IEEE P1394a

4 Circuit
Connector & Cable Plug

Connector Working Group

Max Bassler
mbassler97/03/18molex.com

Addressing the breakage Issue

Molex and Sony have been working for some time to develop the 4 ckt AV connector and cable.

As with any new technology, there are changes made during development.

The cable plugs in question were made to an early engineering revision that has since been changed.

These cable were shipped in low quantities to developers only.

All products shipping today are to the latest revision and will not cause any problems with existing and new consumer products using 1394 AV style interface

Basic 4 ckt connector design

- **Leaf and spring contacts- Same as:**
  - **Centronics**
  - **IEEE 1284C**
  - **SCA 1 & 2**
  - **Many others**

- **Safer than pin and socket contacts- Better than:**
  - **D-Sub**
  - **Mini-din**
  - **SCSI**

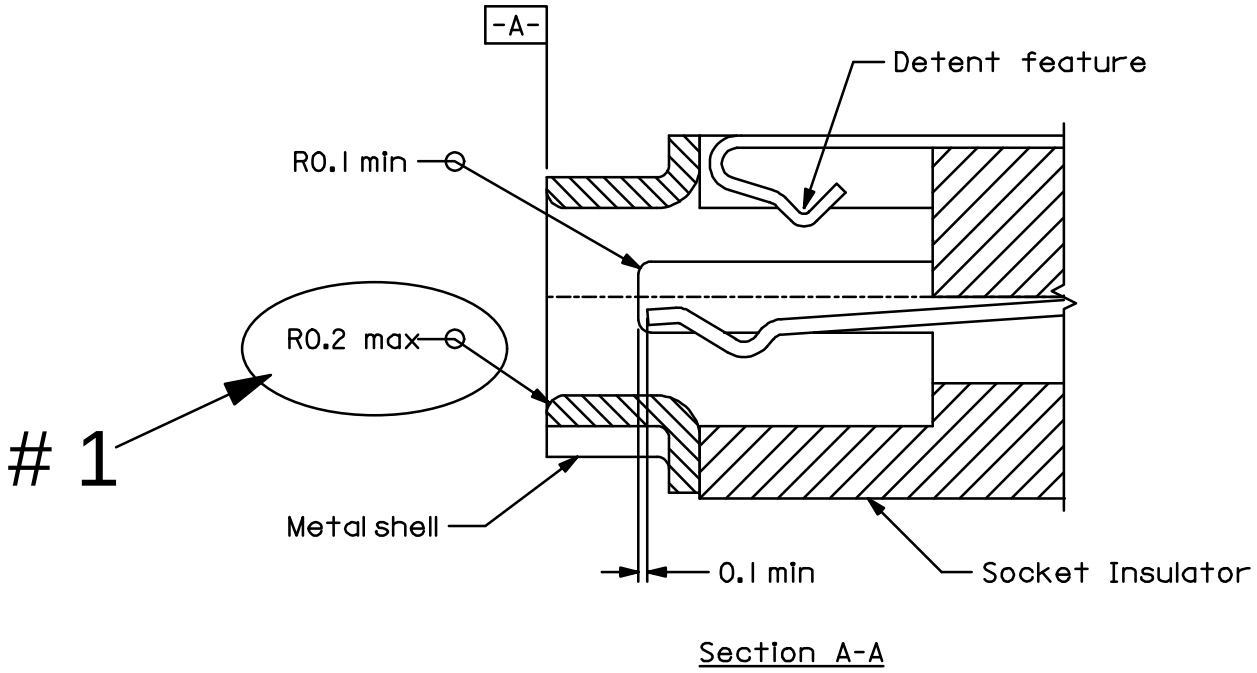
- **Made for consumer handling**

Changes to 4 ckt Header+Plug

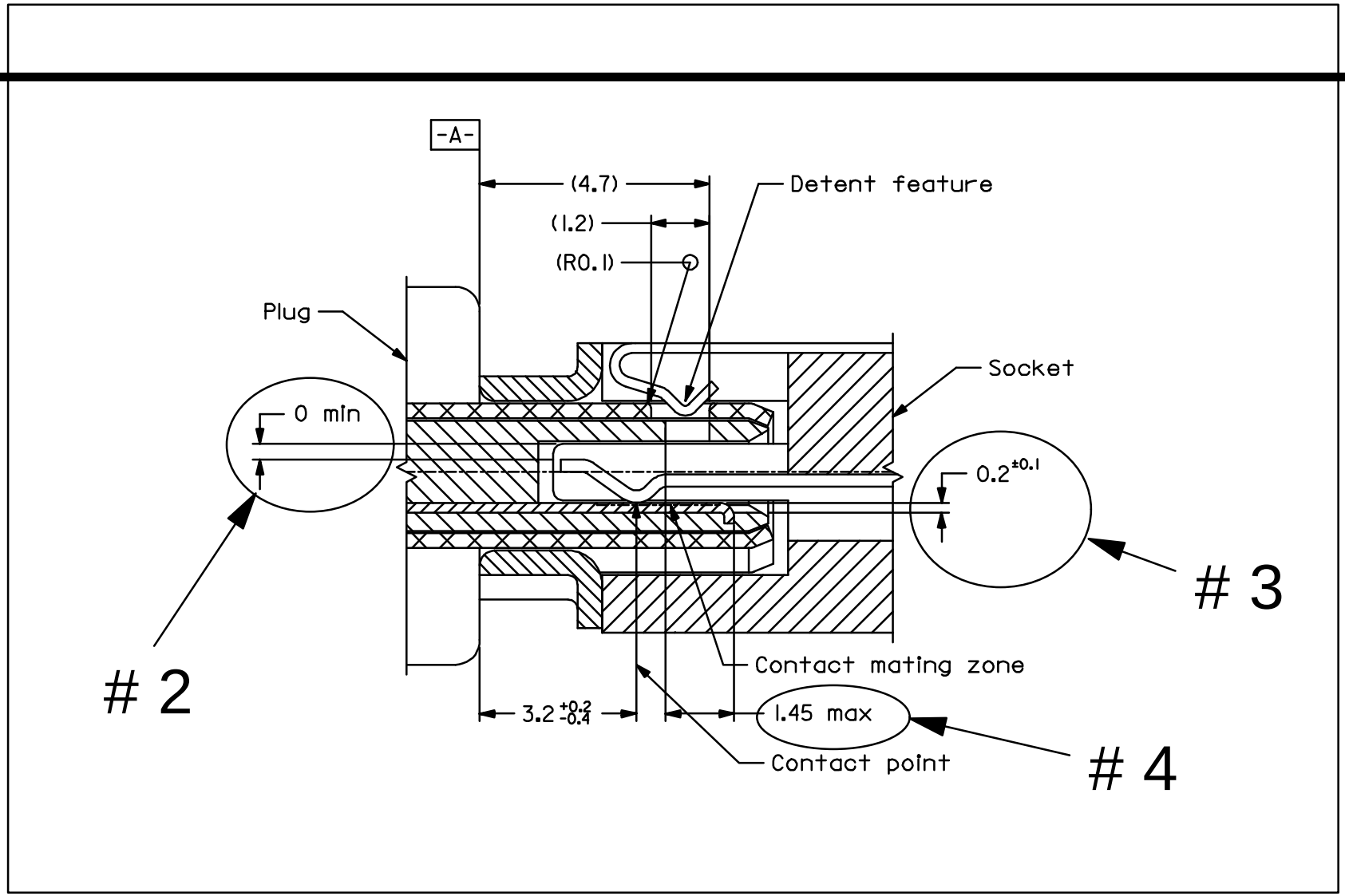
Item	Was	Now
1. Guide chamfer of socket-	R 0.2min	R 0.2 max
2. Terminal anti-butting		0 mm min. added
3. Inside guide of plug		0.2 +/- .01 added
4. Dimension of window to contact		1.45 max. added
5. Dimension of socket	3.02 +/-0.5	3.02+0.05/-0.02

Purpose of #1 through 4- Anti-butting
#5- Insertion polarization

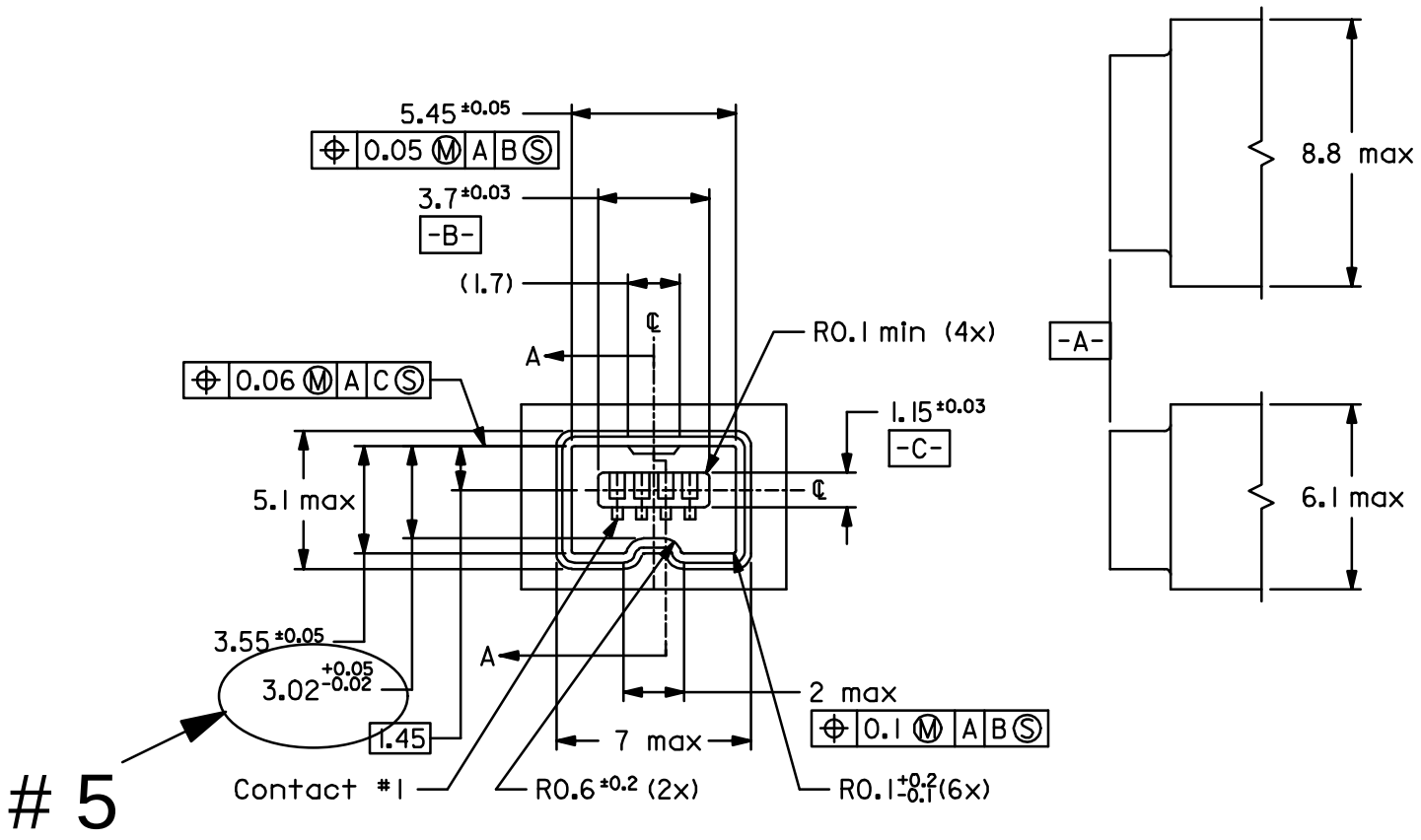
Cross section of PCB Receptacle



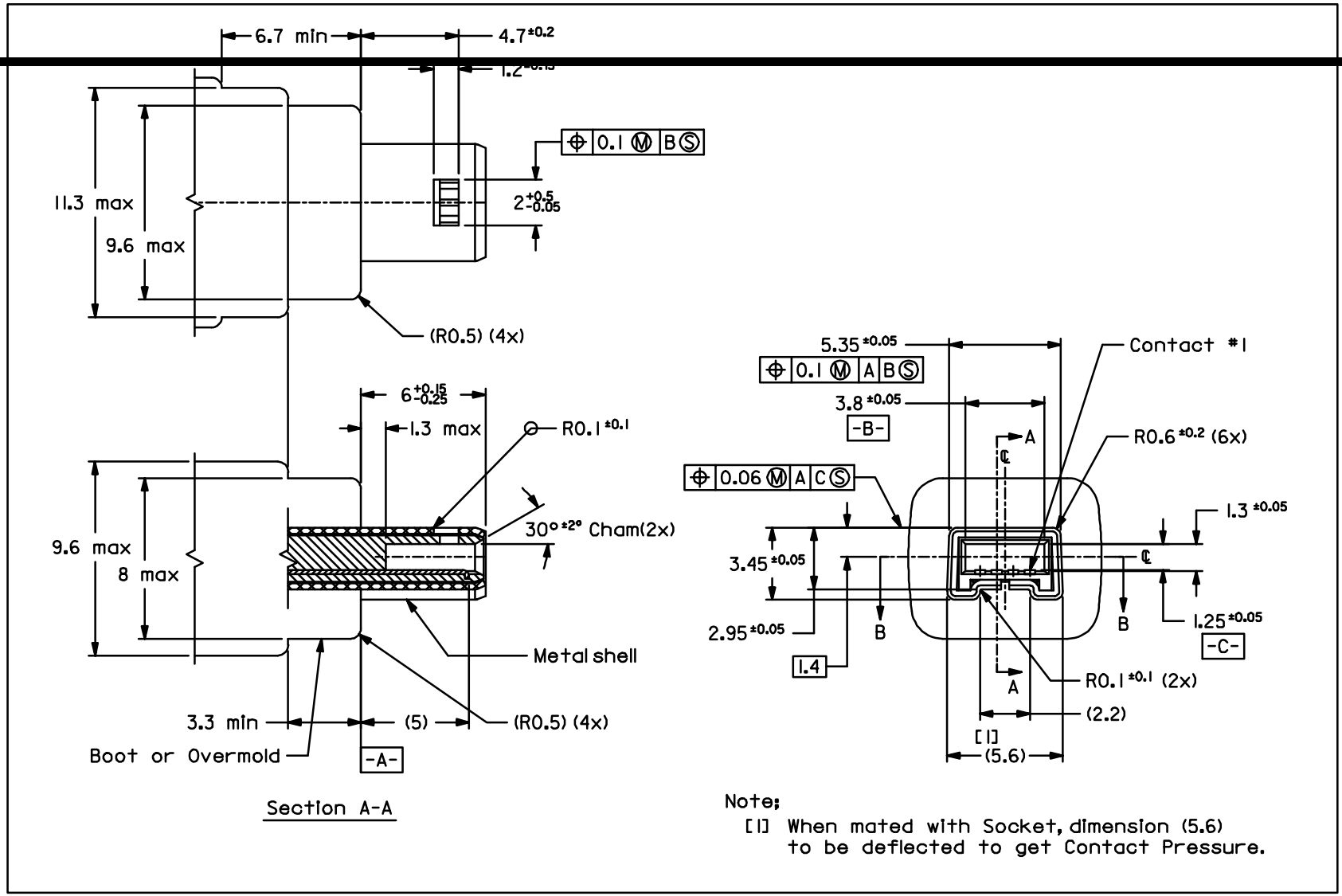
Mated PCB Receptacle and Plug



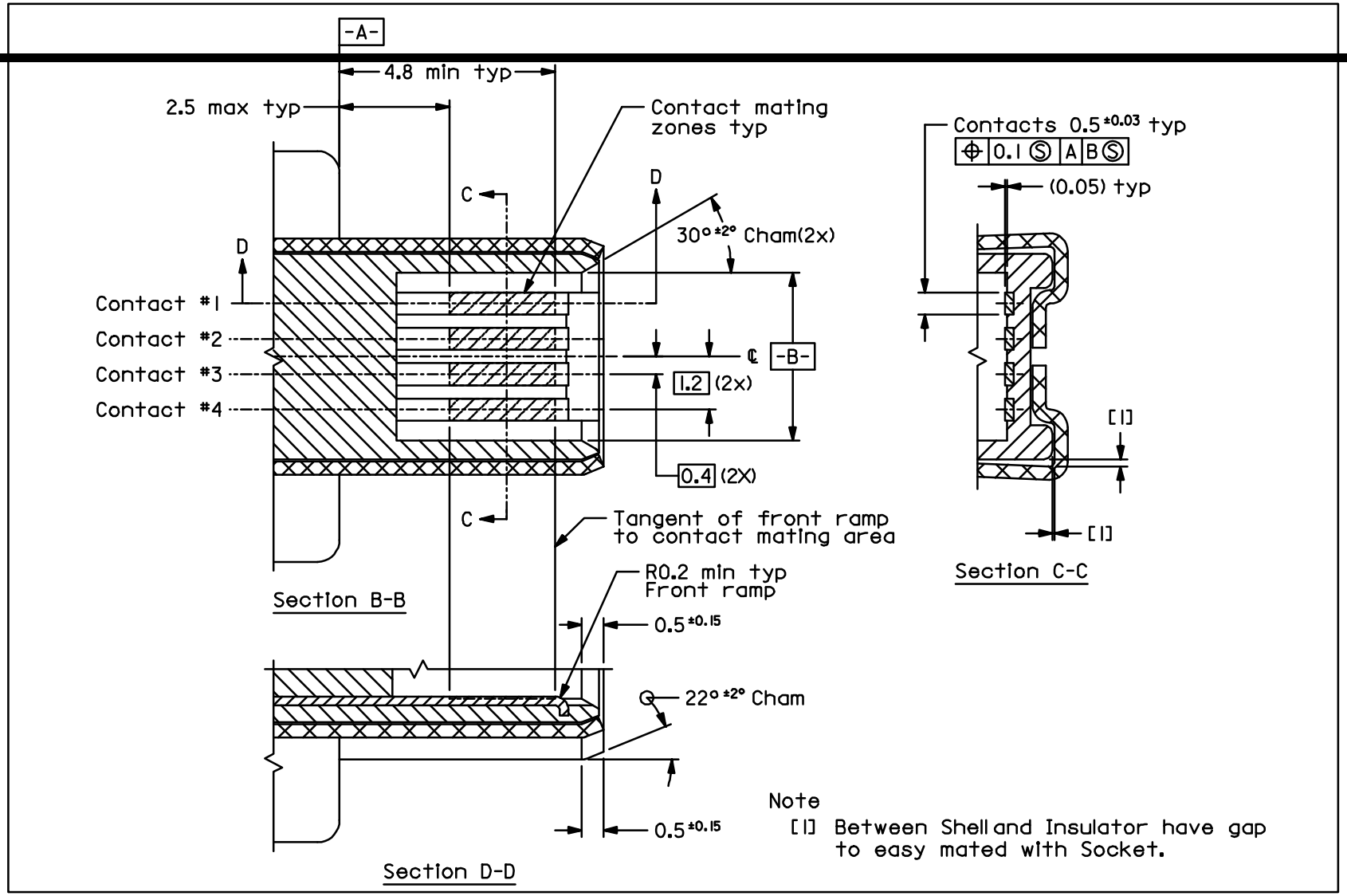
PCB Receptacle detail



Cable Plug


6.7 min
4.7 ±0.2
1.2 ±0.15
0.1 M B S
11.3 max
9.6 max
2 +0.5 -0.05
(R0.5) (4x)
6 +0.15 -0.25
1.3 max
R0.1 ±0.1
30° ±2° Cham(2x)
9.6 max
8 max
Metal shell
3.3 min
(5)
(R0.5) (4x)
Boot or Overmold
-A-
Section A-A
5.35 ±0.05
Contact #1
0.1 M A B S
3.8 ±0.05
-B-
R0.6 ±0.2 (6x)
0.06 M A C S
1.3 ±0.05
3.45 ±0.05
2.95 ±0.05
1.4
1.25 ±0.05
-C-
R0.1 ±0.1 (2x)
(2.2)
[1]
(5.6)
Note:
[1] When mated with Socket, dimension (5.6)
to be deflected to get Contact Pressure.

Cross section of plug detail



Open Issues

- **Cabling - S400**
  - **One cable fits all**
  - **Color coding to identify**
- **EMI/RFI questions**
  - **Proposed new wiring- connecting pin 2 and plug shell to cable shields**
- **Cable assembly test issues to meet real world**
- **Plan for next meeting, possibly in Chicago at the end of April**