggested drill:	#61 or 0.99 mm
Material Housing: Hardened BeCu	, Gold plated







29

POGO-1

75 mil (1.91 mm)

High Performance Bias Ball Probe



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
Light	- 2	0.83 (24)	2.0 (57)
Standard	- 4	0.62 (18)	4.0 (113)
Alternate	- 6	2.39 (68)	6.0 (170)
Elevated	- 7	1.68 (48)	7.0 (198)
High	- 8	1.73 (49)	8.0 (227)
Ultra High	- 10	2.84 (81)	10.0 (283)

Electrical (Static Conditions)

	•		
Сι	irrent Rating:		6 amps
Av	erage Probe Resistance:	:	<10 mOhms

Materials and Finishes

	Plunger:	Heat-treated tool Steel or BeCu,
		Gold plated over hard Nickel
	Barrel:	Work hardened Phosphor Bronze, Gold plated over hard Nickel
	Spring:	Stainless Steel
	Ball:	Stainless Steel
R	eceptacle	
	Hole diameter:	Ø .053 to .055 (1.35 to 1.40)
	Suggested drill:	#54 or 1.40 mm
	Material	
	• LTR Housing:	Work-hardened Nickel Silver, Gold plated over hard Nickel
	• ELTR Housing	:Work-hardened Nickel Silver,
	0	unplated
	Post:	Phosphorous Bronze, Gold plated



Tip Style (additional tips available)								
Α	BS	H	H-INS	IS	l8S	I35S		
Ø .047 (1.19)	Ø .022 (0.56)	Ø .047 (1.19)	Ø .060 (1.52)	Ø .020 (0.51)	Ø .020 (0.51)	Ø .022 (0.56)		
90°				90°	90°	*		
J	L	L18	L24	Р	Т	T1S		
Ø .022 (0.56)	Ø .033 (0.84)	Ø .018 (0.46)	Ø .022 (0.56)	Ø .047 (1.19)	Ø .047 (1.19)	Ø .020 (0.51)		
			60°		30*			
T24S	T30S	UN	V	Z	Z1			
Ø .022 (0.56)	Ø .022 (0.56)	Ø .021 (0.53)	Ø.047 (1.19)	Ø .047 (1.19)	Ø .038 (0.97)			
× ^{15°}	200							



CONTACT PRODUCTS

ECT-CPG.com shop.ECT-CPG.com op

Pogo Plus





POGO-25 100 mil (2.54 mm)



Tip Style (AL	DITIONAL TIPS AVAILA	ABLE)				
Α	BS	H	H-INS	НМ	HM-INS	IS
Ø .060 (1.52)	Ø .034 (0.86)	Ø .060 (1.52)	Ø .085 (2.16)	Ø .122 (3.10)	Ø .140 (3.56)	Ø .033 (0.84)
1			1.559 (1.50)			90°
18S	l15S	I35S	J	L	L18	L36
Ø .033 (0.84)	Ø .033 (0.84)	Ø .034 (0.86)	Ø .025 (0.64)	Ø .050 (1.27)	Ø .018 (0.46)	Ø .034 (0.86)
90°	155°	₩ \$				
Т	T10	T1S	T30S	T36S	UN	V
Ø .060 (1.52)	Ø .034 (0.86)	Ø .030 (0.74)	Ø .034 (0.86)	Ø .034 (0.86)	Ø .025 (0.64)	Ø .055 (1.40)
300	10° J	Jo.	¥30°	¥ ^{15°}		
Z	Z1					
Ø .060 (1.52)	Ø .051 (1.30)		D	~**		

oz. (gran Drder Code 2 4 6 6.5 8 10 16 c Conditio Resistance inishes	ns) Preload 0.75 (21) 1.50 (43) 2.58 (73) 2.65 (75) 2.84 (81) 1.77 (50) 3.93 (111) ons)	Rec. Tran 2.0 (57) 4.0 (113) 6.0 (170) 6.5 (184) 8.0 (227) 10.0 (283) 16.0 (455) 8 and < 8 mOl
Order Code 2 4 6 6.5 8 10 16 c Condition Resistance inishes	 Preload 0.75 (21) 1.50 (43) 2.58 (73) 2.65 (75) 2.84 (81) 1.77 (50) 3.93 (111) 	Rec. Trav 2.0 (57) 4.0 (113) 6.0 (170) 6.5 (184) 8.0 (227) 10.0 (283) 16.0 (455) 8 at <8 mOl
 2 4 6 6.5 8 10 16 c Condition Resistance inishes 	0.75 (21) 1.50 (43) 2.58 (73) 2.65 (75) 2.84 (81) 1.77 (50) 3.93 (111) ons) e:	2.0 (57) 4.0 (113 6.0 (170 6.5 (184 8.0 (227 10.0 (283 16.0 (455 8 at <8 mO
 4 6 6.5 8 10 16 c Condition Resistance inishes 	1.50 (43) 2.58 (73) 2.65 (75) 2.84 (81) 1.77 (50) 3.93 (111) ons)	4.0 (113 6.0 (170 6.5 (184 8.0 (227 10.0 (283 16.0 (455 8 at <8 mO
 6 6.5 8 10 16 c Condition Resistance inishes 	2.58 (73) 2.65 (75) 2.84 (81) 1.77 (50) 3.93 (111) ons)	6.0 (17(6.5 (184 8.0 (227 10.0 (283 16.0 (455 8 a) <8 a)
6.5 8 10 16 c Conditio Resistance	2.65 (75) 2.84 (81) 1.77 (50) 3.93 (111) ons)	6.5 (184 8.0 (227 10.0 (283 16.0 (458 8 a <8 mO
8 10 16 c Conditio Resistance	2.84 (81) 1.77 (50) 3.93 (111) ons) 9:	8.0 (227 10.0 (283 16.0 (455 8 a <8 mO
10 16 c Conditi Resistance inishes	1.77 (50) 3.93 (111) ons) e:	10.0 (283 16.0 (455 8 a <8 mO
16 c Conditi e Resistance inishes	3.93 (111) ons) e:	16.0 (455 8 a <8 m0
c Conditi e Resistance inishes	ons) e:	8 a <8 m0
Work ha Gold pl Stainles Stainles	ardened Phosp ated over hard ss Steel ss Steel	hor Bronze Nickel
:	Ø .067 to .069 #) (1.70 to 1 51 or 1.75
g: Work-h Gold pl	ardened Nicke ated over hard	l Silver, Nickel
g: Nickel Phosph	Silver, unplate lorous Bronze.	d Gold plated
	Gold pl Work h Gold pl Stainle Stainle g: Work-h Gold pl g: Nickel Phospt	Gold plated over hard Work hardened Phosp Gold plated over hard Stainless Steel Ø .067 to .069 # g: Work-hardened Nicke Gold plated over hard g: Nickel Silver, unplate Phosphorous Bronze,



ob



31

Dimensions in inches (millimeters). Specifications subject to change without notice. Consult factory for other temperature requirements, and applications below -40 $^\circ\text{C}.$ 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.



Recommended Travel:	.317 (8.05)
Full Travel:	
 Alternate Spring: 	.400 (10.16)
 High Spring: 	.350 (8.89)
Operating Temperature:	-55°C to +150°C

Spring Force in oz. (grams)

	Order Code	Preload	Rec. Travel					
Alternate	- 6	1.85 (52)	6.0 (170)					
High	- 9	1.90 (54)	9.0 (255)					
Electrical (Static Conditions) Current Rating: 6 am Average Probe Resistance: <100 mOhr								
Materials and Finishes								
Plunger:	High performance alloy							

Ū	LFRE proprietary plating
Barrel:	Heat treated BeCu,
	Gold plated over hard Nickel
Spring:	Stainless Steel
Ball:	Stainless Steel

Receptacle

Hole diameter:	Ø .039 (0.99)
Suggested drill:	#61 or 0.99 mm
Material Housing: Hardened BeCu	ı, Gold plated



Tip Style (additional tips available)						
Η	I	140	T38	U		
Ø .035 (0.89)	Ø .017 (0.43)	Ø .017 (0.43)	Ø .038 (0.97)	Ø .019 (0.48)		
	90°	40°	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.

32









Tip Style (additional tips available)						
H	115	140	L	Т		
Ø .047 (1.19)	Ø .021 (0.53)	Ø .021 (0.53)	Ø .033 (0.84)	Ø .047 (1.19)		
	155*	40°		30		

Recommended T	ravel:		.317 (8.05)		
 Standard Spri Elevated Spri High Spring: Operating Tempe 	ng: ng: rature:	-5	.400 (10.16) .350 (8.89) .350 (8.89) 5°C to +105°C		
Spring Force in a	z. (grams)			
0	rder Code	Preload	Rec. Travel		
Standard -	4.5	1.09 (31)	4.5 (128)		
Elevated -	7	0.75 (21)	7.0 (198)		
High -	9.6	1.51 (43)	9.6 (272)		
Electrical (Static	Condition	is)			
Current Rating:			6 amps		
Average Probe R	esistance:		<10 m0hms		
Materials and Fi	nishes				
Plunger:	High perf LFRE pro	ormance allo prietary plati	by ng		
Barrel:	Work hardened Phosphor Bronze, Gold plated over hard Nickel				
Spring					
Standard:	Music Wi	re			
 Elevated: High: 	Music Wi	re re			
Ball:	Stainless	Steel			
Recentacle					
Hole diameter	Ø	053 to 055	(1.35 to 1.40)		
Suggested drill	2	.000 10 .000	54 or 1 40 mm		
Material					
• LTR Housing:	Work-har plated ov	dened Nicke er hard Nicke	l Silver, Gold el		
• ELTR Housing	:Work-har	dened Nicke	l Silver,		
Post:	Phosphoi	ous Bronze,	Gold plated		

Mechanical









High Performance Lead Free Long Travel Probe

LFLT-25 100 mil (2.54 mm)



Mechanical

Recommended Travel:	.315 (8.00)
Full Travel:	
 Standard Spring: 	.400 (10.16)
 Alternate Spring: 	.400 (10.16)
 High Spring: 	.400 (10.16)
 Ultra High Spring: 	.350 (8.89)
Operating Temperature	
 Standard Spring: 	-55°C to +105°C
 Alternate Spring: 	-55°C to +105°C
 High Spring: 	-55°C to +105°C
 Ultra High Spring: 	-55°C to +150°C

Spring Force in oz. (grams)

		,	
0	rder Code	Preload	Rec. Travel
Standard -	4	1.08 (31)	4.0 (113)
Alternate -	6	0.99 (28)	6.0 (170)
High -	8	0.75 (21)	8.0 (227)
Ultra High -	9.7	1.16 (33)	9.7 (275)
Electrical (Static	Condition	s)	
Current Rating:		-,	8 amps
Average Probe R	esistance:		<8 mOhms
Materials and Fi	nichoc		
Dlungor	Ligh porf	ormonoo alla	,
Fluliget.	LFRE proj	prietary platin	g g
Barrel:	Work hard	lened Phosph	ior Bronze,
	LFRE pro	orietary platin	g
Spring			
Standard:	Music Wi	re	
Alternate:	Music Wi	re	
 High: 	Music Wi	re	
• Ultra High:	Stainless	Steel	
D	01 1 1	0	
Ball:	Stainless	Steel	
Receptacle			
Hole diameter:	Ø	.067 to .069	(1.70 to 1.75)
Suggested drill:		#5	1 or 1.75 mm
Material			
 SPR Housing 	: Nickel Sil	ver. Gold plat	ted
FPR Housing	Nickel Sil	ver unnlated	

Post: Phosphorous Bronze, Gold plated



ECT CONTACT PRODUCTS













High Performance Long Travel Probe

P-72		•			1.850 (46	.99) ————	▲480 (12.19) —
nil (1.27 mm)				.031 (0.79)			
				14	1.57 (39.88	.	
Mechanical Recommended Travel:	.317 (8.05)			.024 (0.61)	← .190 (4.83)	station (8.91) + 100 (8.91) +	₩ HPR-72W
Full Travel: • Alternate Spring:	.400 (10.16)			1	1 57 /20 99		
High Spring: Operating Temperature:	.350 (8.89) -55°C to +150°C			0 🗕	137 (69/86)		HPR-72W-1
Spring Force in oz. (gram	s)				1 70 (40 00)	.0415 (1.05)	
Order Code	Preload Rec. Travel				1.72 (43.69)		HPR-72W-4 FASTITE [®] Insertion
Alternate - 6 High - 9	1.85 (52) 6.0 (170) 1.90 (54) 9.0 (255)			, ™ . SI	eeve DS-62-1		
Electrical (Static Conditio	ns)				1.57 (39.86 .190 (4.83)	3) · · · · · · · · · · · · · · · · · · ·	HPR-72W-28
Current Rating: Average Probe Resistance	6 amps < 100 mOhms						
Materials and Finishes					1.57 (39.88 .190 (4.83)	3)	HPR-72W-30
Plunger: Heat-tre Gold pla	ated tool Steel or BeCu, ted over hard Nickel						
Barrel: Work ha Gold pla	rdened Phosphor Bronze, ted over hard Nickel						
Spring: Stainles Ball [.] Stainles	s Steel s Steel						
Receptacle		Tin Style //					
Hole diameter:	Ø .039 (0.99) #61 or 0 99 mm	18	I15	T20	U		
Material Housing: Work-h	ardened BeCu, Gold plated	Ø .017 (0.43)	Ø .017 (0.43)	Ø .019 (0.48)	Ø .019 (0.48)		
over na			155°	¥ 30°			
			4				





High Performance Long Travel Probe





Tip Style (AI	DDITIONAL TIPS AVAILA	ABLE)				
В	18	115	J	L	L24	Т
Ø .022 (0.56)	Ø .020 (0.51)	Ø .020 (0.51)	Ø .022 (0.56)	Ø .033 (0.84)	Ø .022 (0.56)	Ø .047 (1.19)
-	90°	155*	-		60°	30
T24	Т30					-
Ø .022 (0.56)	Ø .022 (0.56)					
10° V	¥ 30*					

Full Travel: • Standard • Elevated • High Spr Operating Te Spring Force	Spring: Spring: ing: emperature: : in oz. (gram :	-5 s)	.400 (10.16) .350 (8.89) .350 (8.89) 5°C to +105°C
	Order Code	Preload	Rec. Travel
Standard	- 4.5	1.09 (31)	4.5 (128)
Elevated	- 7	0.75 (21)	7.0 (198)
High	- 9.6	1.51 (43)	9.6 (272)
Electrical (S	tatic Conditio	ns)	
Current Rati	ng:		6 amps
Average Pro	be Resistance:		<10 mOhms
Materials an	d Finishes		
Plunger:	Heat-trea	ited tool Stee	el or BeCu,
	Cold plat	ad over hard	Nickol

Mechanical

Recommended Travel:

ICT / FCT

.317 (8.05)

5	Gold plated over hard Nickel
Barrel:	Work hardened Phosphor Bronze, Gold plated over hard Nickel
Spring	
 Standard: 	Music Wire
 Elevated: 	Music Wire
 High: 	Music Wire
Ball:	Stainless Steel
Receptacle	
Hole diameter:	Ø .053 to .055 (1.35 to 1.40)
Suggested drill:	#54 or 1.40 mm
Material	
• LTR Housing:	Work-hardened Nickel Silver, Gold plated over hard Nickel
 ELTR Housing 	:Work-hardened Nickel Silver,
	unplated
Post:	Phosphorous Bronze, Gold plated





LTP-25

100 mil (2.54 mm)

High Performance Long Travel Probe



Mechanical

Recommended Travel:	.315 (8.05)
Full Travel:	
 Standard Spring: 	.400 (10.16)
 Alternate Spring: 	.400 (10.16)
 High Spring: 	.400 (10.16)
 Ultra High Spring: 	.350 (8.89)
 Only LTP-25TJ 	.340 (8.60)
Operating Temperature:	
 Standard Spring: 	-55°C to +105°C
 Alternate Spring: 	-55°C to +105°C
 High Spring: 	-55°C to +105°C
 Ultra High Spring: 	-55°C to +150°C

Spring Force in oz. (grams)

Or	der Code	Preload	Rec. Travel
Standard -	4	1.08 (31)	4.0 (113)
Alternate -	6	0.99 (28)	6.0 (170)
High -	8	0.75 (21)	8.0 (227)
Ultra High -	9.7	2.3 (65)	9.7 (275)
Electrical (Static	Condition	s)	
Current Rating:		-,	8 amps
Average Probe Be	esistance.		< 8 mOhms
Materials and Fin	lishes		
Plunger:	Heat-treat	ed tool Steel o	or BeCu,
	Gold plate	ed over hard Ni	ckel
Barrel:	Work hard	ened Phospho	r Bronze,
	Gold plate	ed over hard Ni	ckel
Spring			
Standard:	Music Wi	re	
Alternate:	Music Wi	'e	
 High: Illtra High: 	Stainloss	e Stool	
	Chaladaaa		
Ball:	Stainless	Steel	
Receptacle			
Hole diameter:	Ø	.067 to .069 (*	1.70 to 1.75)
Suggested drill:		#51	or 1.75 mm
Material			
SPR Housing:	Work-hard	lened Nickel S	ilver,
Ū.	Gold plate	ed over hard Ni	ckel
 EPR Housing: 	Nickel Silv	ver, unplated	
Post	Phosphore	ous Bronzel Go	old plated



ECT-CPG.com shop.ECT-CPG.com













BTP SERIES BEAD TARGET PROBES

Introduction - What is Bead Probe technology?

ECT is supporting the development of the Keysight Technologies Medalist Bead Probe Technology with OEM's, contract manufacturers, and test fixture partners. Bead Probing is a methodology for placing test points directly on a PCB's copper traces, or top metal, thus forming a "Bead Probe". These Bead Probes are then contacted by "Bead Target Probes" during in-circuit esting for expanded test access. For more information, visit Keysight website: www.keysight.com, search word bead probe. There is a flash demo on the Keysight website for your review.

Features

ECT has developed a series of probes specifically for Bead Probe applications featuring:

- Pogo Plus[®] Design
- LFRE Plating
- Flat and "Micro-Textured" Tips

Availability is based on current levels of usage and demand.

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.

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 Light - 2 0.60 (17) 2.0 (57) Standard - 4 1.53 (43) 4.0 (113) Alternate - 6 2.14 (61) 6.0 (170) Elevated - 7 2.67 (76) 7.0 (198) - 8 3.12 (88) 8.0 (227) High 10.0 (283) Ultra High -10 3.38 (96) **Electrical (Static Conditions)** Current Rating: 3 amps Average Probe Resistance: <15 m0hms **Materials and Finishes** Plunger: High performance alloy LFRE proprietary plating Heat treated BeCu, Barrel: Gold plated over hard Nickel Stainless Steel Spring: Stainless Steel Ball: Receptacle Hole diameter: Ø.039 (0.99) Suggested drill: #61 or 0.99 mm

Mechanical

Material Housing: Hardened BeCu, Gold plated







Bead Probe

ICT / FCT



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	
Light	- 2	0.83 (24)	2.0 (57)	
Standard	- 4	0.62 (18)	4.0 (113)	
Alternate	- 6	2.39 (68)	6.0 (170)	
Elevated	- 7	1.68 (48)	7.0 (198)	
High	- 8	1.73 (49)	8.0 (227)	
Electrical (Si	tatic Cor	ditions)		
Current Rati	ng:	,	6 amps	
Average Pro	be Resist	ance:	<10 mOhms	
Materials an	d Finish	96		
Plunger:	Hig LFF	ih performance a RE proprietary pl	alloy ating	
Barrel:	Wo	rk hardened Pho	sphor Bronze,	
	Go	ld plated over ha	rd Nickel	
Spring:	Sta	Stainless Steel		
Ball:	Sta	inless Steel		
Receptacle				
Hole diamet	er:	Ø .053 to .0	55 (1.35 to 1.40)	
Suggested of	drill:		#54 or 1.40 mm	
Material				
• LTR Hous	sing: Wo	rk-hardened Nic	kel Silver, Gold	
	pla	ted over hard Ni	ckel	
• ELTR Hor	using:Wo	rk-hardened Nic	kel Silver,	
	unt	plated		

	unplatou	
Post:	Phosphorous Bronze,	Gold plated



ECT CONTACT PRODUCTS ECT-CPG.com







MICRO STRUCTURED TIP

The hemi-ellipsoid shape of a Bead Probes presents a unique probing challenge in that standard serrated probes may fall into the valleys between serrations. ECT has developed a new textured tip face that is optimized for contact to the hemi-ellipsoid shape of Bead

Probes as small as .004".

An innovative "Micro-Textured" tip incorporates closely spaced triangular pyramid shapes to form a



textured surface. Perfect for contacting beads that are long yet have a small width when placed on a PCB trace.



Standard serrated Tip









Mechanical Recommended Full Travel: Operating Temp	Travel: erature:	-5	.167 (4.24) .250 (6.35) 5°C to +150°C	
Spring Force in oz. (grams		;)		
C	order Code	Preload	Rec. Travel	
Light -	2	0.75 (21)	2.0 (57)	
Standard -	4	1.50 (43)	4.0 (113)	
Alternate -	6.5	2.65 (75)	6.5 (184)	
High -	8	2.84 (81)	8.0 (227)	
Ultra High -	10	1.77 (50)	10.0 (283)	
Average Probe F	Resistance:		<8 mOhms	
Plunger: Barrel:	High perf LFRE pro Work hard Gold plat	IISNES High performance alloy LFRE proprietary plating Work hardened Phosphor Bronze, Gold plated over hard Nickel		
Spring:	Stainless	Stainless Steel		
	Stalliess	SIEEI		
Hole diameter: Suggested drill: Material • SPR Housing • EPR Housing Post:	Ø ;: Work-har Gold plat ;: Nickel Si Phosphor	.067 to .069 # dened Nicke ed over hard lver, unplate rous Bronze,	9 (1.70 to 1.75) 51 or 1.75 mm I Silver, Nickel d Gold plated	







Long Travel Bead Probe







ECT-CPG.com shop.ECT-CPG.com





BPLT-25 100 mil (2.54 mm)





Mechanical					
Recommended	d Travel:		.317 (8.05)		
Full Travel:			.350 (8.89)		
Operating Tem	perature:				
 Standard S 	pring:	-55	5°C to +105°C		
Alternate Spring:		-55	5°C to +105°C		
High Spring:		-55	$5^{\circ}C$ to +105°C		
• Ultra High a	Spring:	-53	5°C to + 150°C		
Spring Force in	ı oz. (grams	5)			
	Order Code	Preload	Rec. Travel		
Standard	- 4	1.08 (31)	4.0 (113)		
Alternate	- 6	0.99 (28)	6.0 (170)		
High	- 8	0.75 (21)	8.0 (227)		
Ultra High	- 9.7	1.16 (33)	9.7 (275)		
Electrical (Stat	ic Conditior	ıs)			
Current Rating		,	8 amps		
Average Probe	Resistance:		<8 m0hms		
Materials and I	Finishes				
Plunger:	Diunger:				
r lunger.	LFRE pro	prietary plati	na		
Barrel	Work har	dened Phosp	hor Bronze		
Barron	Gold plat	ed over hard	Nickel		
Spring					
Standard:	Music W	ire			
 Alternate: 	Music W	ire			
• High:	Music W	ire			
• Ultra High:	Stainless	Steel			
Ball:	Stainless	Steel			
Receptacle					
Hole diameter:	Ø	.067 to .069	(1.70 to 1.75)		
Suggested dril	l:	#	51 or 1.75 mm		
Material					
 SPR Housir 	ng: Work-har	dened Nicke	l Silver,		
	Gold plat	ed over hard	Nickel		
 EPK HOUSIF Post: 	Ig: NICKELSI Phosphore	iver, unplated) Gold plated		
1031.	1 10151000	UNIT DI UNITE			







Test System Interface Probe

GSP-2B





ECT is your source for interface probes for all major brands of test systems, including Teradyne, GenRad and Hewlett-Packard. In fact, two of these companies specify ECT probes as original equipment.

If our standard products don't meet your requirements, contact Everett Charles Technologies for expert assistance in designing and manufacturing your custom interface probe.



44



RSP-2T FRP-25T

K9P-21		.900 (22.87)	
	.733 (18.62	?)	
Min		M	-
AUUUA			

Application Rhode&Schwarz

Mechanical

VICUIAIIIUAI	
Recommended Travel:	.079 (2.00)
Full Travel:	.167 (4.25)
Operating Temperature:	-55°C to +105°C
oporating tomporatoro.	

Spring Force in oz. (grams)

		Preload	Rec. Travel
Standard		1.44 (41)	3.6 (102)
Electrical (Static	Conditions)		
Current Rating:			5 amps
Average Probe Resistance:			<20 mOhms
Materials and Fi	nishes		
Plunger:	Heat-treated	BeCu, Gold plated o	ver hard Nickel
Barrel:	Nickel Silve	r, Gold plated	
Spring:	Music Wire,	Silver plated	



Application

Schlumberger, Factron

Stainless Steel

Mechanical

Ball:

.120 (3.05)
.160 (4.06)
-55°C to $+150°$ C

Spring Force in oz. (grams)

		Preload	Rec. Travel
Standard		0.92 (26)	4.0 (113)
Electrical (Static	Conditions)		
Current Rating:			5 amps
Average Probe Re	esistance:		<35 m0hms
Materials and Fin	ishes		
Plunger:	Heat-treated	BeCu, Gold plated o	ver hard Nickel
Barrel:	Work-harder	ed Phosphor Bronze	, Gold plated over
	hard Nickel		
Spring:	Stainless Ste	el	

PP-3070

POGO-25HM-4 POGO-25T-4

FUGU-ZJHM	-4		
		- 1.30 (33.02)	.330 (8.38)
	.054 (1.37) 🕽		.122 (3.10)
Application	Keysight/Ag	ilent / HP-3070	
Mechanical			
Recommende	d Travel:		.167 (4.24
Full Travel:			.250 (6.35
Operating Terr	perature:		-55°C to +150°C
Spring Force in	n oz. (grams)		
	Order Code	Preload	Rec. Travel
Standard	- 4	1.50 (43)	4.0 (113)
Electrical (Stat	tic Conditions)		
Current Rating	:		8 amp
Average Probe	e Resistance:		<8 mOhm
Vaterials and	Finishes		
Plunger.	Heat-treated	BeCul Gold plated ov	ver hard Nickel
Barrel	Phosphor B	ronze. Gold plated ove	er hard Nickel
Spring:	Stainless St	eel	
Ball	Stainless St	eel	
P0G0-25T-4			
POGO-25T-4		- 1.30 (33.02)	.250 (6.35)
P0G0-25T-4	÷	- 1.30 (33.02)	↓ 250 (6.35)
POGO-25T-4	.054 (1.37)	- 1.30 (33.02)	250 (6.35)
POGO-25T-4	.054 (1.37) J Teradyne 80 Teradyne #	- 1.30 (33.02)	.060 (1.52)
POGO-25T-4		- 1.30 (33.02) 	250 (6.35)
POGO-25T-4	.054 (1.37) Teradyne 80 Teradyne #1 d Travel:	- 1.30 (33.02) 	250 (6.35) ,060 (1.52) ,060 (1.52)
POGO-25T-4	.054 (1.37) J Teradyne 80 Teradyne #1 d Travel:	- 1.30 (33.02) 0 / 1800 / Spectrum 092-431-00	.167 (4.24 250 (6.35)
POGO-25T-4	.054 (1.37) Teradyne 80 Teradyne #1 d Travel:	- 1.30 (33.02) 00 / 1800 / Spectrum 092-431-00	.167 (4.24 .250 (6.35) .060 (1.52)
POGO-25T-4		- 1.30 (33.02) 00 / 1800 / Spectrum 092-431-00	.167 (4.24 .250 (6.35) .060 (1.52) J
POGO-25T-4	.054 (1.37) Teradyne 80 Teradyne # d Travel: nperature: n oz. (grams) Order Code	- 1.30 (33.02) 0 / 1800 / Spectrum 092-431-00 Preload	.167 (4.24 .250 (6.35) .660 (1.52) .167 (4.24 .250 (6.35) -55°C to +150°C
POGO-25T-4		- 1.30 (33.02) 10 / 1800 / Spectrum 092-431-00 Preload 1.50 (43)	.167 (4.24 .250 (6.35) .660 (1.52) .060 (1.52) .067 (4.24 .250 (6.35) 55°C to +150°C .0635 55°C to +150°C .060 (1.52)
POGO-25T-4	.054 (1.37) J Teradyne 80 Teradyne # d Travel: nperature: n oz. (grams) Order Code - 4	- 1.30 (33.02) 10 / 1800 / Spectrum 092-431-00 Preload 1.50 (43)	.167 (4.24 .250 (6.35) .060 (1.52) .060 (1
POGO-25T-4		- 1.30 (33.02) 10 / 1800 / Spectrum 092-431-00 Preload 1.50 (43)	.167 (4.24 .250 (6.35) .060 (1.52) .060 (1.52) .060 (1.52) .050 (6.35) .55°C to +150°C <u>Rec. Travel</u> 4.0 (113)
POGO-25T-4		- 1.30 (33.02) 00 / 1800 / Spectrum 092-431-00 Preload 1.50 (43)	.167 (4.24 .250 (6.35) .660 (1.52) .060 (1
POGO-25T-4	d Travel: noz. (grams) Order Code - 4 tic Conditions) : P Resistance:	- 1.30 (33.02) 00 / 1800 / Spectrum 092-431-00 Preload 1.50 (43)	.167 (4.24 .250 (6.35) .060 (1.52) .060 (1
POGO-25T-4		- 1.30 (33.02))0 / 1800 / Spectrum 092-431-00 Preload 1.50 (43)	.167 (4.24 .250 (6.35) .060 (1.52) J .067 (4.24 .250 (6.35) 55°C to +150°C Rec. Travel 4.0 (113) 8 amp <8 mOhm
POGO-25T-4		- 1.30 (33.02))0 / 1800 / Spectrum 092-431-00 Preload 1.50 (43) 1 BeCu, Gold plated ov	.167 (4.24 .250 (6.35) .060 (1.52) .060 (1.52) .067 (4.24 .250 (6.35) 55°C to +150°C Rec. Travel 4.0 (113) 8 amp <8 mOhm /er hard Nickel
POGO-25T-4	.054 (1.37) J Teradyne 80 Teradyne # d Travel: noz. (grams) Order Code - 4 tic Conditions) p: e Resistance: Finishes Heat-treated Phosphor B	- 1.30 (33.02))0 / 1800 / Spectrum 092-431-00 Preload 1.50 (43) d BeCu, Gold plated over ronze, Gold plated over	.167 (4.24 .250 (6.35) .060 (1.52) .060 (1.52) (1.52) .060 (1.52) (1.52) (1.52) (1.52) (1.
POGO-25T-4		- 1.30 (33.02) 10 / 1800 / Spectrum 092-431-00 Preload 1.50 (43) d BeCu, Gold plated over ronze, Gold plated over eel	.167 (4.24 .250 (6.35) .060 (1.52) .060 (1.52) .060 (1.52) .050 (6.35) 55°C to + 150°C Rec. Travel 4.0 (113) 8 amp <8 mOhm ver hard Nickel or hard Nickel

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.



Part number:	PP-3070-S
Keysight Part number:	Mint Pins 44275P
Packing unit:	200 pieces (strip)

Application

Used on fixture interfaces as bottom transfer pins.





SIP-90 GPP-95





Application	Factron	
Material	Brass, Gold plated	
Hole diameter	Ø .055 (1.40)	
Suggested drill	#54 or 1.40 mm	





SIP-90-5



SIP-90-6



Application	General Interconnect	
Material	Brass, Gold plated	
Hole diameter	Ø .057 (1.45)	
Suaaested drill	1.45 mm	

GPP-95-2





DER





DER Series for wireless fixtures

The DER Series receptacle is used with a replacable POGO, LFRE, LFLT or LTP probe to build a doubled ended probe. ECT offers the DER series in all common used test center spacing.



Mechanical			
Recommended T	ravel:		.130 (3.30)
Full Travel:			.160 (4.06)
Operating Tempe	rature:		-55°C to +150°C
Spring Force in o	z. (grams)	
01	rder Code	Preload	Rec. Travel
Standard -	3.5	2.62 (74)	3.50 (99)
Electrical (Static	Condition	s)	
Current Rating:			3 amps
Average Probe R	esistance:		<15 mOhms
Materials and Fir	nishes		
Plunger:	Heat-treat	ed BeCu a	alloy, Id over Niekel
Parrol	Mark bar	II Halu Go Jonad Nia	
Dallel.	plated wit	h hard Go	ild over Nickel
Spring:	Stainless	Steel	
DER-050			
Hole diameter:	Ø	.038 to .0	39 (0.97 to 0.99)
Suggested drill:			#61 or 0.99 mm
Probes (ordered	separately)	:	P0G0-62
DER-075			
Hole diameter:	Ø	.053 to .0	55 (1.35 to 1.40)
Suggested drill:			#54 or 1.40 mm
Probes (ordered	separately)	: 1	LFRE-1 / POGO-1
			EDGE-1 / LTP-1
DER-100			
Hole diameter:	Ø	.067 to .0	69 (1.70 to 1.75)
Suggested drill:			#51 or 1.75 mm
Probes (ordered	separately)	: LFF F	RE-25 / POGO-25 EDGE-25 / LTP-25



ECT CONTACT PRODUCTS

BMP

Aechanical		
Recommended Travel:		.050 (1.27)
Full Travel:		.062 (1.57)
Direction of Rota	tion:	Counter clock wise
Scribed Diamete	r:	.050 (1.27)
Special diameter	s available.	
pring Force in a	z. (grams)	
	Preload	Rec. Travel
Standard	4.41 (125)	5.19 (147)
ectrical (Static	Conditions	;)
Current Rating:		50 mA
Voltage Rating:		15VDC
Recommended E	Outy Cycle:	1 sec. On (min.) 5 sec. Off
Aaterials and Fi	nishes	
Plunger Tip:	Carbide	
Receptacle:	Stainless S	Steel
Nounting		
BMP-1 / BMP-1-	S	
Hole diameter:		Ø.468 (11.89)
Suggested drill:		15/32 (in.) or 11.90 mm
BMP-3		Ø 610 (15 50)
Suggested drill:		39/64 (in.) or 15.50 mm
Number		
		DMD 1
DUATU IVIALKEL:		DIVIP-1 RMP-1-9
		BMP-3
		DIVILO
Spare Receptacle	9:	BMR-1
Spare Receptacle	9:	BMR-1 BMR-3
Spare Receptacle Repcalement Tip	e: :	BMR-1 BMR-3 BMT-1
Spare Receptacle Repcalement Tip cools	2: :	BMR-1 BMR-3 BMT-1
Spare Receptacle Repcalement Tip Tools Insertion tool for	e: : BMR-1:	BMR-1 BMR-3 BMT-1 RIT-BMP





Applications

The BMP Board Marker Probe patented design is for installation on bare board or loaded board test fixtures. When your tester is equipped with the appropriate electronics and software, the BMP scribes a permanent .050" circle on every "passed" PCB or device tested. Boards that fail the test are not marked. The risk of human error is eliminated in PCB testing and sorting.

The unit requires less than .500" of fixture area. It is designed to mark board areas of bare glass (FR4), solder mask over glass or copper, or bare tinned copper.

The BMP includes a mounting receptacle and a motor/transmission assembly. It can be easily removed from the receptacle for use in other fixtures. Spare receptacles and tip replacement assemblies are available. The thread between receptacle and housing is 7/16-20 UNF.

Application Examples

- · Bare Board Test
- · Loaded Board Test
- Connector / Wire Harness

Benefits

- Hands Free Operation
- No Hazardous Consumables
- Durable
- > 50,000 Cycles before Tip Replacement
- Easy to Fixture

Features

- Permanent Mark
- Controllable Mark Intensity
- Driven by Test Program
- MicroGrain Carbide Tip
- Replaceable Tip

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.

ECT-CPG.com

BMP-4



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.

JEF.

Mechanical					
Recommended Travel:		.050 (1.27)			
Full Travel:		.079 (2.00)			
Direction of Rota	Direction of Rotation:				
Scribed Diamete	er:	.050 (1.27)			
Spring Force in o	Spring Force in oz. (grams)				
	Preload	Rec. Travel			
Standard	2.43 (68.9)	5.0 (141.7)			
Electrical (Static	Conditions)			
Current Rating:		20 mA			
Voltage Rating:		12VDC			
Recommended [Duty Cycle:	1 sec. On (min.) 3 sec. Off			
Materials and Fi	nishes				
Plunger Tip:	Carbide				
Receptacle:	Stainless S	Steel			
Mounting					
		BMP-4			
Hole diameter:		Ø .398 (10.1)			
	0	r M10 x 1.0 threaded hole			
Order Number					
Board Marker:		BMP-4			
Repcalement Tip) kit:	BMT-4			





100