**High Current Probe**

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

**Our high current probes features**

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

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

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

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

HCP-25
100 mil (2.54 mm)

HCP-13
125 mil (3.18 mm)

Tip Style

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø .060 (1.52)</td>
<td>Ø .036 (0.91)</td>
<td>Ø .060 (1.52)</td>
</tr>
</tbody>
</table>

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

Spring Force in oz. (grams)

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Preload</th>
<th>Rec. Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>1.29 (37)</td>
<td>4.0 (113)</td>
</tr>
<tr>
<td>Alternate</td>
<td>-1</td>
<td>2.23 (63)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8.00 (227)</td>
</tr>
</tbody>
</table>

Electrical (Static Conditions)
Current Rating: 10 amps
Average Probe Resistance: <25 mOhms

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

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

Tip Style

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø .100 (2.54)</td>
<td>Ø .050 (1.27)</td>
<td>Ø .100 (2.54)</td>
</tr>
</tbody>
</table>

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.
**High Current Probe**

### Dimensions

**HCP-14**
- 187 mil (4.75 mm)

**HCP-15**
- 187 mil (4.75 mm)

### Mechanical Specifications

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

### Spring Force in oz. (grams)

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Preload</th>
<th>Rec. Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard</strong></td>
<td>0.86 (24)</td>
<td>4.8 (136)</td>
</tr>
<tr>
<td><strong>Alternate</strong></td>
<td>-1</td>
<td>4.32 (122)</td>
</tr>
</tbody>
</table>

### Electrical (Static Conditions)

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

### Materials and Finishes

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

### Receptacle Specifications

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

## Tip Style

**A**
- Ø .156 (3.96)
- Ø .060 (1.52)
  - t = .010 (0.25)

**B**
- Ø .080 (2.03)

**H**
- Ø .156 (3.96)

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**HCP-15**
- 187 mil (4.75 mm)

### Mechanical Specifications

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

### Spring Force in oz. (grams)

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Preload</th>
<th>Rec. Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard</strong></td>
<td>3.76 (107)</td>
<td>16.0 (456)</td>
</tr>
<tr>
<td><strong>Alternate</strong></td>
<td>-1</td>
<td>6.05 (172)</td>
</tr>
</tbody>
</table>

### Electrical (Static Conditions)

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

### Materials and Finishes

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

### Receptacle Specifications

- **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
- **Material Post:** Phosphorous Bronze, Gold plated

## Tip Style

**A**
- Ø .156 (3.96)
- Ø .080 (2.03)
  - t = .010 (0.25)
High Current Probe

P3325
125 mil (3.18 mm)

Mechanical
Recommended Travel: 0.066 (1.68)
Full Travel: 0.100 (2.54)
Operating Temperature: -55°C to +105°C

Spring Force in oz. (grams)

<table>
<thead>
<tr>
<th>Preload</th>
<th>Rec. Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>5.0 (142)</td>
</tr>
</tbody>
</table>

Electrical (Static Conditions)
Current Rating: 10 amps
Average Probe Resistance: <10 mOhms

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

Mounting Options
Hole diameter: 0.086 (2.18)
Suggested drill: #44 or 2.18 mm

Tip Style

0 1
Ø 0.061 (1.55) Ø 0.090 (2.29)

P2447-1W
225 mil (5.72 mm)

Mechanical
Recommended Travel: 0.200 (5.08)
Full Travel: 0.300 (7.62)
Operating Temperature: -55°C to +150°C

Spring Force in oz. (grams)

<table>
<thead>
<tr>
<th>Preload</th>
<th>Rec. Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>6.0 (170)</td>
</tr>
</tbody>
</table>

Electrical (Static Conditions)
Current Rating: 20 amps
Average Probe Resistance: <10 mOhms

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

Mounting Options
Hole diameter: 0.157 (3.99)
Suggested drill: #22 or 3.99 mm

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.
High Current Probe

**P4301**

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

**Spring Force in oz. (grams)**

<table>
<thead>
<tr>
<th>Preload</th>
<th>Rec. Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>16 (454)</td>
</tr>
</tbody>
</table>

**Electrical (Static Conditions)**
- **Current Rating BeCu:** 40 amps
- **Current Rating Tellurium Copper:** 50 amps
- **Average Probe Resistance:** <5 mOhms

**Materials and Finishes**
- **Plunger (1F):** Tellurium Copper, Gold plated
- **Plunger:** BeCu, Gold plated
- **Barrel:** Tellurium Copper, Gold plated
- **Spring:** Stainless Steel
- **Ball:** Stainless Steel

**Probe Overall Length**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Overall Length (Dim. A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P4301-1F, -1R, -1W</td>
<td>1.75 (44.45)</td>
</tr>
<tr>
<td>P4301-1Z</td>
<td>1.86 (47.24)</td>
</tr>
<tr>
<td>P4301-2F, -2R</td>
<td>2.00 (50.80)</td>
</tr>
</tbody>
</table>

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

**Tip Style**

<table>
<thead>
<tr>
<th>Tip Style</th>
<th>1F</th>
<th>1R</th>
<th>1W</th>
<th>1Z</th>
<th>2F</th>
<th>2R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø .154 (3.91)</td>
<td>Ø .154 (3.91)</td>
<td>Ø .200 (5.08)</td>
<td>Ø .154 (3.91)</td>
<td>Ø .154 (3.91)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.
**Godzilla Probe**

### HC375

**100 A**

- **Mechanical**
  - Recommended Travel: 0.250 (6.35)
  - Full Travel: 0.360 (9.14)
  - Operating Temperature: -55ºC to +155ºC
- **Preload**
  - Standard: -4
  - Alternate: -6
- **Electrical (Static Conditions)**
  - Current Rating: 100 amps
  - Average Probe Resistance: <25 mOhms
- **Materials and Finishes**
  - Plunger: BeCu Gold plated
  - Barrel: Brass Silver plated
  - Spring: Stainless Steel

**Tip Style (additional styles on request)**

<table>
<thead>
<tr>
<th>Tip Style</th>
<th>0.311 (7.89)</th>
</tr>
</thead>
</table>

### HC500

**150 A**

- **Mechanical**
  - Recommended Travel: 0.250 (6.35)
  - Full Travel: 0.260 (6.60)
  - Operating Temperature: -55ºC to +155ºC
- **Preload**
  - Standard: -4
  - Alternate: -6
- **Electrical (Static Conditions)**
  - Current Rating: 150 amps
  - Average Probe Resistance: <25 mOhms
- **Materials and Finishes**
  - Plunger: BeCu Gold plated
  - Barrel: Brass Silver plated
  - Spring: Stainless Steel Silver plated
- **Receptacle**
  - Hole Diameter: Ø 0.571 - Ø 0.5679 (14.50 mm)
  - Suggested drill: 14.50 mm
  - Material Housing: Work-hardened Brass, Gold plated over hard Nickel

**Tip Style (additional styles on request)**

<table>
<thead>
<tr>
<th>Tip Style</th>
<th>0.435 (11.05)</th>
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</thead>
</table>