Low Profile Socketless X Probe Series

Lighter, simpler, lower cost fixtures.

As miniaturization and functional densification in electronics products continues to move at breathtaking pace, balancing the needs of designers and manufacturers grows ever more complicated. Designers & OEM’s want more components in less space. Test Engineers & CM’s want the largest possible test probes for durability and the best electrical contact.

QA Technology’s X Probes Socketless Series, introduced in 2001, met this challenge head on and set the industry standard for testing smaller and closer targets. Its patented design mounts a larger more robust probe on closer centers than a conventional probe and socket system, while maintaining the same accuracy, performance, current ratings and low electrical resistance.

Our new low profile X Probe Series deliver the same proven benefits of the existing Socketless series, while reducing weight, simplifying build, and lowering costs for any fixture using them:

Lower Cost Socketless Fixtures

- Shorter, lower cost termination pins
- Reduced plate thicknesses
- Eliminates the need for a Spacer Plate
- Removes the need for a Spacer & Back Plate in fixtures for Single Plate Test Fixtures
- Simplified ECNs

Product Features

- .160 [4.06] full stroke for both plunger lengths
- Same .107 [2.72] working stroke for both plunger lengths
- Same probe tube length across all sizes .650 [16.51]
- Termination pins can be set at the same height for ALL target types (pads, vias, leads, etc.)
**Tip Style Length Difference**

An innovative approach to accommodating variable height test targets has been implemented in this new Low Profile Socketless X Probe Series. Probe plungers are offered in 2 different lengths. The longer plungers are available in tip styles that are intended for target types that are flush with the Unit Under Test (UUT) such as pads & vias. Shorter plungers are offered in tip styles that are better suited for thru-hole leads, posts, etc. which protrude downwards from the PCB. This novel approach of varying the plunger length, simplifies the fixture build process by allowing all termination pins to be set at the same height, regardless of size.

- The tip length is determined by the test target type
- For Leads & Components, use plunger length “H” .220 [5.59]
- For Vias & Pads, use plunger length “P” .280 [7.11]

**New Part Numbering Scheme**

With the introduction of the new Low Profile Socketless X Probes, we have reconfigured our part number scheme for this product series. The part number now details the variable lengths of the plunger as well as the plunger material type. The prefix of our numbers remain the same. Below is an example of the new part numbers.

**EXISTING** Part Numbering Scheme: X39-PRP256RH-NS

**NEW** Part Numbering Scheme: X39-PRP16S6RPHN

<table>
<thead>
<tr>
<th>SIZE</th>
<th>TUBE</th>
<th>FULL STROKE</th>
<th>TIP MATERIAL</th>
<th>TIP STYLE</th>
<th>PLUNGER LENGTH</th>
<th>SPRING FORCE</th>
<th>OPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>X39</td>
<td>PRP</td>
<td>16</td>
<td>S (Steel)</td>
<td>6R</td>
<td>H .280 [7.11]</td>
<td>H N</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>B (BeCu)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**New Probe Identification**

QA Technology probes offer a wide range of spring forces allowing the Test Engineer or Fixture Fabricator to custom-tune their test probe applications. For ease of selection and to identify the proper replacement probe, QA Technology has executed a new laser-marked probe identification system. This system will easily identify the exact part number for probe replacement during regular scheduled maintenance. This identification includes QA’s complete part number, spring force (oz/g) and our signature banded codes. It also includes our manufacturing lot code for traceability.

---

**Part Numbering Scheme: X39-PRP16S6RPHN**

<table>
<thead>
<tr>
<th>SPRING FORCE IDENTIFICATION</th>
<th>MARKING</th>
<th>SPRING FORCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>L - Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S - Standard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H - High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y - Elevated</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>