

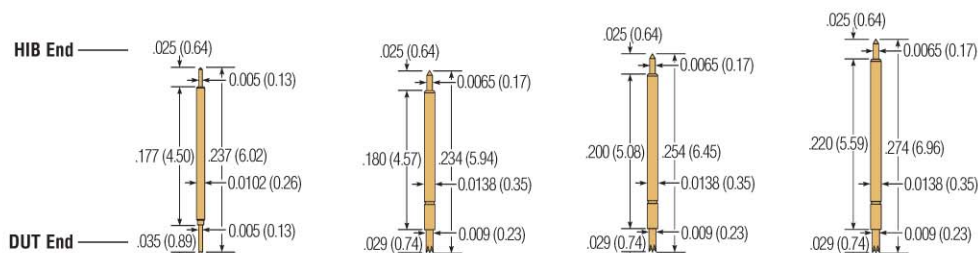
Semiconductor Pogo® Contacts



Double-Ended

ECT offers a wide variety of Double-Ended Pogos® on pitches ranging from .4 mm to 1.27 mm.

Various length options also provides drop-in replacement capability for most competitor probes.



Specifications	CSP4	CSP5-18	CSP5-20	CSP5-22
Mechanical				
Pitch:	.4mm	.5mm	.5mm	.5mm
Recommended Mounting Centers:	.016 (.40)	.020 (.50)	.020 (.50)	.020 (.50)
Full Travel:	.025 (.64)	.025 (.64)	.025 (.64)	.035 (.89)
Recommended Travel:	.020 (.51)	.020 (.51)	.020 (.51)	.020 (.51)
Test Height:	.217 (5.51)	.214 (5.44)	.234 (5.94)	.254 (6.45)
Spring Force:	.85 (24.1g)	.7oz (19.8g)	.7oz (19.8g)	1.0oz (28.4g)
Overall Length:	.237 (6.02)	.234 (5.94)	.254 (6.45)	.274 (6.96)
Mechanical Life:	250,000 cycles	500,000 cycles	500,000 cycles	500,000 cycles
Materials and Finishes				
Plunger End (long extension)	BeCu or Steel	BeCu or Steel	BeCu or Steel	BeCu or Steel
Terminal End (short Extension)	BeCu or Steel Hard Gold over Nickel	BeCu or Steel Hard Gold over Nickel	BeCu or Steel Hard Gold over Nickel	BeCu or Steel Hard Gold over Nickel
Barrel:	Phosphor Bronze Hard Gold over Nickel	Phosphor Bronze Hard Gold over Nickel	Phosphor Bronze Hard Gold over Nickel	Phosphor Bronze Hard Gold over Nickel
Spring:	Music Wire/Gold Plate	Steel Alloy/Gold Plate	Steel Alloy/Gold Plate	Steel Alloy/Gold Plate

PLUNGER-DUT OR HIB



B-TIP
(All CSP Probes)

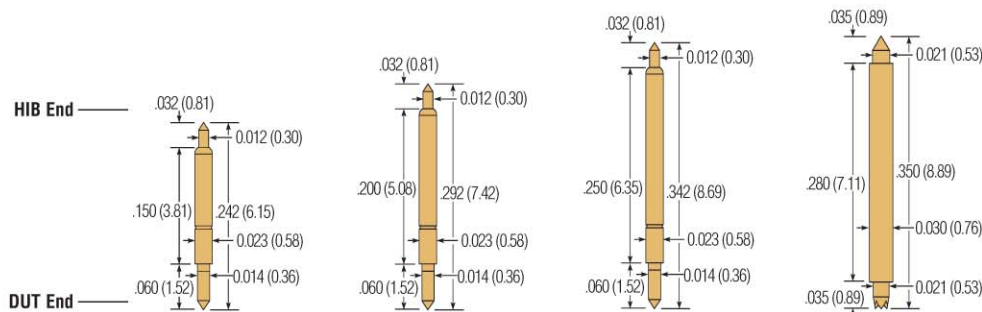


J-TIP
(CSP5)



L-TIP
(All CSP Probes)

Environmental				
Operating Temperature:	-55°C to +105°C	-55°C to +155°C	-55°C to +155°C	-55°C to +155°C
Electrical				
Average DC Resistance:**	<100mΩ	<100mΩ	<100mΩ	<100mΩ
Current Capacity:	2A	2A	2A	2A
Self Inductance (Ls):	1.71nH	1.5nH*	1.65nH*	1.79nH
Capacitance (Cc):	.58pF	.63pF*	.69pF*	.75pF
Bandwidth @ -1dB:	6.8GHz	8.13GHz*	7.4GHz*	6.8GHz



Specifications	CSP8-15	CSP8-20	CSP8-25	CSP1-1.27
Mechanical				
Pitch:	.8mm	.8mm	.8mm	1.0 - 1.27mm
Recommended Mounting Centers:	.0315 (.80)	.0315 (.80)	.0315 (.80)	.039 (1.0) / .050 (1.27)
Full Travel:	.040 (1.02)	.040 (1.02)	.040 (1.02)	.040 (1.02)
Recommended Travel:	.030 (.76)	.030 (.76)	.030 (.76)	.035 (.89)
Test Height:	.212 (5.38)	.262 (6.65)	.312 (7.92)	.315 (8.0)
Spring Force:	1.1oz (31.2g)	1.1oz (31.2g)	1.1oz (31.2g)	2.0oz (56.7g)
Overall Length:	.242 (6.15)	.292 (7.42)	.342 (8.69)	.350 (8.89)
Mechanical Life:	500,000 cycles	500,000 cycles	500,000 cycles	500,000 cycles
Materials and Finishes				
Plunger End (long extension)	BeCu or Steel	BeCu or Steel	BeCu or Steel	BeCu
Terminal End (short Extension)	BeCu or Steel Hard Gold over Nickel	BeCu or Steel Hard Gold over Nickel	BeCu or Steel Hard Gold over Nickel	BeCu Hard Gold over Nickel
Barrel:	Phosphor Bronze Hard Gold over Nickel	Phosphor Bronze Hard Gold over Nickel	Phosphor Bronze Hard Gold over Nickel	Phosphor Bronze Hard Gold over Nickel
Spring:	Steel Alloy/Gold Plate	Steel Alloy/Gold Plate	Steel Alloy/Gold Plate	Steel Alloy/Gold Plate
Environmental				
Operating Temperature:	-55°C to +155°C	-55°C to +155°C	-55°C to +155°C	-55°C to +155°C

Electrical				
Average DC Resistance:**	<100mΩ	<100mΩ	<100mΩ	<100mΩ
Current Capacity:	3A	3A	3A	5A
Self Inductance (Ls):	1.23nH*	1.52nH*	1.81nH	3.1nH
Capacitance (Cc):	.65pF*	.81pF*	.96pF	.95pF
Bandwidth @ -1dB:	9.23GHz*	7.45GHz*	5.25GHz	3.8GHz

Dimensions in inches (millimeters) *Estimated **DC Resistance measured contacting a clean gold plated surface on both probe tips.

Single-Ended

Mini-Mite™ Series Probes

Mini-Mite's unique Single-Ended design provides very low, consistent DC resistance. The uniform design allows all three products to be used at the same test height. The single sliding contact cuts the failure mode in half and insures very repeatable results.



Single Sliding Contact

- Better electrical results

Low self-inductance

Longer Spring

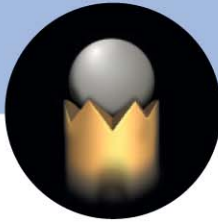
- Longer life
- > 1.0 oz. of force

Internal Bias Construction

- Lower DC resistance

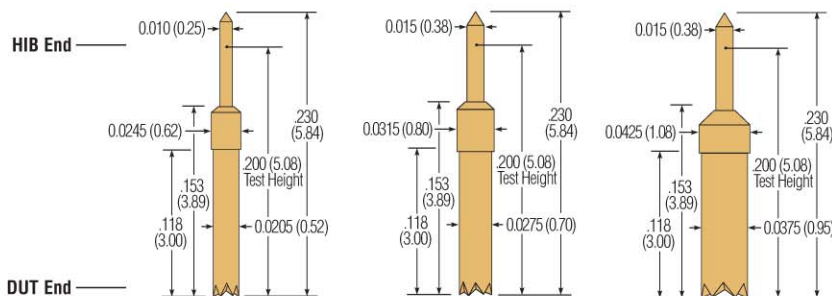
6 Point Crown

- Improves BGA Capture
- Reduced Solder Transfer



- Optimizes Solder Ball Capture

- Less Solder Transfer



Specifications	SCP-080ZB-001	SCP-100ZB-004	SCP-127ZB-001
Mechanical			
Pitch:	8mm	1.0mm	1.27mm
Recommended Mounting Centers:	.0295 (.75) / .0319 (.80)	.0394 (1.00)	.050 (1.27)
Full Travel (Z):	.035 (.89)	.035 (.89)	.035 (.89)
Recommended Travel:	.030 (.76)	.030 (.76)	.030 (.76)
Test Height:	.200 (5.08)	.200 (5.08)	.200 (5.08)
Spring Force:	1.20oz (34g) ± 20%	1.20oz (34g) ± 20%	1.20oz (34g) ± 20%
Overall Length:	.230 (5.84)	.230 (5.84)	.230 (5.84)
Mechanical Life:	1,000,000 Cycles	1,000,000 Cycles	1,000,000 Cycles
Materials and Finishes			
Plunger:	BeCu Plated with Hard Gold over Nickel	BeCu Plated with Hard Gold over Nickel	BeCu Plated with Hard Gold over Nickel
Barrel:	BeCu Plated with Hard Gold over Nickel	BeCu Plated with Hard Gold over Nickel	BeCu Plated with Hard Gold over Nickel
Spring:	Steel Alloy Plated with Hard Gold over Nickel	Steel Alloy Plated with Hard Gold over Nickel	Steel Alloy Plated with Hard Gold over Nickel
Environmental			
Operating Temperature:	-55°C to +155°C	-55°C to +155°C	-55°C to +155°C
Electrical			
Average DC Resistance:**	<50mΩ	<50mΩ	<50mΩ
Current Capacity:			
Open Air (No Cycling)	5A	7A	9A
Self Inductance (Ls):	1.27nH	1.4 nH	1.4nH
Capacitance (Cc):	.12pF	.66pF	.79pF
Bandwidth @ -1dB:	6GHz	6.78GHz	7.63GHz

PLUNGER-HIB



B-TIP
(All Mini-Mite Probes)



J-TIP
(All Mini-Mite Probes)

BARREL-DUT



B-TIP
(.8mm, 1.0mm)



L-TIP
(1.0mm)



U-TIP
(.8mm)



Z-TIP
(All Mini-Mite Probes)

Bantam® Series Probes

The Bantam® probe is a high-performance spring loaded compliant contact for applications requiring robust, short contact to support fine pitch and high bandwidth production needs. Unlike conventional spring probes, the Bantam has only one internal sliding/wiping contact surface, which provides consistent low resistance levels while maintaining a high level of Z-Axis compliance.

Single Sliding Contact

- Better electrical results

External Spring

- More compliance
- Higher force
- Longer life

Short Test Height

- Extremely low self-inductance

Unique Bias Design

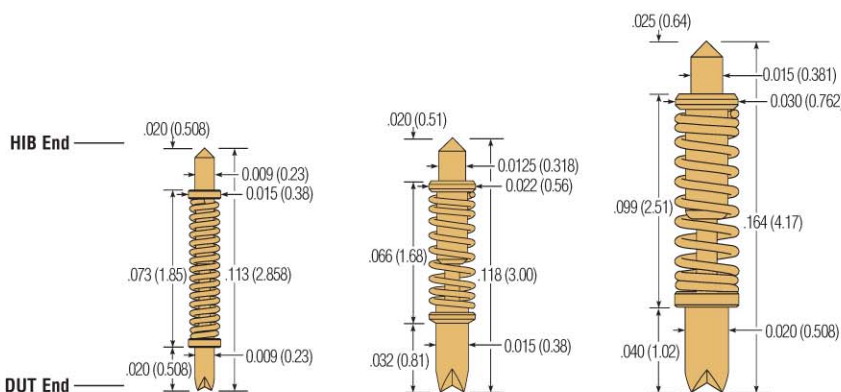
- Lower DC resistance

Over-Sized Crown

- Improves BGA Capture
- Reduced Solder Transfer



• Patented External Spring Design



PLUNGER-DUT



B-TIP (050, 075, 100)



H-TIP (100)



J-TIP (100)



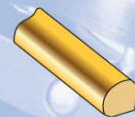
L-TIP (050, 075, 100)



U-TIP (050)

Specifications	BTM-050	BTM-075	BTM-100
Mechanical			
Pitch:	.5mm	.75mm / .8mm	1.0mm
Recommended Mounting Centers:	.019 (.50)	.0295 (.75) / .0315 (.80)	.0394 (1.00) / .050 (1.27)
Full Travel:	.020 (.51)	.020 (.51)	.030 (.76)
Recommended Travel:	.015 (.38)	.015 (.38)	.028 (.71)
Test Height:	.098 (2.49)	.103 (2.62)	.136 (3.45)
Spring Force:	1.1oz (31g)±20%	1.0oz (28g)±20%	1.4oz (39g)±20%
Overall Length:	.113 (2.87)	.118 (3.00)	.164 (4.17)
Mechanical Life:	1,000,000 cycles	1,000,000 cycles	1,000,000 cycles
Materials and Finishes			
Plunger:	BeCu Plated with Hard Gold over Nickel	BeCu Plated with Hard Gold over Nickel	BeCu Plated with Hard Gold over Nickel
Barrel:	BeCu Plated with Hard Gold over Nickel	Brass Alloy Plated with Hard Gold over Nickel	Brass Alloy Plated with Hard Gold over Nickel
Spring:	Steel Alloy Hard Gold over Nickel	Music Wire Hard Gold over Nickel	Steel Alloy Hard Gold over Nickel
Note: Consult factory about additional plating options.			
Environmental			
Operating Temperature:	-55°C to +155°C	-55°C to +155°C	-55°C to +155°C
Electrical			
Average DC Resistance:**	<50mΩ	<50mΩ	<50mΩ
Current Capacity:			
Open Air (No Cycling)	1.5A	2A	3.5A
Self Inductance (Ls):	.95nH	.77nH	1.3nH
Capacitance (Cc):	.28pF	.25pF	.34pF
Bandwidth @ -1dB:	12.87GHz	15.65GHz	9.73GHz

BARREL-HIB



B-TIP (050, 075, 100)

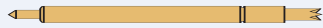


J-TIP (050, 075, 100)



L-TIP (100)

How to Order



Double-Ended CSP Probes

Example: CSP5 - 20 L C B C

Model Number:

CSP5

Barrel Length:

18 = .180

20 = .200

22 = .220

Plunger Tip Style:

B, L

Plunger Material:

C = BeCu S = Steel

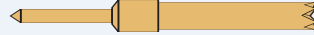
Terminal Tip Style:

B

Terminal Material:

C = BeCu S = Steel

For technical data or to place an order, consult
Ostby Barton; **401-739-7310, ext. 212**



Single-Ended SCP Probes

1.27 mm: SCP-127ZB-001

1.00 mm: SCP-100ZB-004

0.80 mm: SCP-080ZB-001

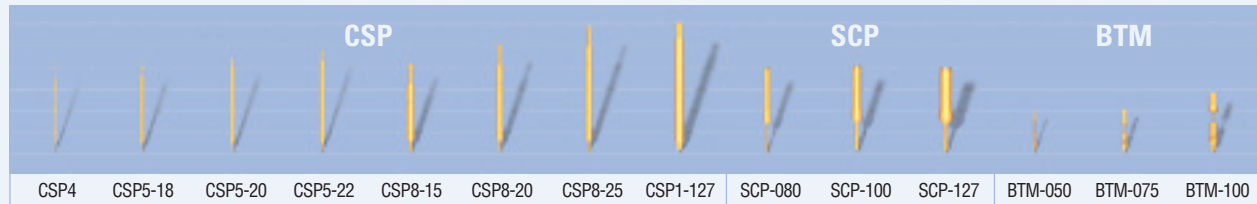
For technical data or to place an order, consult
Contact Products Group; **909-625-5551**



Bantam

For ordering information, contact
Semiconductor Test Group; **651-407-7777**
Contact Products Group; **909-625-5551**

Relative Size Comparison



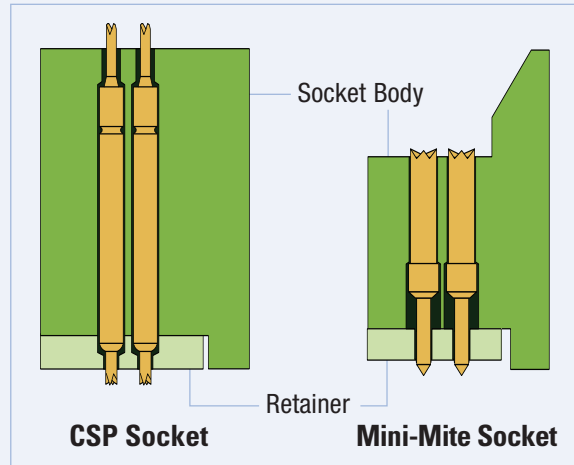
Probes shown at approximately 2x actual size

How to Choose

Model #	Pitch (mm)	Test Height in (mm)	Self Inductance (nH)	Capacitance (pF)	Bandwidth Frequency @ 1dB (GHz)
Double-Ended					
CSP4	0.4	0.217 (5.51)	1.71	0.58	6.80
CSP5-18	0.5	0.214 (5.44)	1.5	0.63	8.13
CSP5-20	0.5	0.234 (5.94)	1.65	0.69	7.40
CSP5-22	0.5	0.254 (6.45)	1.79	0.75	6.80
CSP8-15	0.8	0.212 (5.38)	1.23	0.65	9.23
CSP8-20	0.8	0.262 (6.65)	1.52	0.81	7.45
CSP8-25	0.8	0.312 (7.92)	1.81	0.96	5.25
CSP1-1.27	1.0/1.27	0.315 (8.0)	3.1	0.95	3.80
Single-Ended					
SCP-080	0.75/0.8	0.200 (5.08)	1.27	0.11	6.08
SCP-100	1.0	0.200 (5.08)	1.4	0.66	6.78
SCP-127	1.27	0.200 (5.08)	1.4	0.79	7.63
Bantam					
BTM-050	0.5	0.098 (2.49)	0.95	0.28	12.87
BTM-075	0.75	0.103 (2.62)	0.77	0.25	15.65
BTM-100	1.0	0.136 (3.45)	1.3	0.34	9.73

Socket Design Considerations

- CSP series is captured between the socket body and retainer plate, with the barrel fixed in place.
- Mini-Mite series is captured between the socket body and retainer plate, with the barrel sliding freely in counter bore.
- Counter bore should not be too deep, and enable a minimum amount of preload against interface board.
- Body height and device cavity should be designed to prevent probe from being compressed shorter than test height.



How to Contact Us



Double-Ended CSP Probes

For technical data or to place an order, consult Ostby Barton; **401-739-7310, ext. 212**

Single-Ended SCP Probes

For technical data or to place an order, consult Contact Products Group; **909-625-5551**

Bantam

For ordering information, contact Semiconductor Test Group; **651-407-7777**
Contact Products Group; **909-625-5551**

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