Spring Pin Test Report

High Performance IC Sockets And Test Adaptors

IP, Mar 2011
Pin Configuration

Pitch: 0.5mm

PLUGNER B

\[ \begin{align*}
&\text{Ø 0.19mm} \\
&[0.008"] \\
&\text{Ø 0.35mm} \\
&[0.014"] \\
&60° \\
&0.61mm \\
&[0.024"] \\
&0.64mm \\
&[0.025"] \\
&3.66mm \\
&[0.144"] \\
&3.81mm \\
&[0.150"] \\
&4.11mm \\
&[0.162"]
\end{align*} \]

PLUGNER A

\[ \begin{align*}
&\text{Ø 0.19mm} \\
&[0.008"] \\
&\text{Ø 0.35mm} \\
&[0.014"] \\
&\text{Ø 0.13mm} \\
&[0.005"] \\
&0.64mm \\
&[0.025"] \\
&3.81mm \\
&[0.150"] \\
&4.11mm \\
&[0.162"]
\end{align*} \]

MATERIAL:

Plungers: Hardened Steel / Finish- Gold Plated
Barrel: Copper Alloy / Finish- Gold Plated
Spring: Stainless Steel / Finish- Gold Plated

ELECTRICAL DATA:

Average Resistance: 82.28mOhms
Probe Self Inductance: 1.3 nH
Propagation Delay: 28 picoseconds
Insertion Loss: < 0.25 dB to 4.5 GHz
Cross Talk: < -15 dB up to 6.5 GHz
Rise Time: 28 picoseconds
Capacitance: 0.53 pF

NOTES:

1. Force: 7 grams [0.25 oz.] initial, 16 grams (0.56 oz.) at 0.150" [3.81mm] operating position (0.012" deflection).
   Test Method: Release rate 1.6 grams / 0.001" [0.025mm]
2. Indent Form: Either 4 way conical indent or roll crimp, 2 places.
3. Plunger "A" is a fixed plunger.
Socket in assembled state

Test procedure:
1. Mount socket to the test board
2. Place daisy chained test chip inside the socket
3. Close socket lid and apply recommended pressure
4. Using multi meter read contact resistance of complete chain and record contact resistance per pin
5. Open socket, remove and reseat test chip
6. Repeat step 3 and 4
7. After 10 insertions, reflow test chip.

Pitch: 0.5mm

Daisy chained test chip (lead & lead free) and test board (lead)
Test Data (SnPb Test Chip)

Average: 0.128 ohms  
Standard Deviation: 0.033 ohms  

Contact resistance

Cycle

Resistance per pin (ohms)
Test Data (SnAgCu Test Chip)

Contact resistance

Average: 0.089 ohms  Standard Deviation: 0.030 ohms