

# NOVASTACK® 35-HDP

Fully-shielded, 0.7 mm mated height, 0.35 mm pitch, equipped with power contacts, 40 Gbps per lane supporting board-to-board connector

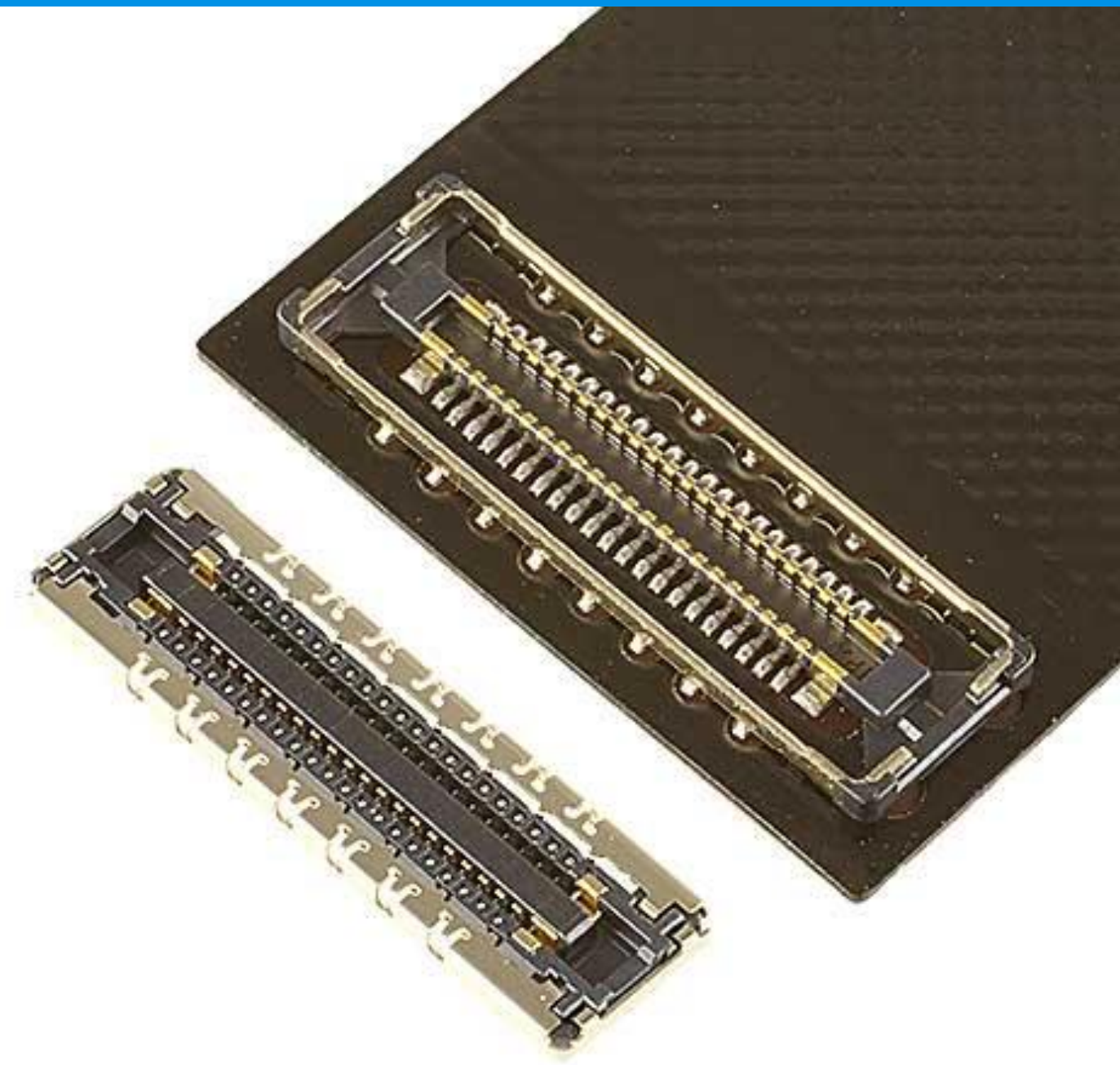
## Product Specifications:

|                       |        |                                                     |
|-----------------------|--------|-----------------------------------------------------|
| Board Pitch           |        | 0.35 mm                                             |
| Contact Mating Length |        | Signal contact : 0.11 mm<br>Power contact : 0.13 mm |
| Mated Size            | Height | 0.7 +/- 0.05 mm                                     |
|                       | Width  | 4.89 + (0.35 x pin count / 2) mm                    |
|                       | Depth  | 3.7 mm                                              |
| Current Rating        | Signal | 0.3 A/pin                                           |
|                       | Power  | 4.5 A/pin x 4                                       |
| Available Pin Count   | Signal | 16, 28, 34, 42, 56, 62                              |
|                       | Power  | + 4 (power contact)                                 |

\* Please inquire for pin counts not listed or outside of the pin count range.

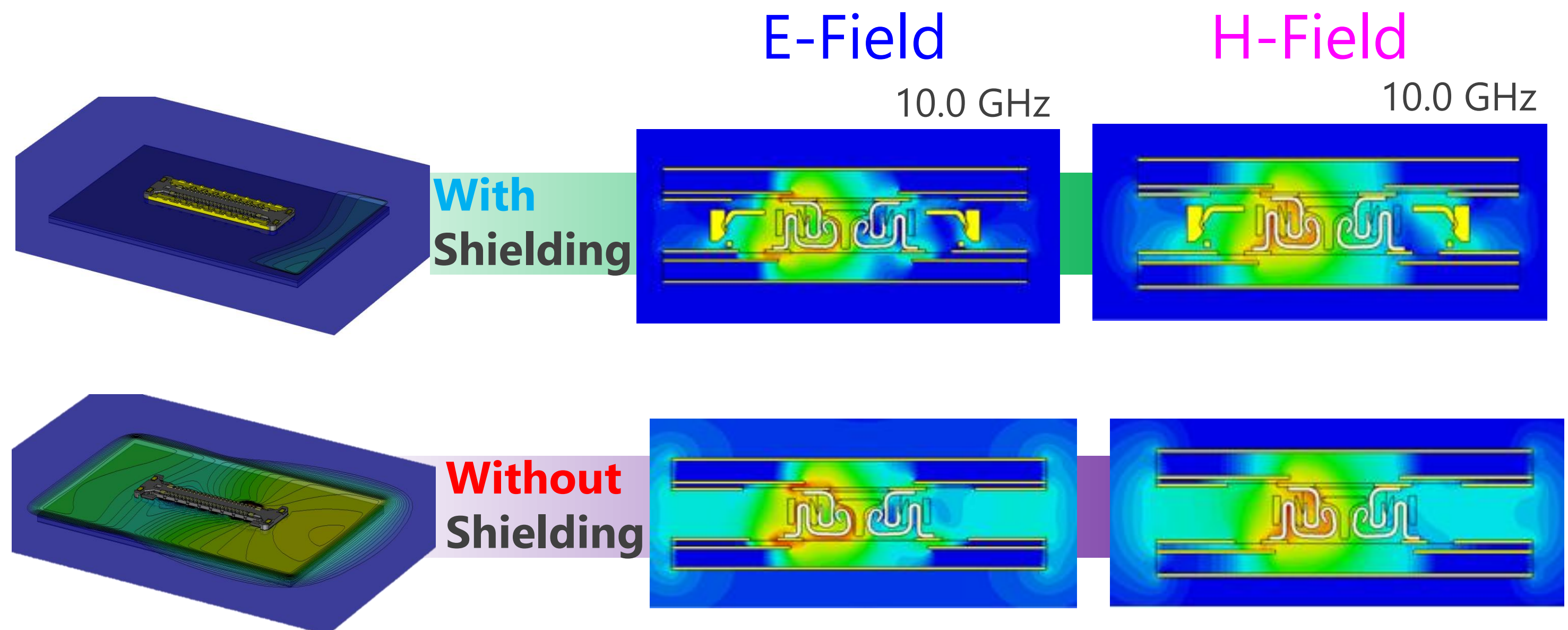
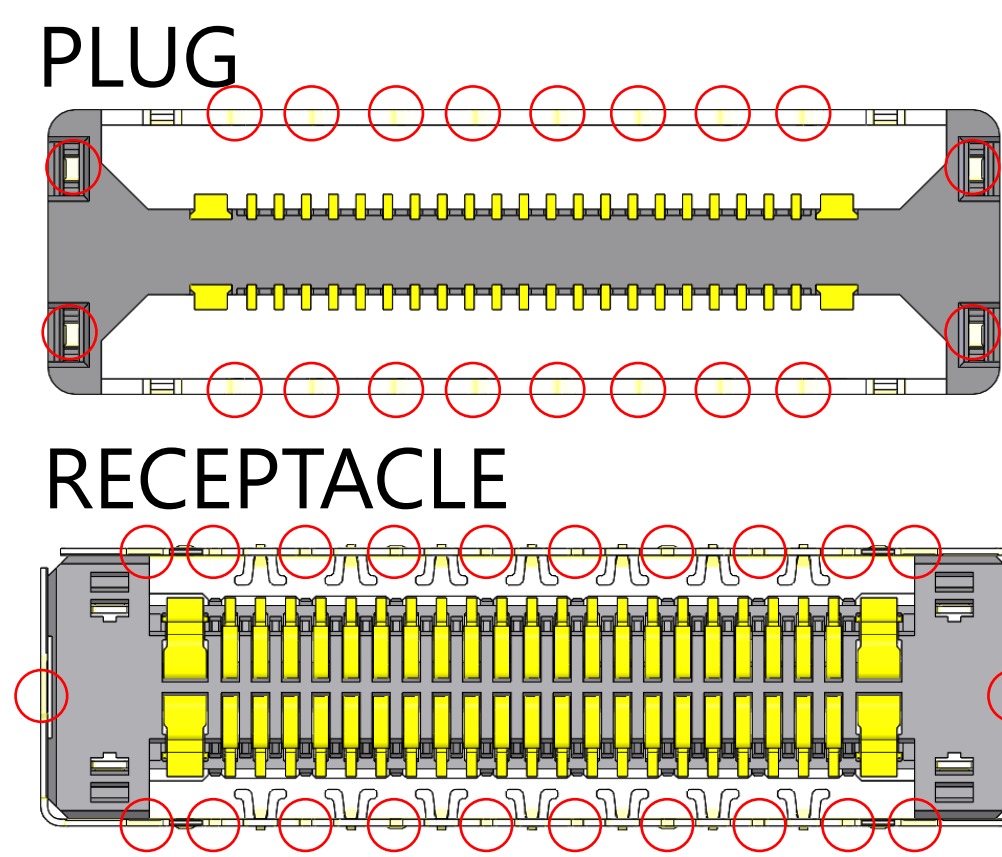
## Applicable Standards (Reference Only):

USB4 (20 Gbps/lane), USB 3.1 Gen 2 (10 Gbps), eDP HBR 3 (8.1 Gbps), eDP HBR 2 (5.4 Gbps), eDP (2.7 Gbps), HDMI 2.0 (6 Gbps), V-By-One HS 1.4 (4 Gbps), MiPi standards

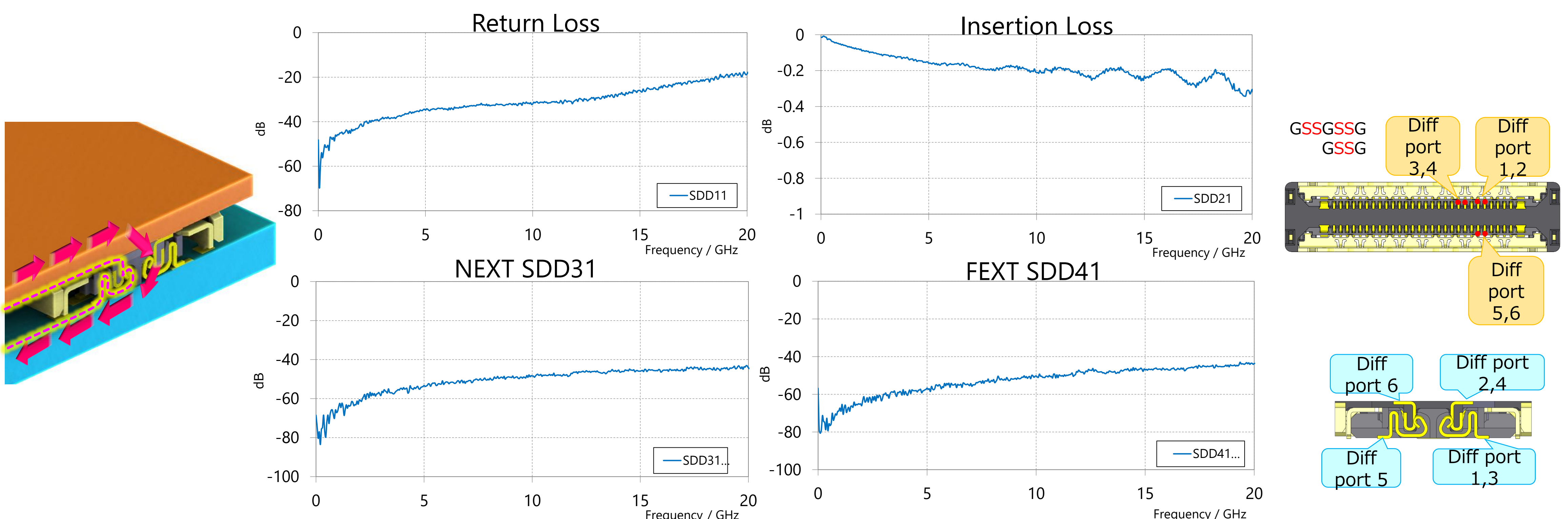


## ► ZenShield® fully-shielded with multi-point grounds to prevent EMI leakage

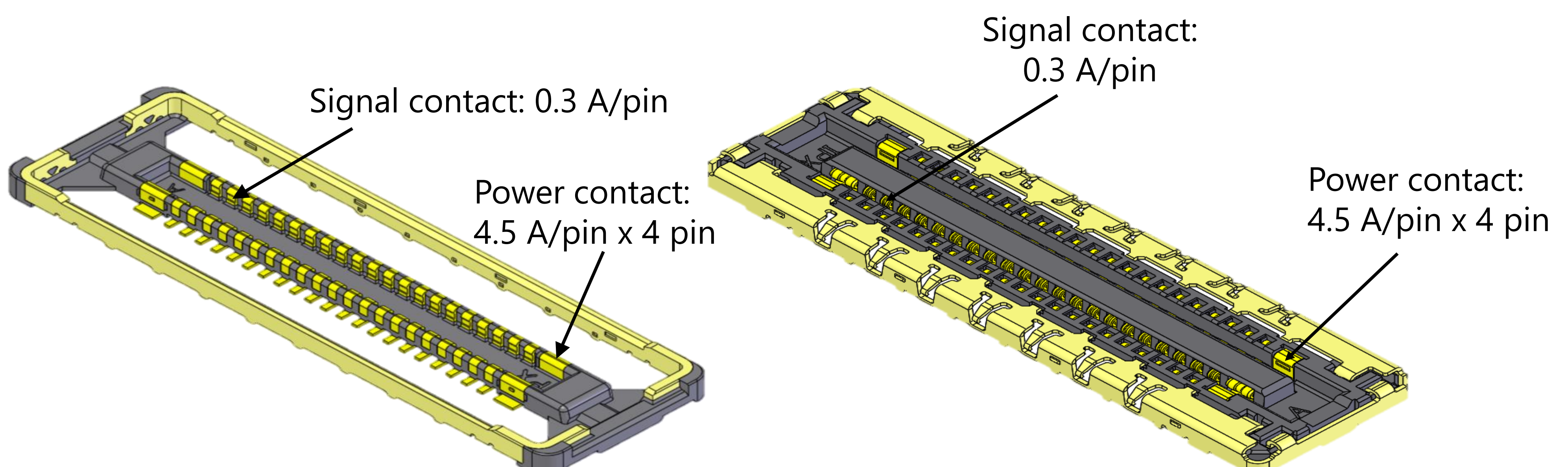
### ○ Ground SMT points



## ► Ideal for high-speed transmission e.g. USB4 / Thunderbolt 4 (40 Gbps / lane)



## ► 4.5 A power pin x 4 for power delivery



# Component Parts Detail

## Plug Assembly

| Recommended P/N | 20697-0**E-01 |
|-----------------|---------------|
|-----------------|---------------|

| PART No.      | SIGNAL POS. | POWER POS. | A     | B     | C     | D     | E     |
|---------------|-------------|------------|-------|-------|-------|-------|-------|
| 20697-016E-01 | 16P         | 4P         | 7.69  | 5.89  | 3.50  | 2.45  | 7.09  |
| 20697-028E-01 | 28P         | 4P         | 9.79  | 7.99  | 5.60  | 4.55  | 9.19  |
| 20697-034E-01 | 34P         | 4P         | 10.84 | 9.04  | 6.65  | 5.60  | 10.24 |
| 20697-042E-01 | 42P         | 4P         | 12.24 | 10.44 | 8.05  | 7.00  | 11.64 |
| 20697-056E-01 | 56P         | 4P         | 14.69 | 12.89 | 10.50 | 9.45  | 14.09 |
| 20697-062E-01 | 62P         | 4P         | 15.74 | 13.94 | 11.55 | 10.50 | 15.14 |

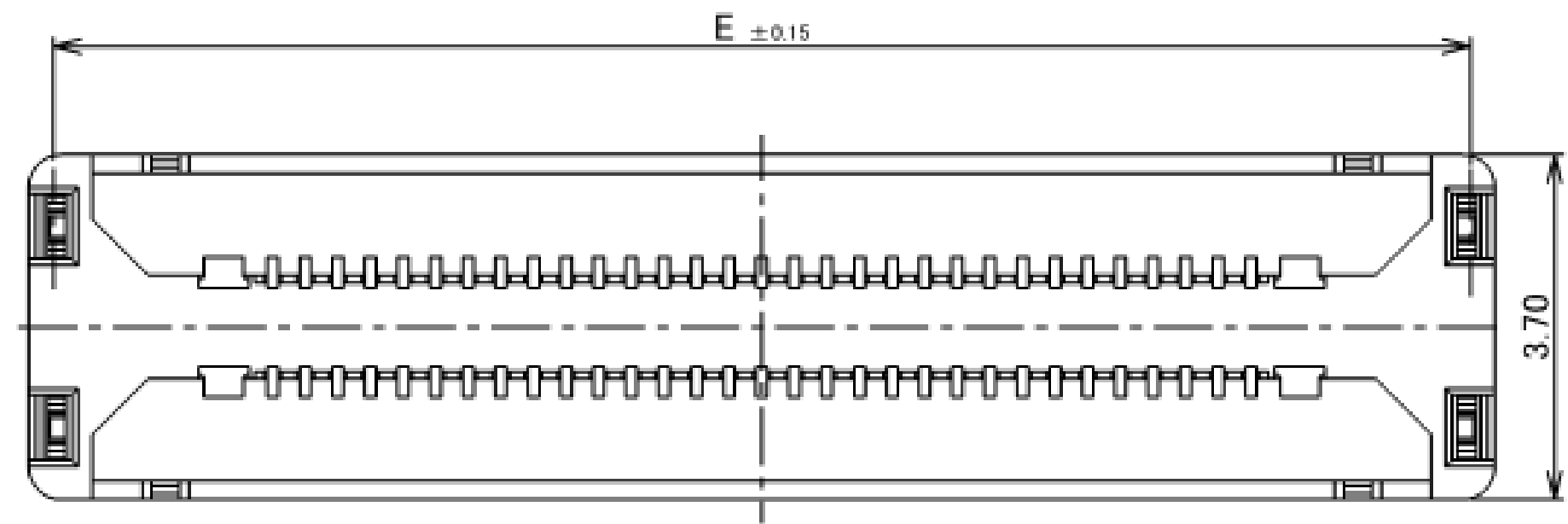
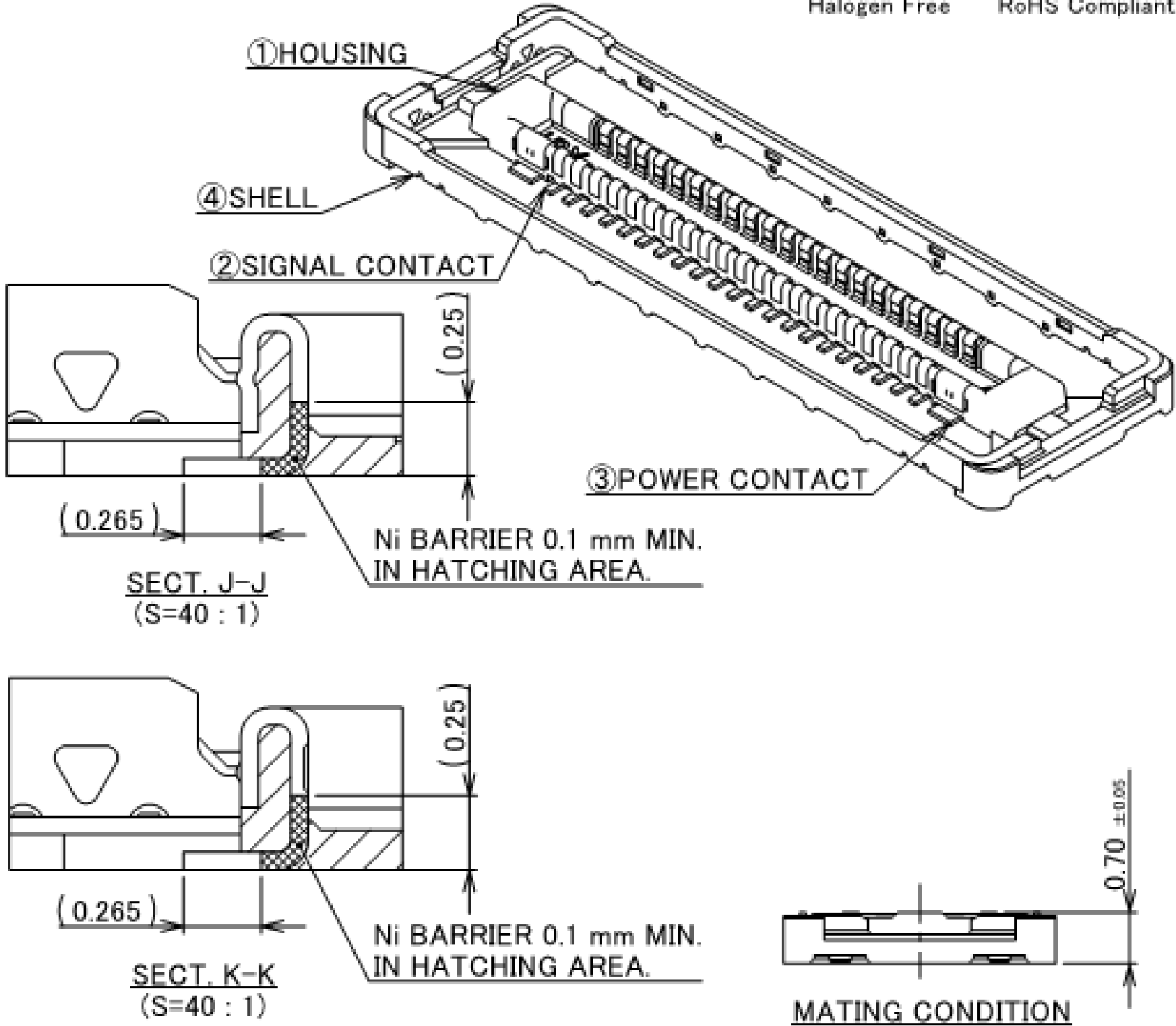
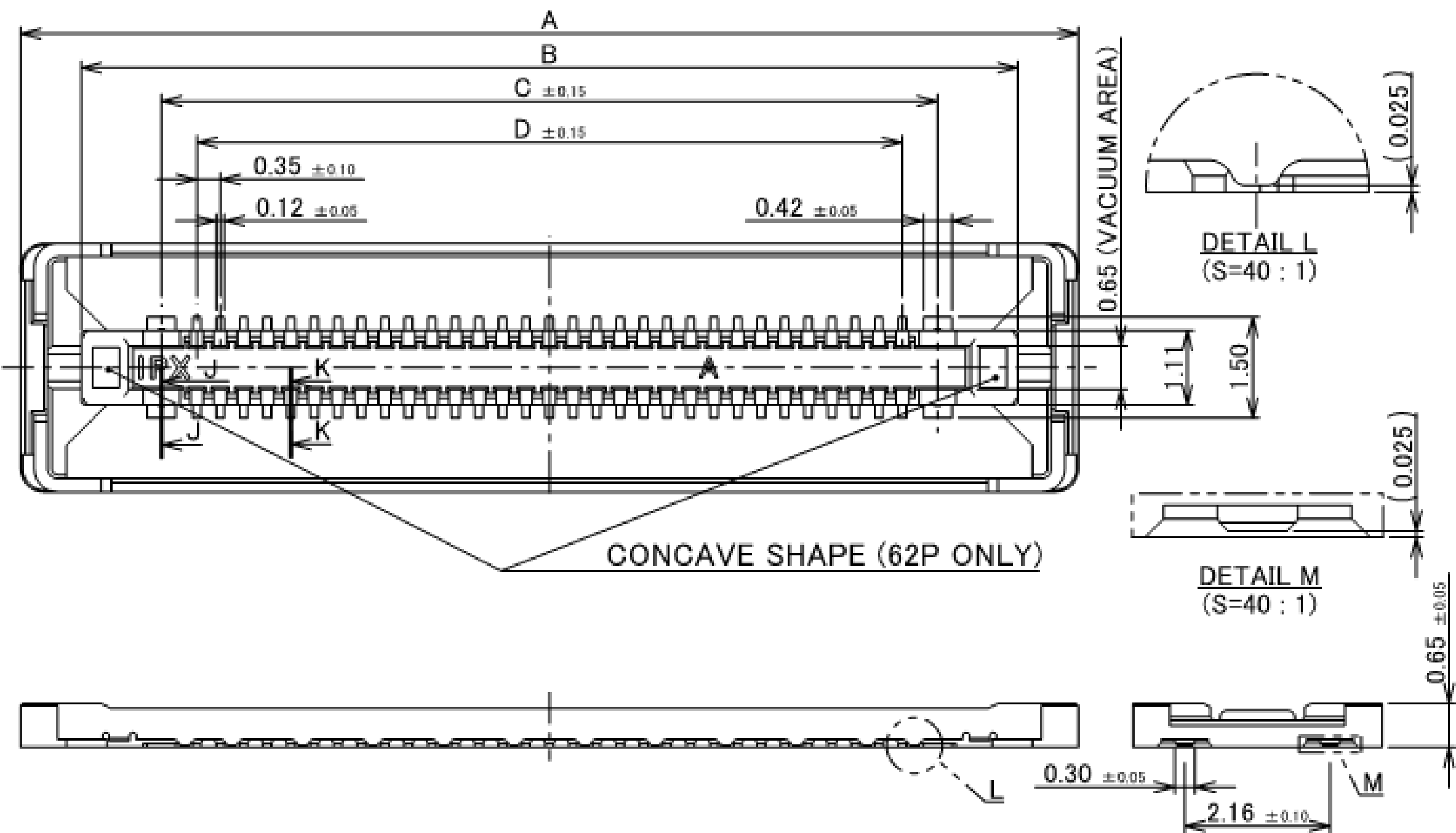
20697-0\*\*E-01  
Pos.



Halogen Free



RoHS Compliant

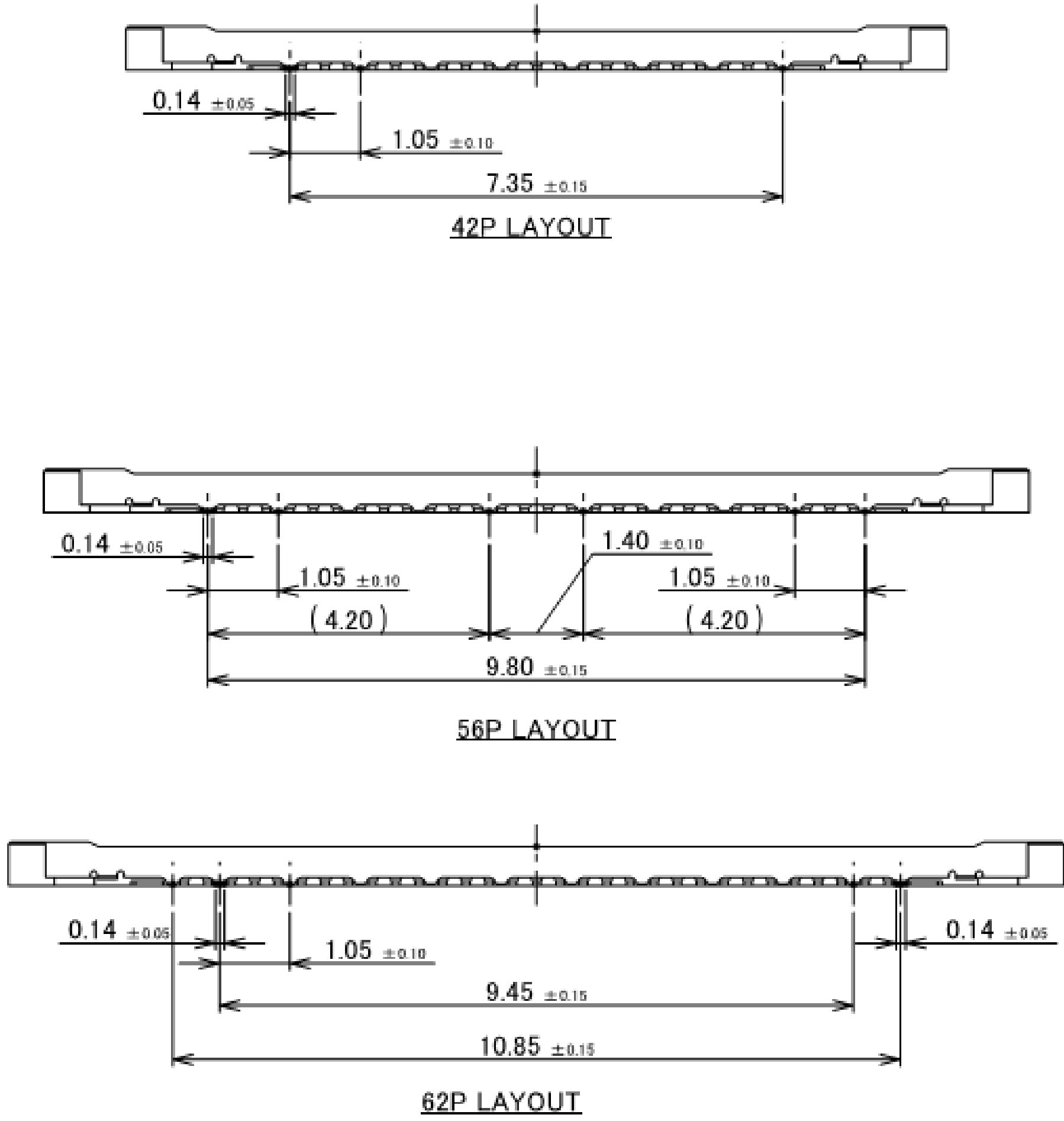
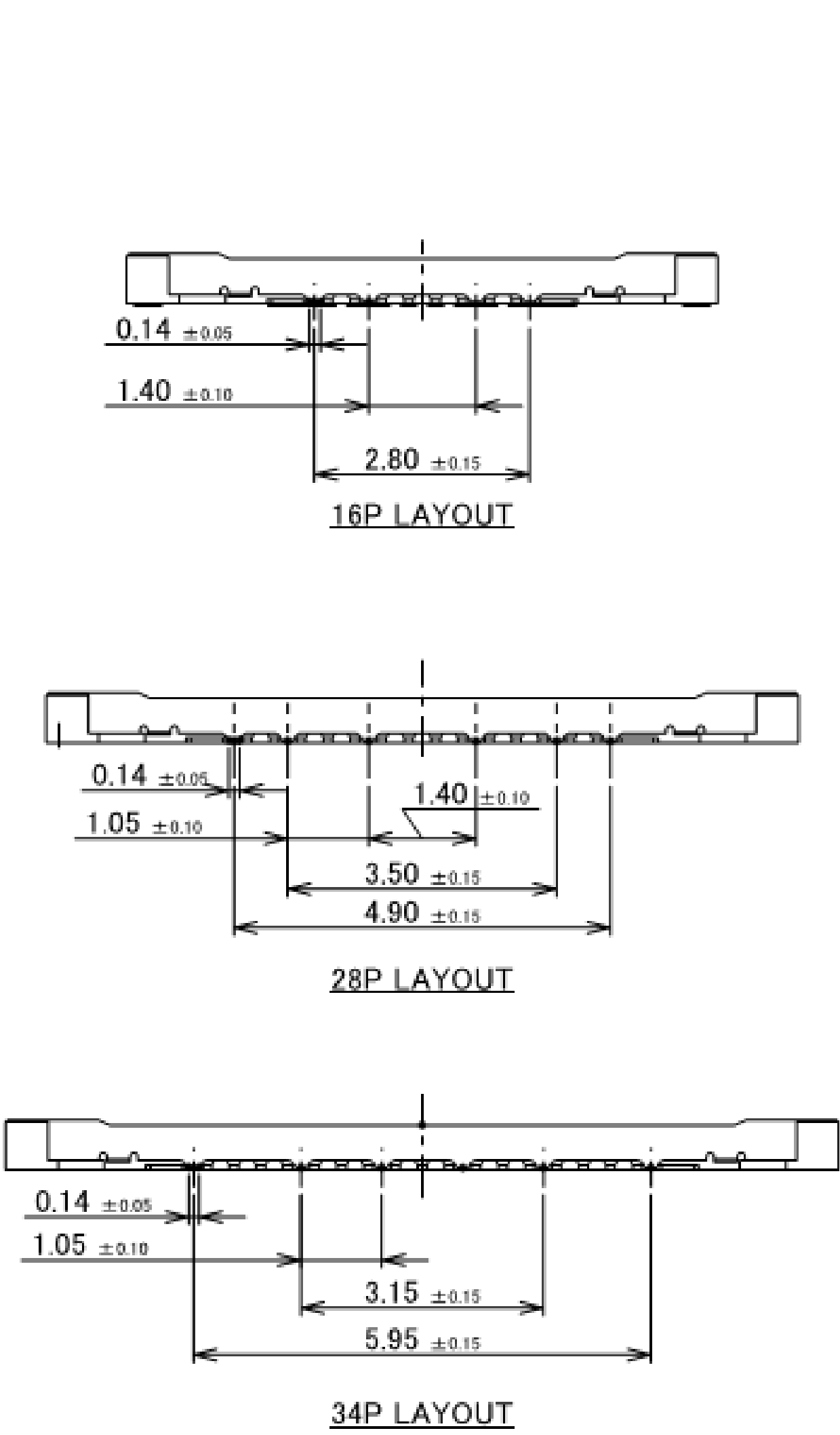


| NO. | DISCRIPTION    | MATERIAL        | FINISH , REMARKS                                                                                          |
|-----|----------------|-----------------|-----------------------------------------------------------------------------------------------------------|
| 4   | SHELL          | PHOSPHOR BRONZE | ALL OVER Ni 1.27 $\mu$ m MIN.<br>Au 0.01 $\mu$ m MIN.                                                     |
| 3   | POWER CONTACT  | CORSON ALLOY    | ALL OVER Ni 1.27 $\mu$ m MIN.<br>CONTACT PART Au 0.05 $\mu$ m MIN.<br>SOLDERING PART Au 0.02 $\mu$ m MIN. |
| 2   | SIGNAL CONTACT | CORSON ALLOY    | ALL OVER Ni 1.27 $\mu$ m MIN.<br>CONTACT PART Au 0.05 $\mu$ m MIN.<br>SOLDERING PART Au 0.02 $\mu$ m MIN. |
| 1   | HOUSING        | LCP             | UL94V-0, BLACK                                                                                            |

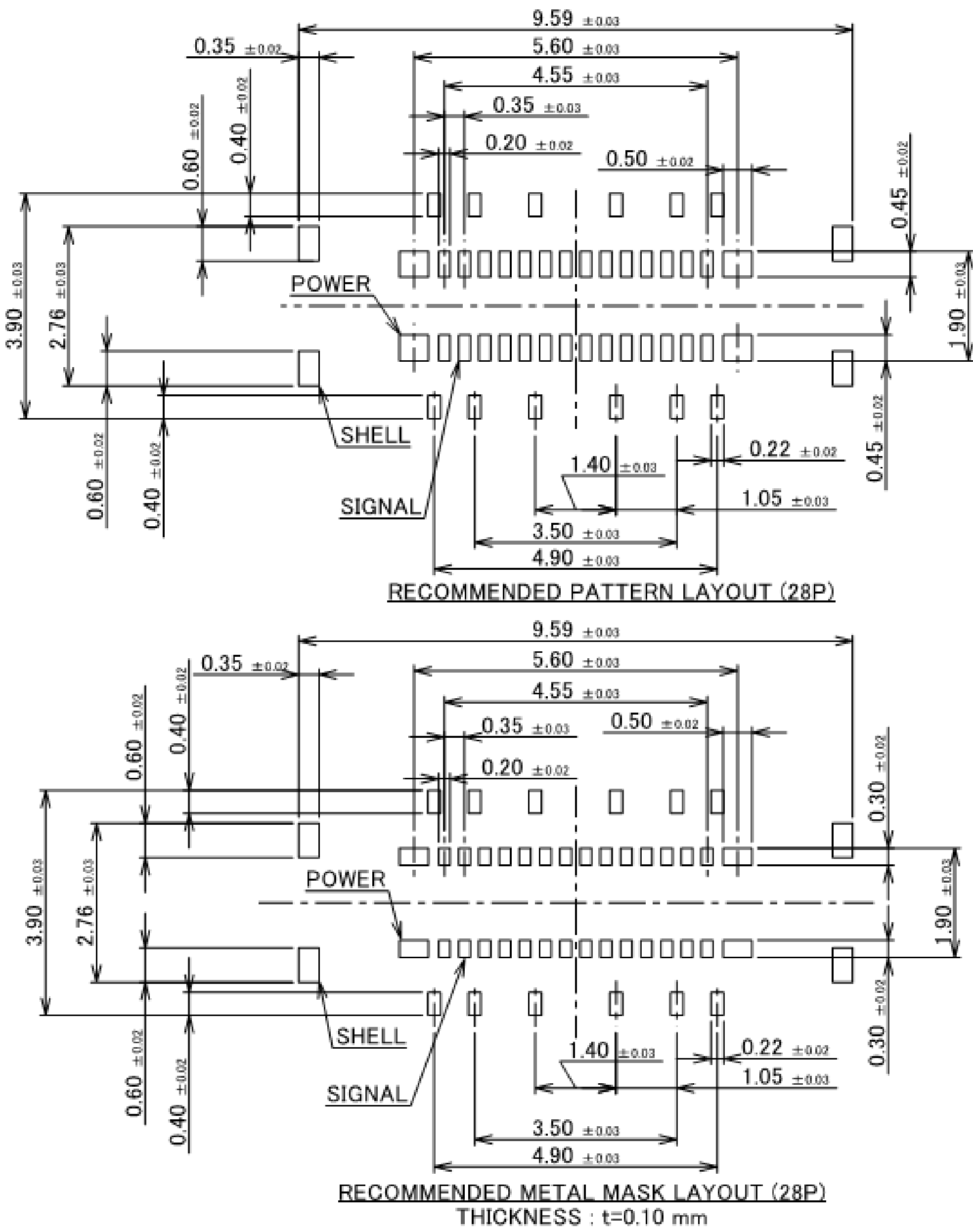
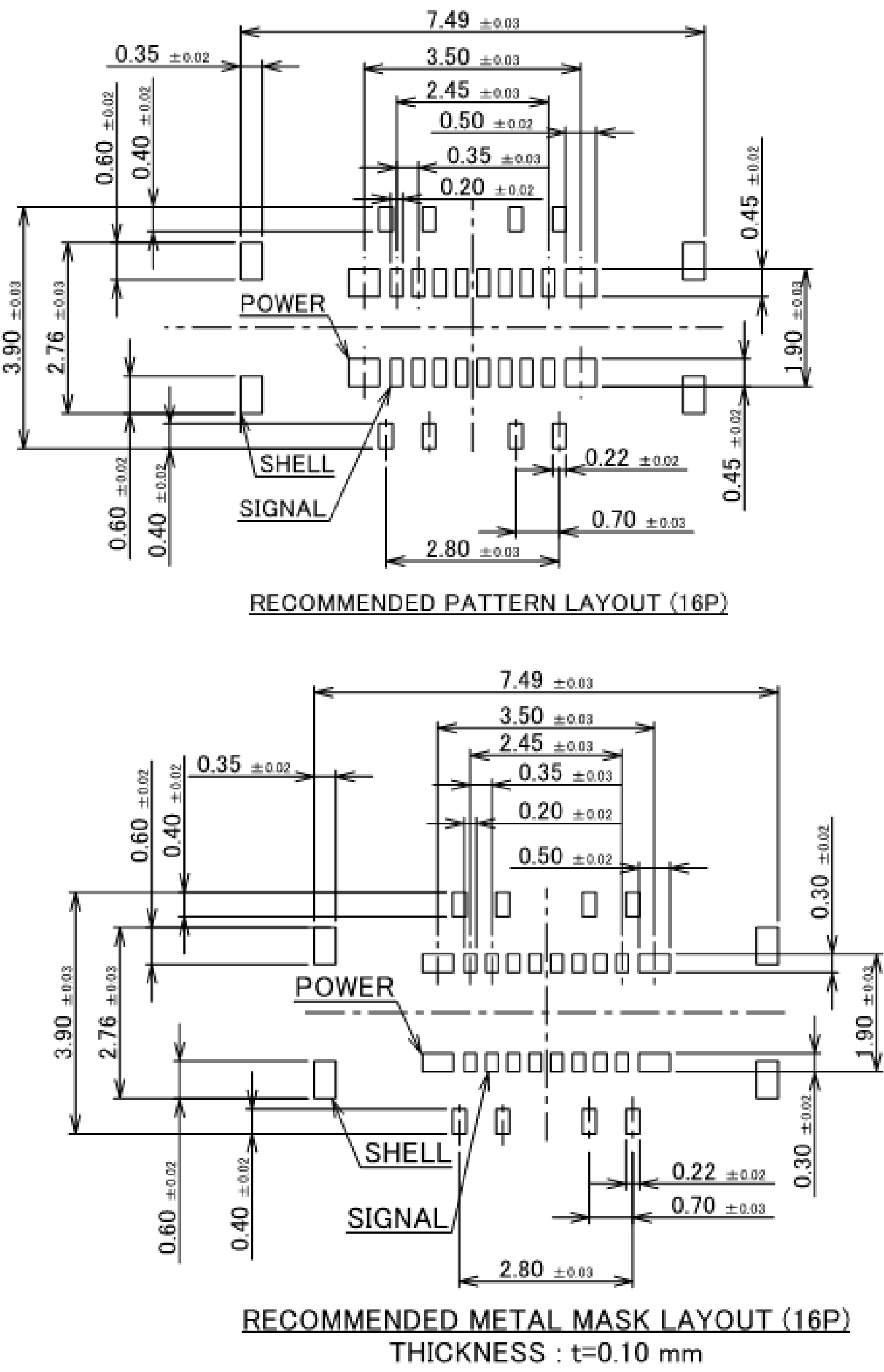
Plug Assembly

| PART No.      | SIGNAL POS. | POWER POS. |
|---------------|-------------|------------|
| 20697-016E-01 | 16P         | 4P         |
| 20697-028E-01 | 28P         | 4P         |
| 20697-034E-01 | 34P         | 4P         |
| 20697-042E-01 | 42P         | 4P         |
| 20697-056E-01 | 56P         | 4P         |
| 20697-062E-01 | 62P         | 4P         |

20697-0\*\*E-01  
Pos.

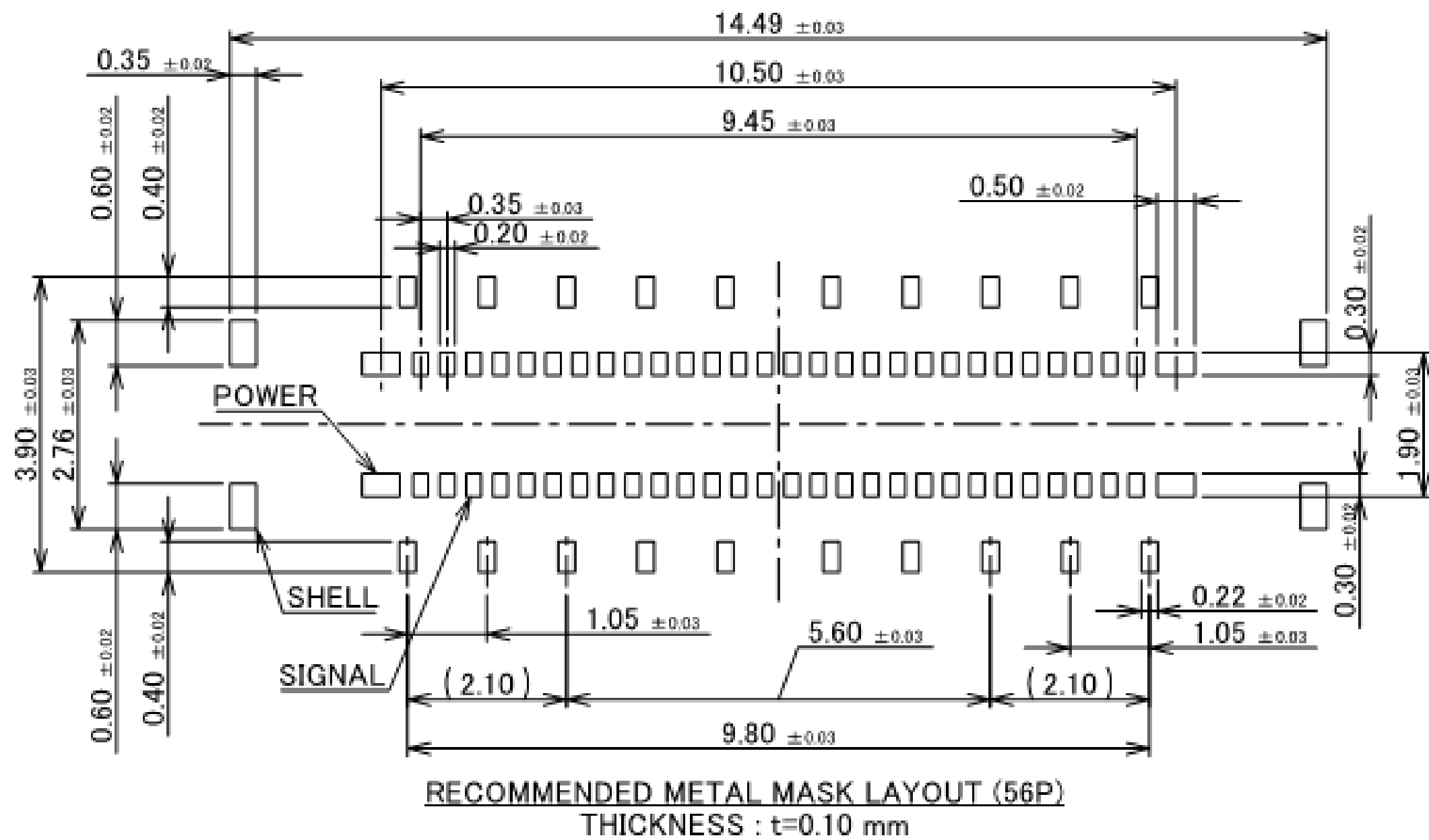
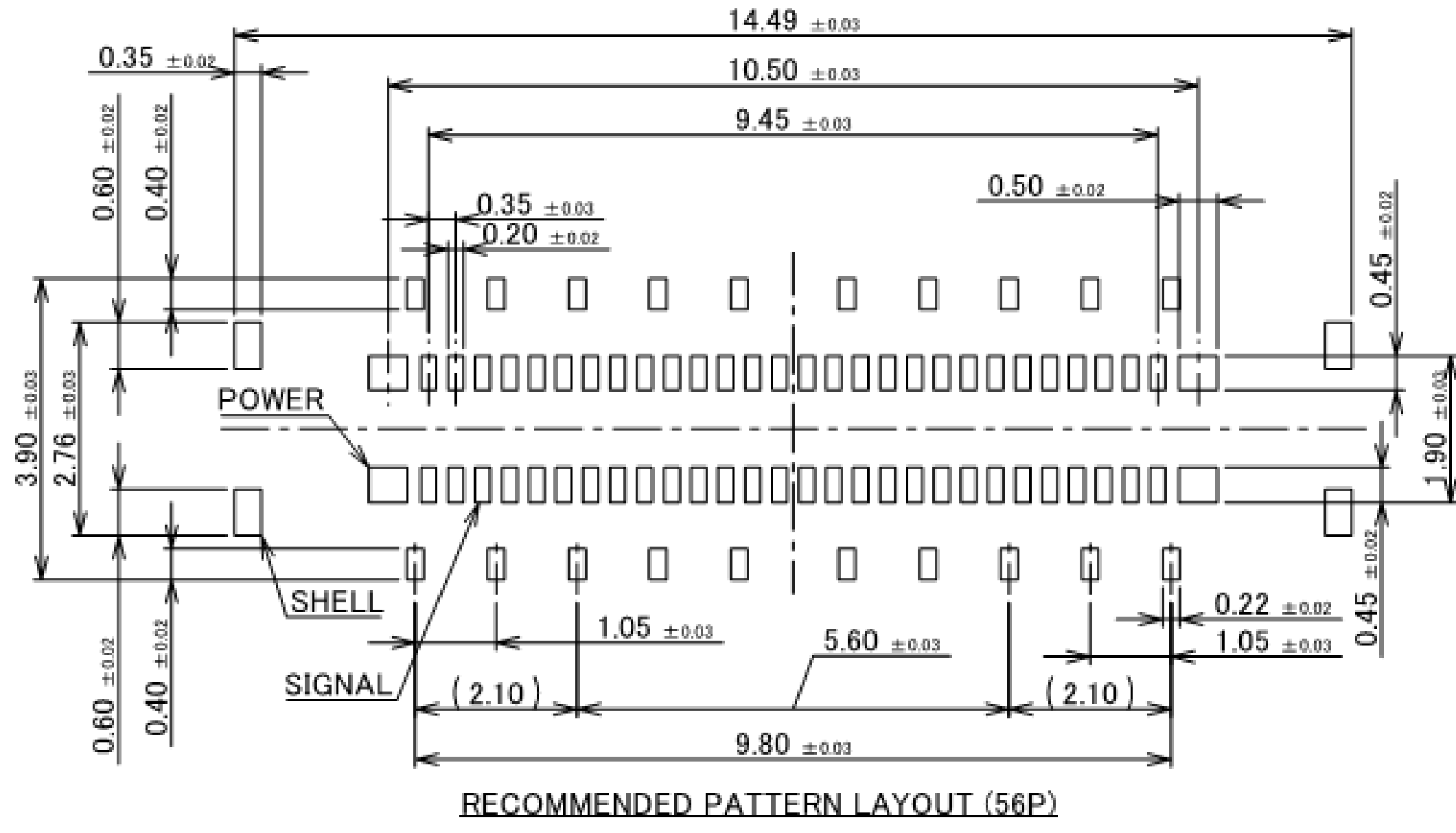
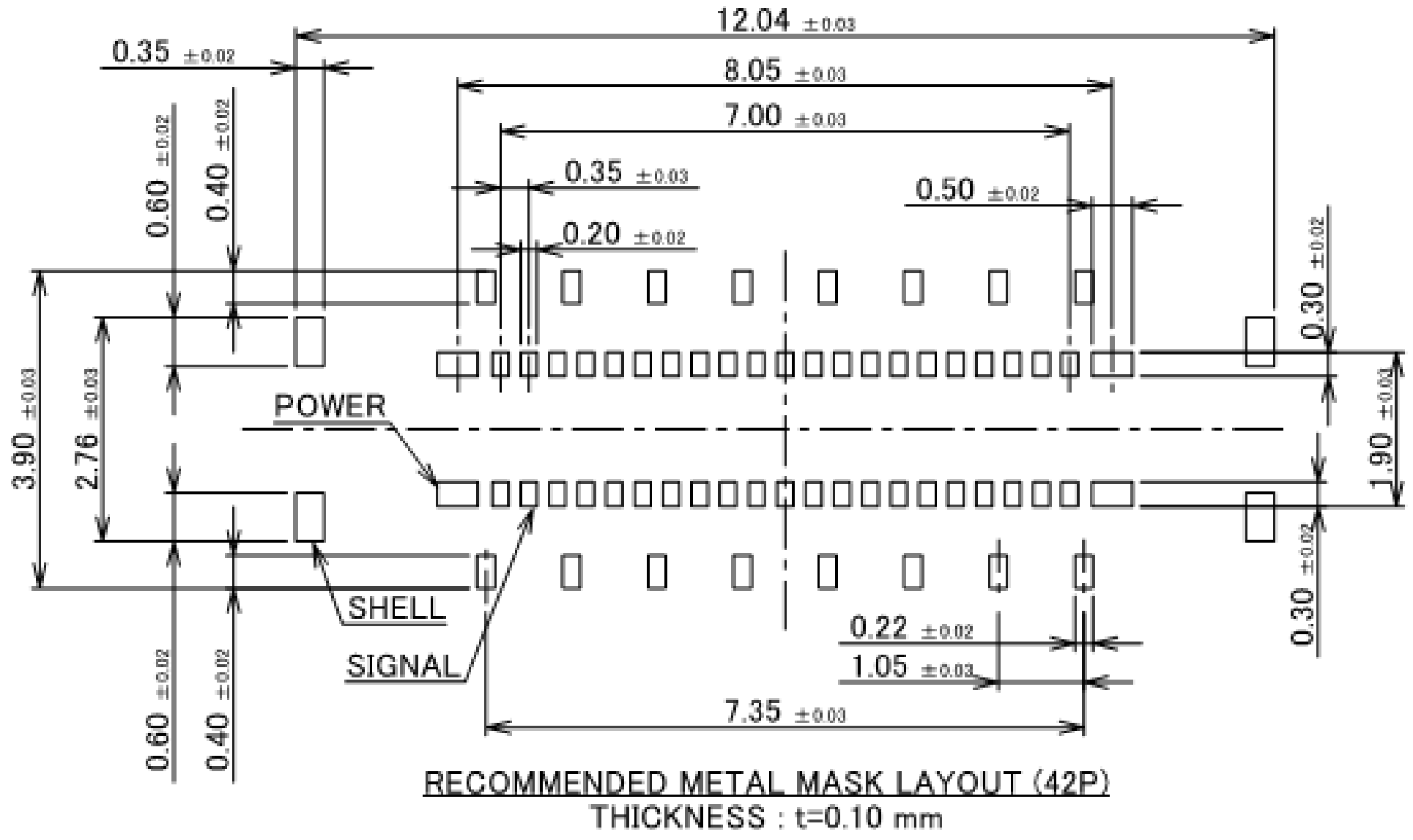
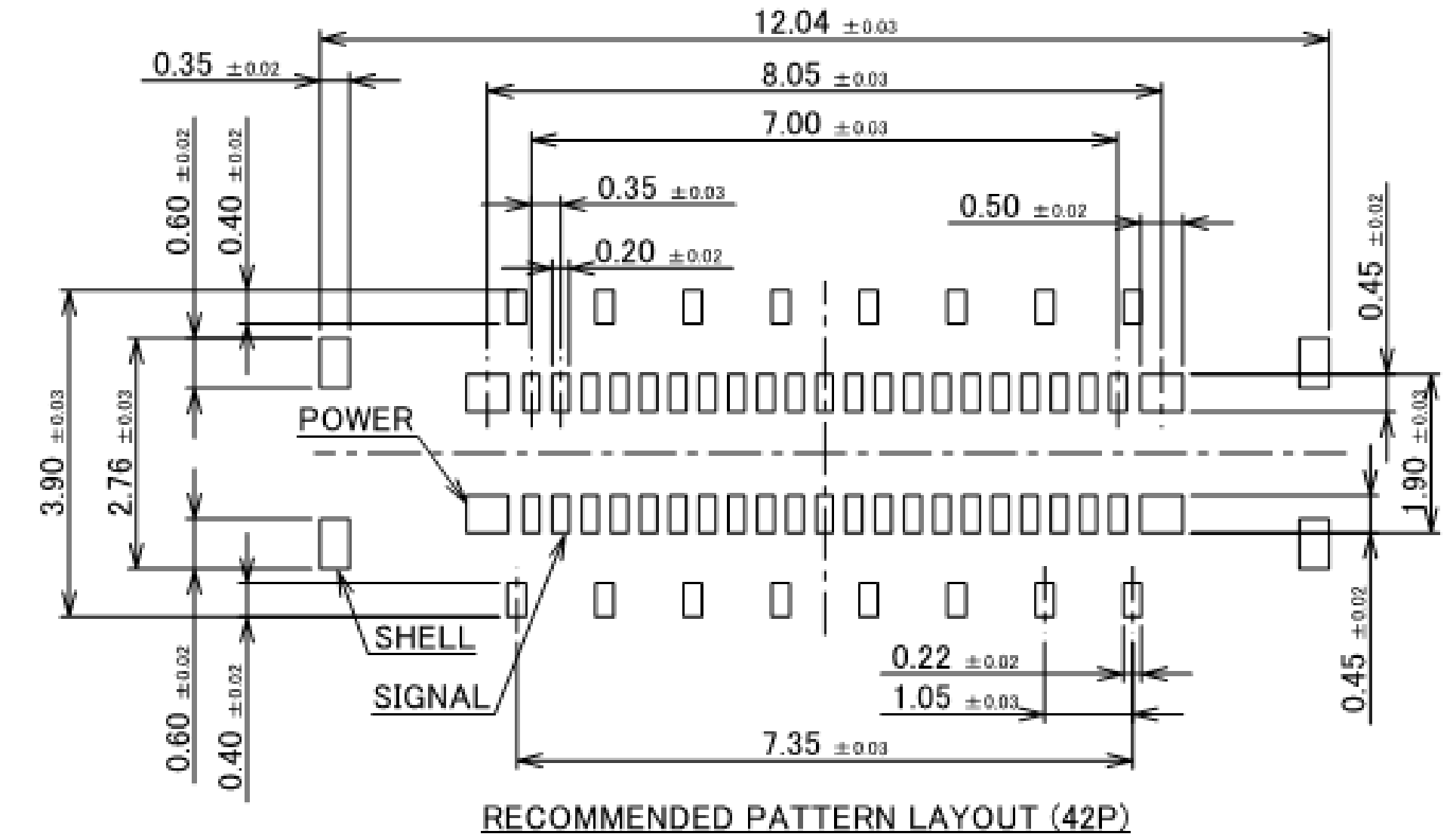
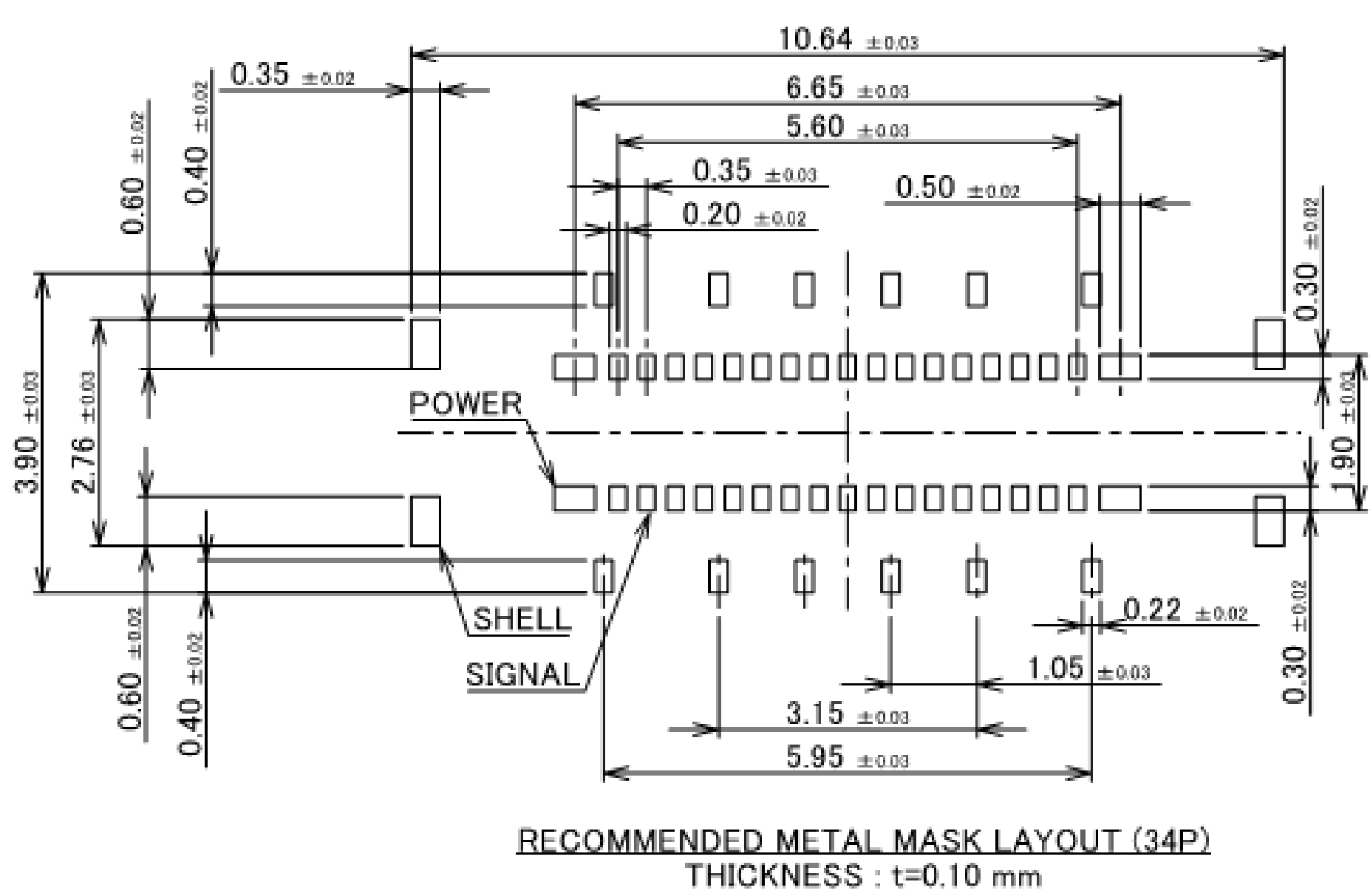
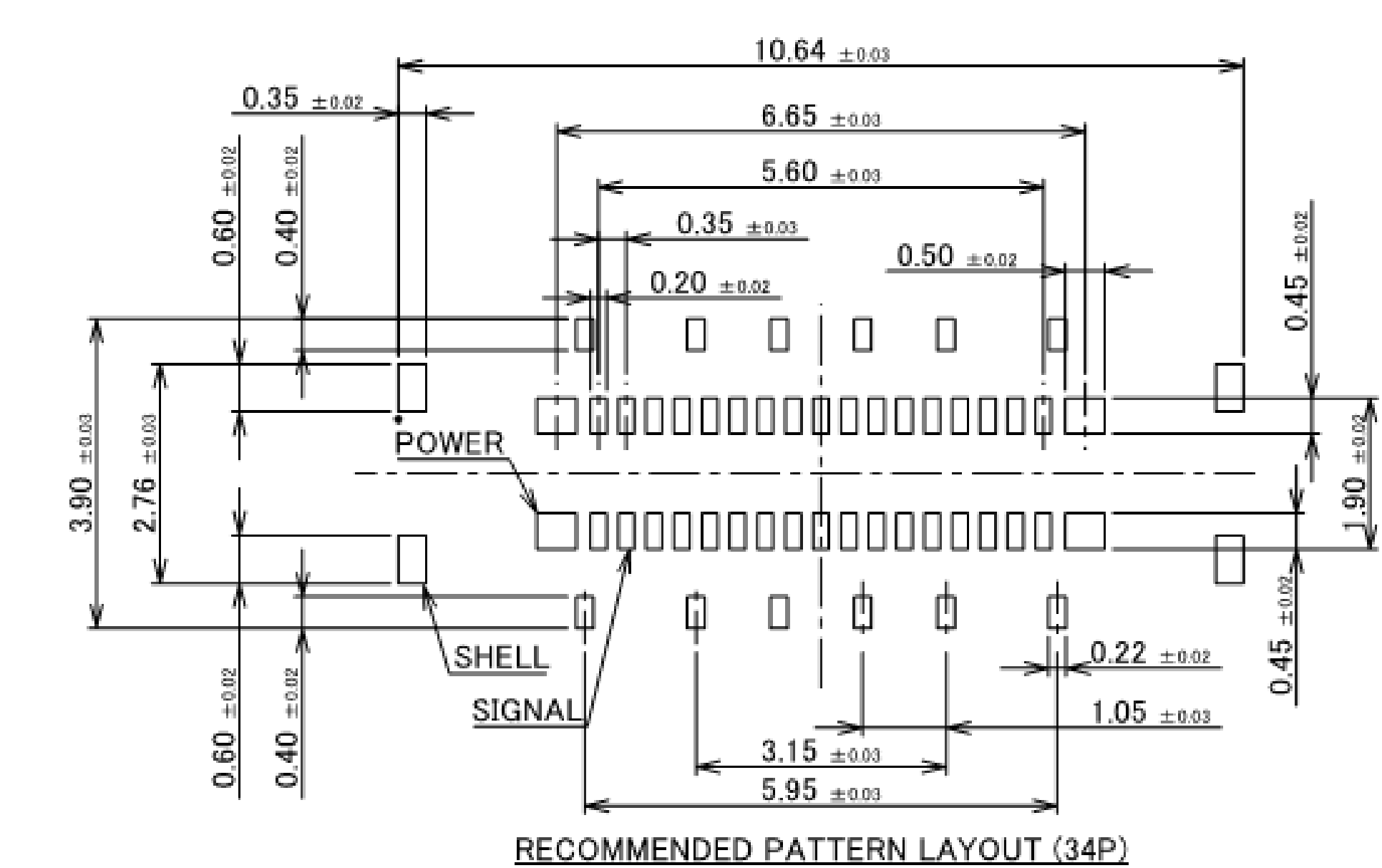


Rev.14



Rev.14

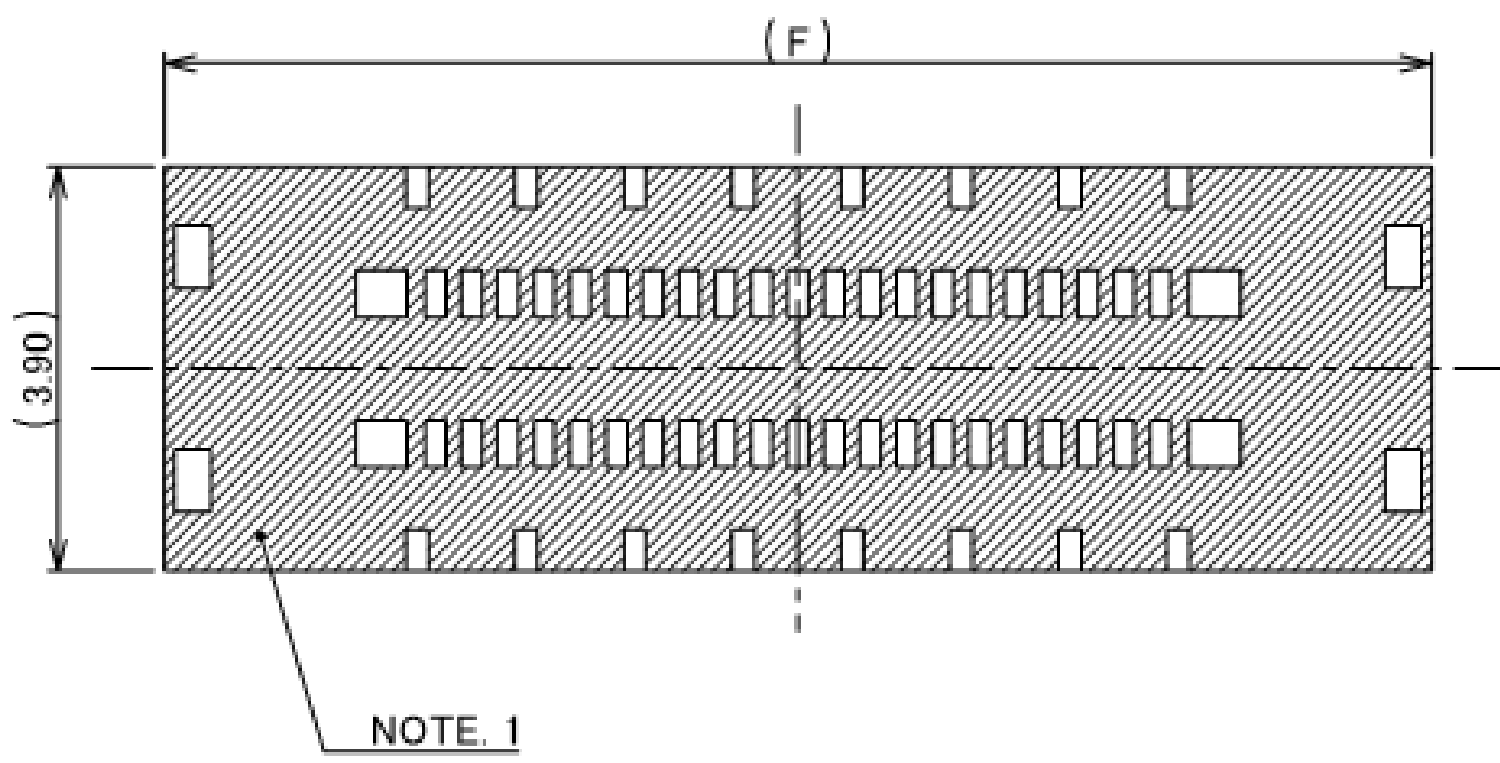
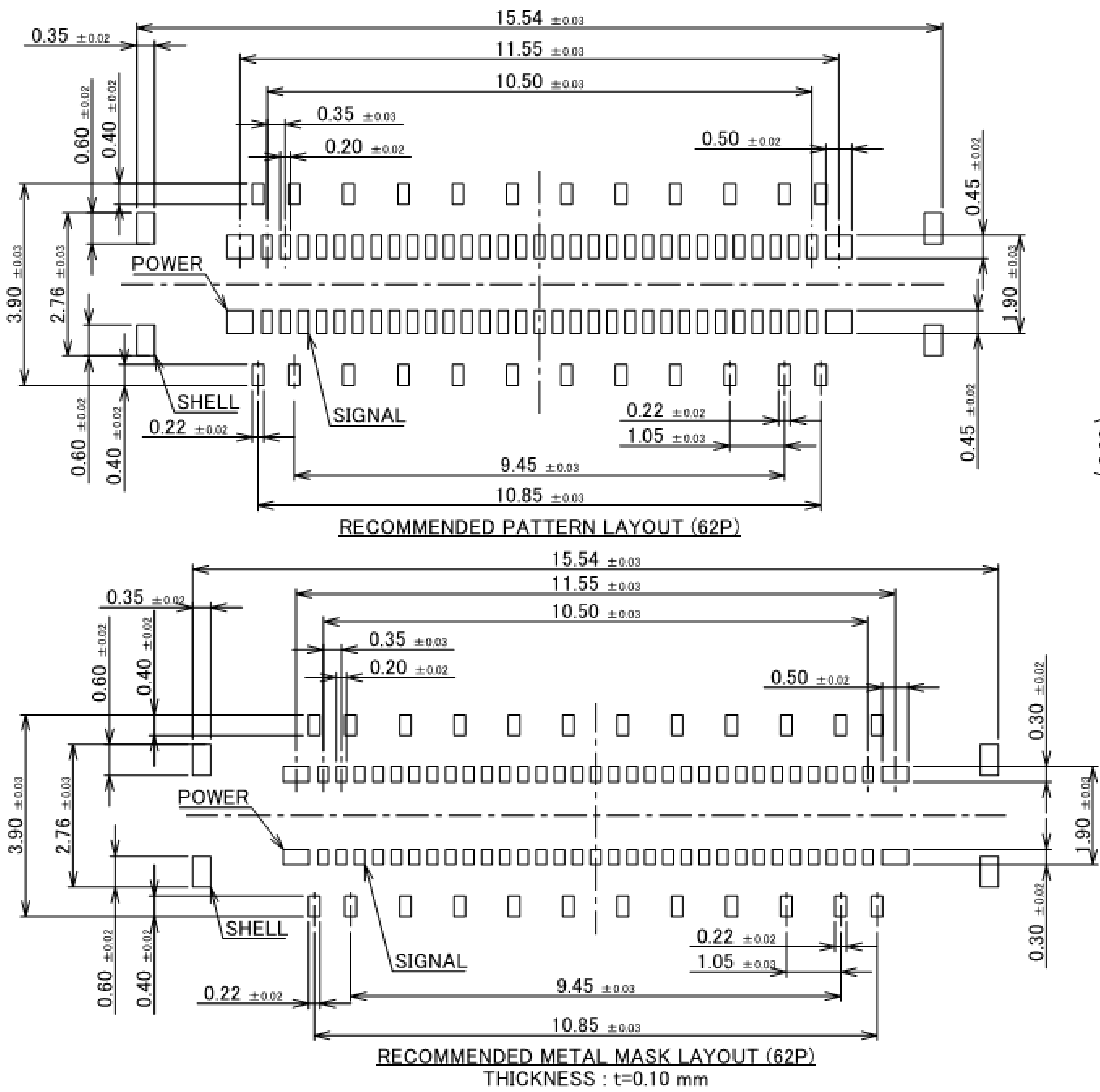
Plug Assembly



Plug Assembly

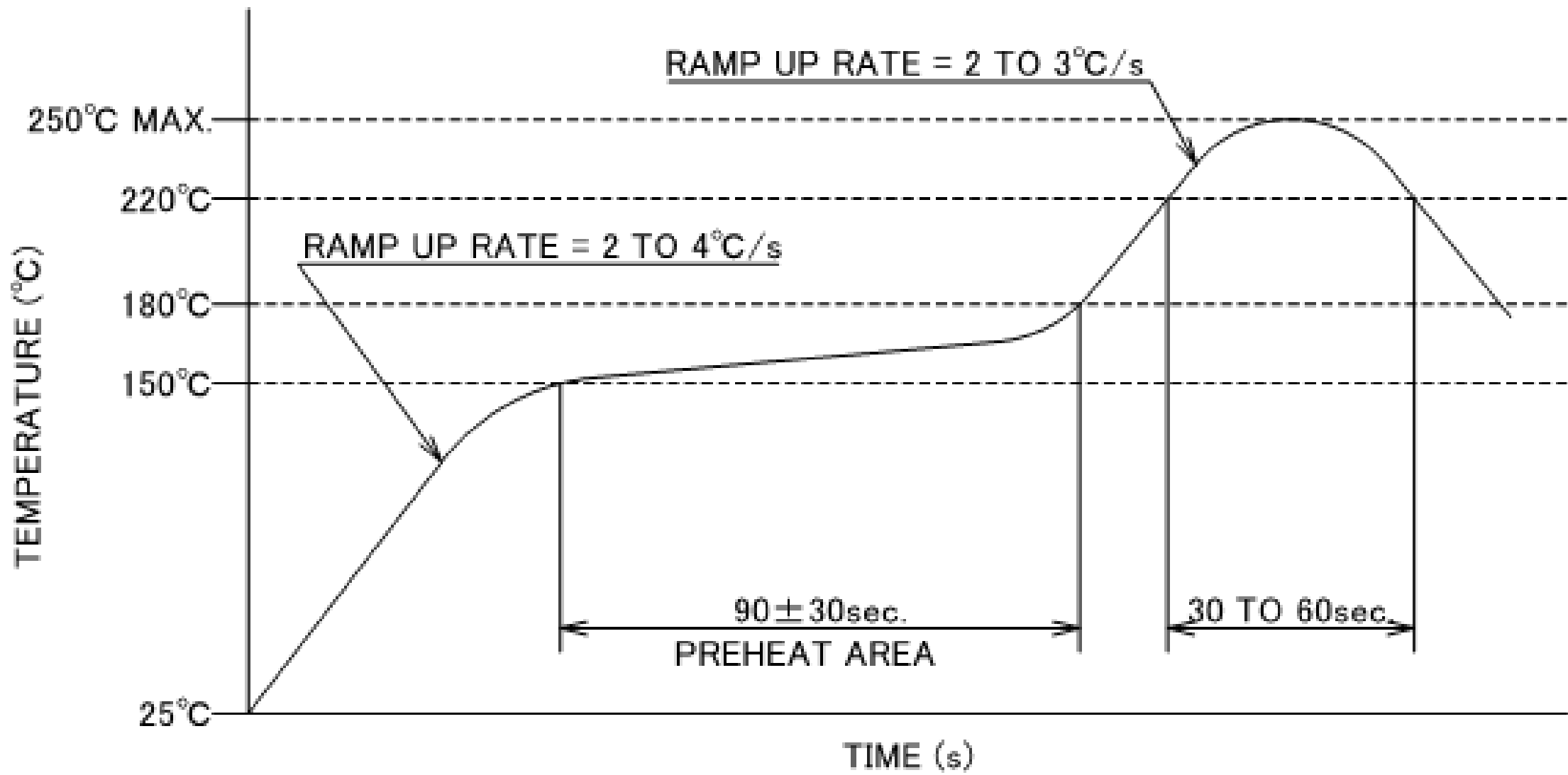
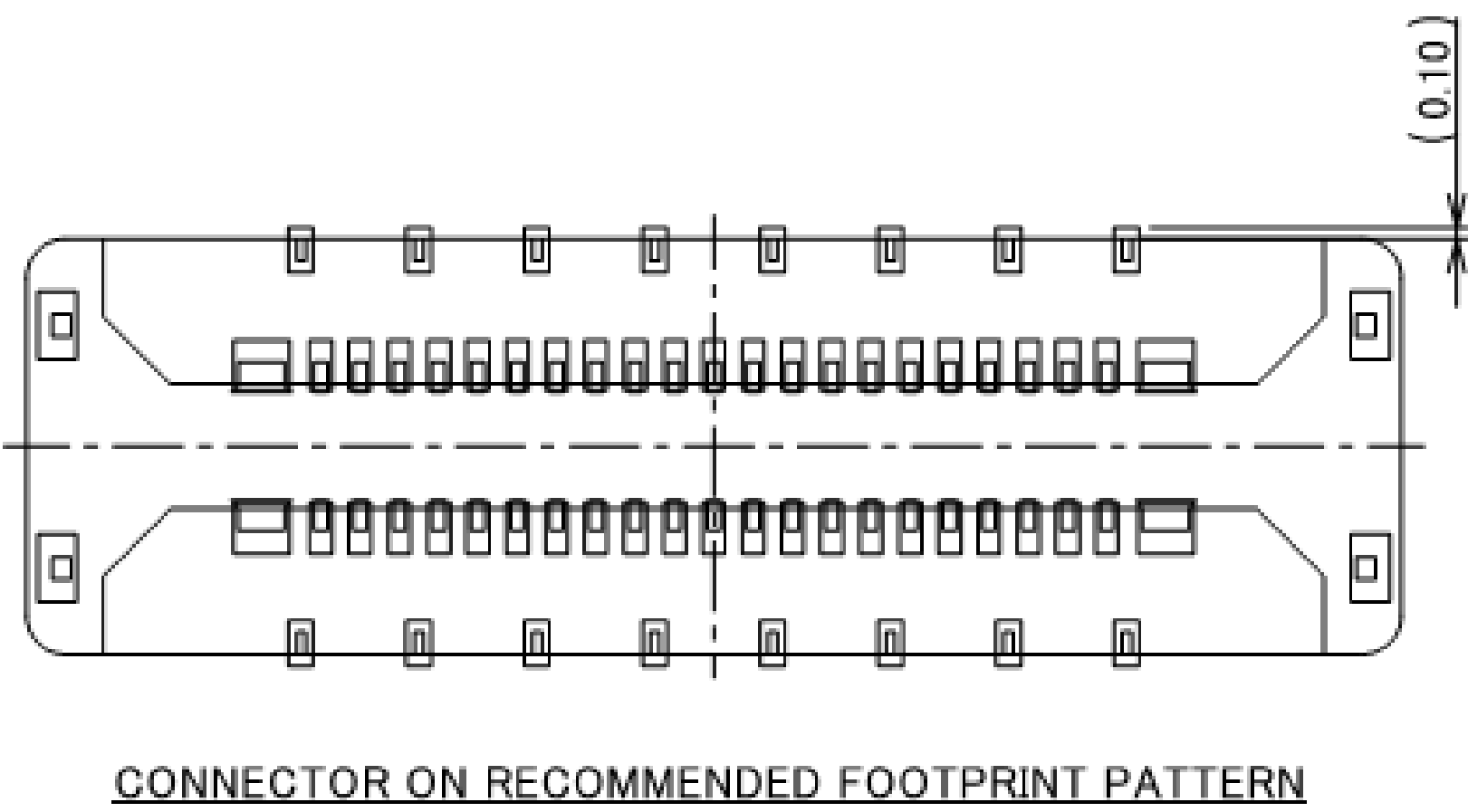
| PART No.      | SIGNAL POS. | POWER POS. | F     |
|---------------|-------------|------------|-------|
| 20697-016E-01 | 16P         | 4P         | 7.99  |
| 20697-028E-01 | 28P         | 4P         | 10.09 |
| 20697-034E-01 | 34P         | 4P         | 11.14 |
| 20697-042E-01 | 42P         | 4P         | 12.54 |
| 20697-056E-01 | 56P         | 4P         | 14.99 |
| 20697-062E-01 | 62P         | 4P         | 16.04 |

20697-0\*\*E-01  
Pos.



NOTES.  
1. THIS AREA CANNOT MOUNT ANOTHER COMPONENTS.

Rev.14



SENJU METAL INDUSTRY CO., LTD. : M705-SHF(Sn96.5 Ag3.0 Cu0.5)

Rev.14

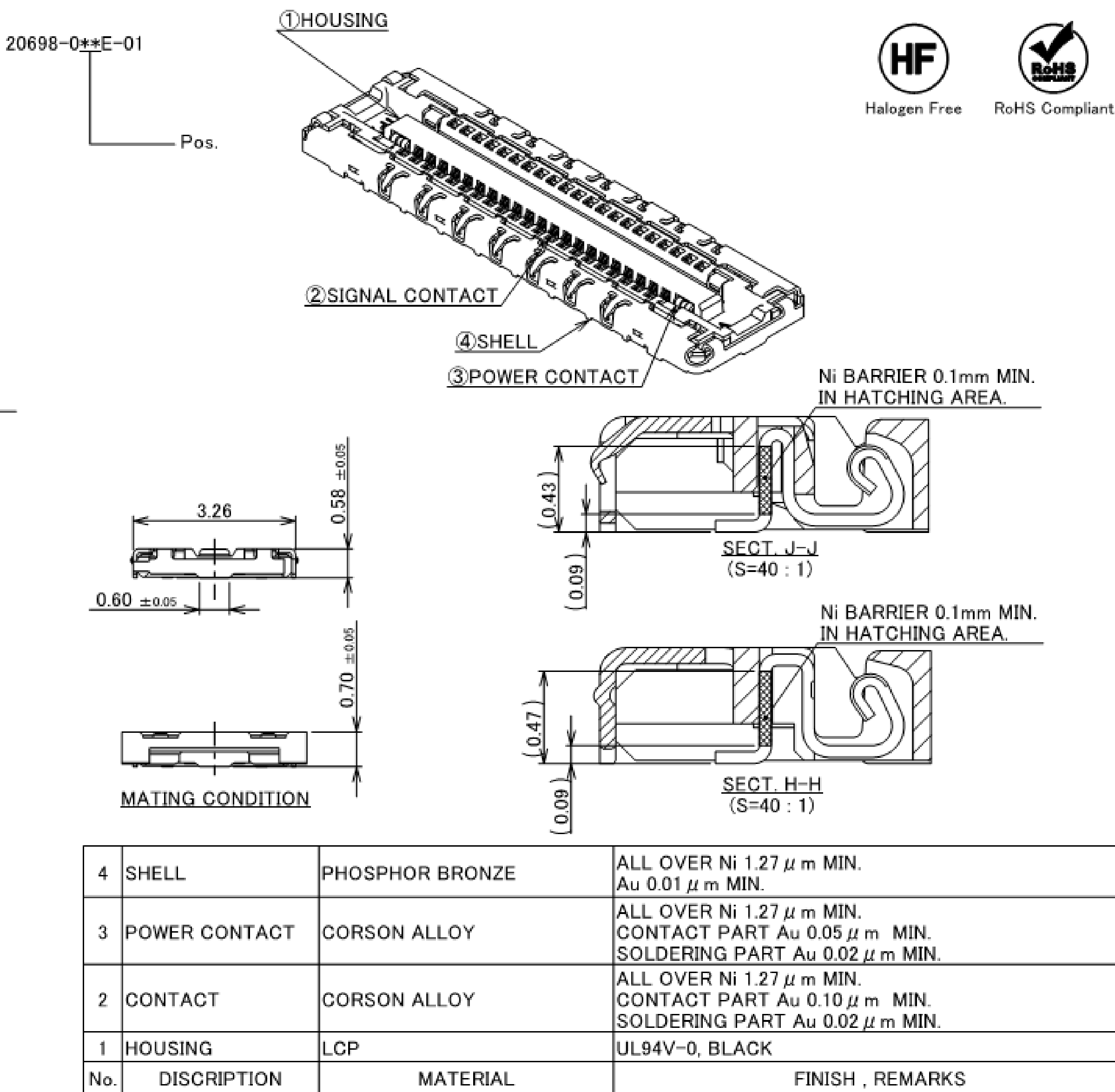
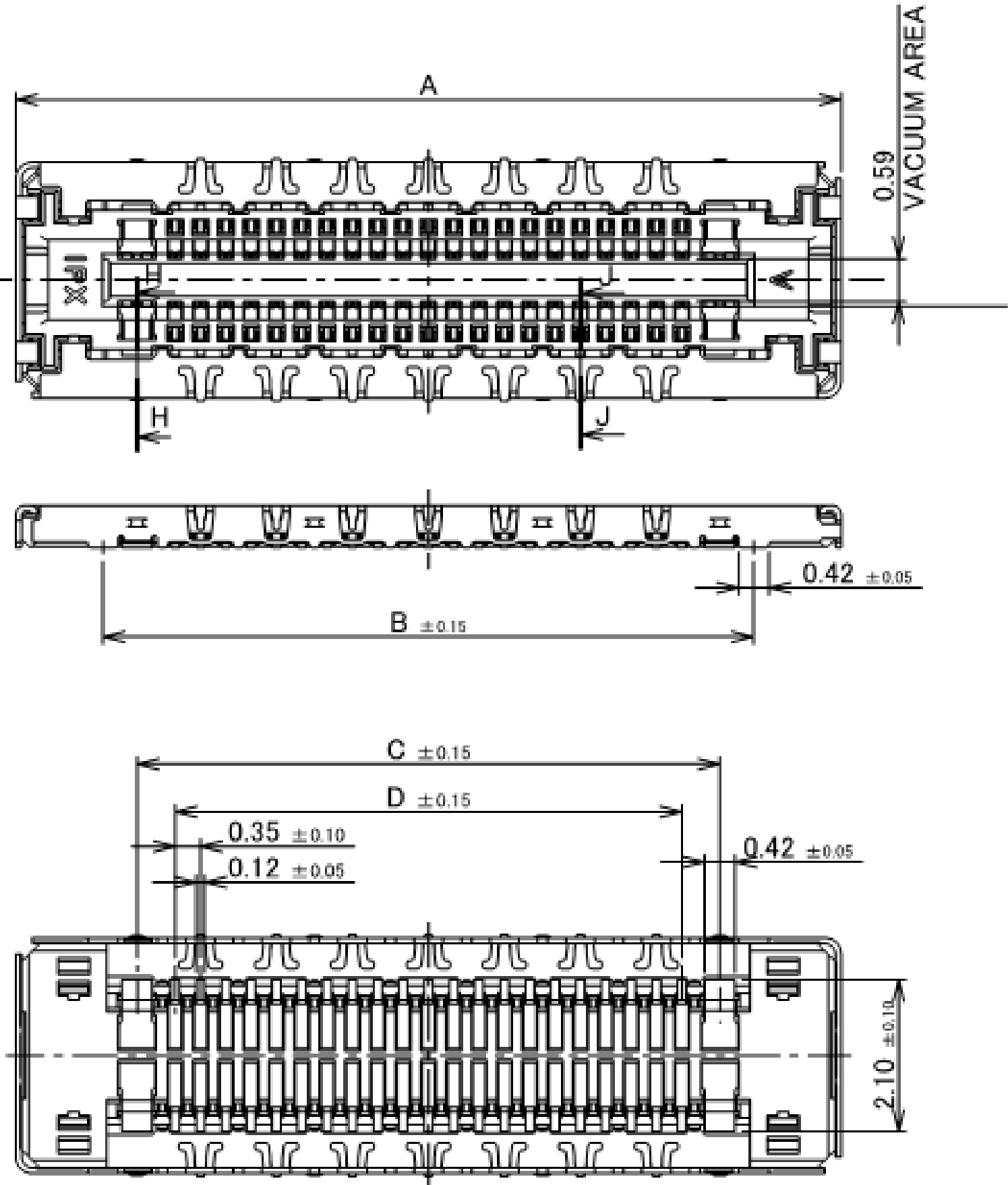
Plug Assembly

| ITEMS                                   | SPECIFICATION                                                                                                        |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| APPLICABLE CONNECTOR PART No.           | 20698-0**E-01                                                                                                        |
| RATED VOLTAGE                           | 60V AC (PER CONTACT PIN)                                                                                             |
| RATED AMPERAGE (FOR SIGNAL CONTACT)     | 0.3A AC/DC (PER CONTACT PIN)/ 12.0A AC/DC(TOTAL)                                                                     |
| RATED AMPERAGE (FOR POWER CONTACT)      | 4.5A AC/DC (PER CONTACT PIN)/ 18.0A AC/DC(TOTAL)                                                                     |
| OPERATING TEMPERATURE                   | 233~358K(-40°C~+85°C)                                                                                                |
| OPERATING HUMIDITY                      | 85% MAX.                                                                                                             |
| CONTACT RESISTANCE (FOR SIGNAL CONTACT) | INITIAL : 40mohm MAX. / AFTER TEST : $\triangle$ 40mohm MAX.                                                         |
| CONTACT RESISTANCE (FOR POWER CONTACT)  | INITIAL : 20mohm MAX. / AFTER TEST : $\triangle$ 20mohm MAX.                                                         |
| CONTACT RESISTANCE (FOR GROUND)         | INITIAL : 20mohm MAX. / AFTER TEST : $\triangle$ 20mohm MAX.                                                         |
| INSULATION RESISTANCE                   | INITIAL : 1,000Mohm MIN. / AFTER TEST : 500Mohm MIN.                                                                 |
| DIELECTRIC WITHSTANDING VOLTAGE         | AC 250V 1 min                                                                                                        |
| DURABILITY                              | 30 CYCLES                                                                                                            |
| MATING FORCE (INITIAL)                  | 16P: 32.0 N MAX.<br>28P: 32.0 N MAX.<br>34P: 38.0 N MAX.<br>42P: 46.0 N MAX.<br>56P: 60.0 N MAX.<br>62P: 66.0 N MAX. |
| UNMATING FORCE (AFTER TEST)             | 16P: 3.2 N MIN.<br>28P: 3.2 N MIN.<br>34P: 3.8 N MIN.<br>42P: 4.6 N MIN.<br>56P: 6.0 N MIN.<br>62P: 6.6 N MIN.       |
| COPLANARITY                             | CONTACT AND POWER CONTACT : 0.08 MAX.<br>SHELL : 0.105 MAX.                                                          |
| PRODUCT SPECIFICATION                   | PRS-2187                                                                                                             |
| TEST REPORT                             | TR-16014                                                                                                             |
| PACKING STANDARD                        | PST-15083                                                                                                            |
| INSTRUCTION MANUAL                      | HIM-15020                                                                                                            |
| APPEARANCE CRITERIA No.                 | QLS-A***                                                                                                             |

Rev.14

Receptacle Assembly

| Recommended P/N |             | 20698-0**E-01 |       |       |       |       |
|-----------------|-------------|---------------|-------|-------|-------|-------|
| PART No.        | SIGNAL POS. | POWER POS.    | A     | B     | C     | D     |
| 20698-016E-01   | 16P         | 4P            | 6.85  | 4.44  | 3.50  | 2.45  |
| 20698-028E-01   | 28P         | 4P            | 8.95  | 6.54  | 5.60  | 4.55  |
| 20698-034E-01   | 34P         | 4P            | 10.00 | 7.59  | 6.65  | 5.60  |
| 20698-042E-01   | 42P         | 4P            | 11.40 | 8.99  | 8.05  | 7.00  |
| 20698-056E-01   | 56P         | 4P            | 13.85 | 11.44 | 10.50 | 9.45  |
| 20698-062E-01   | 62P         | 4P            | 14.90 | 12.49 | 11.55 | 10.50 |

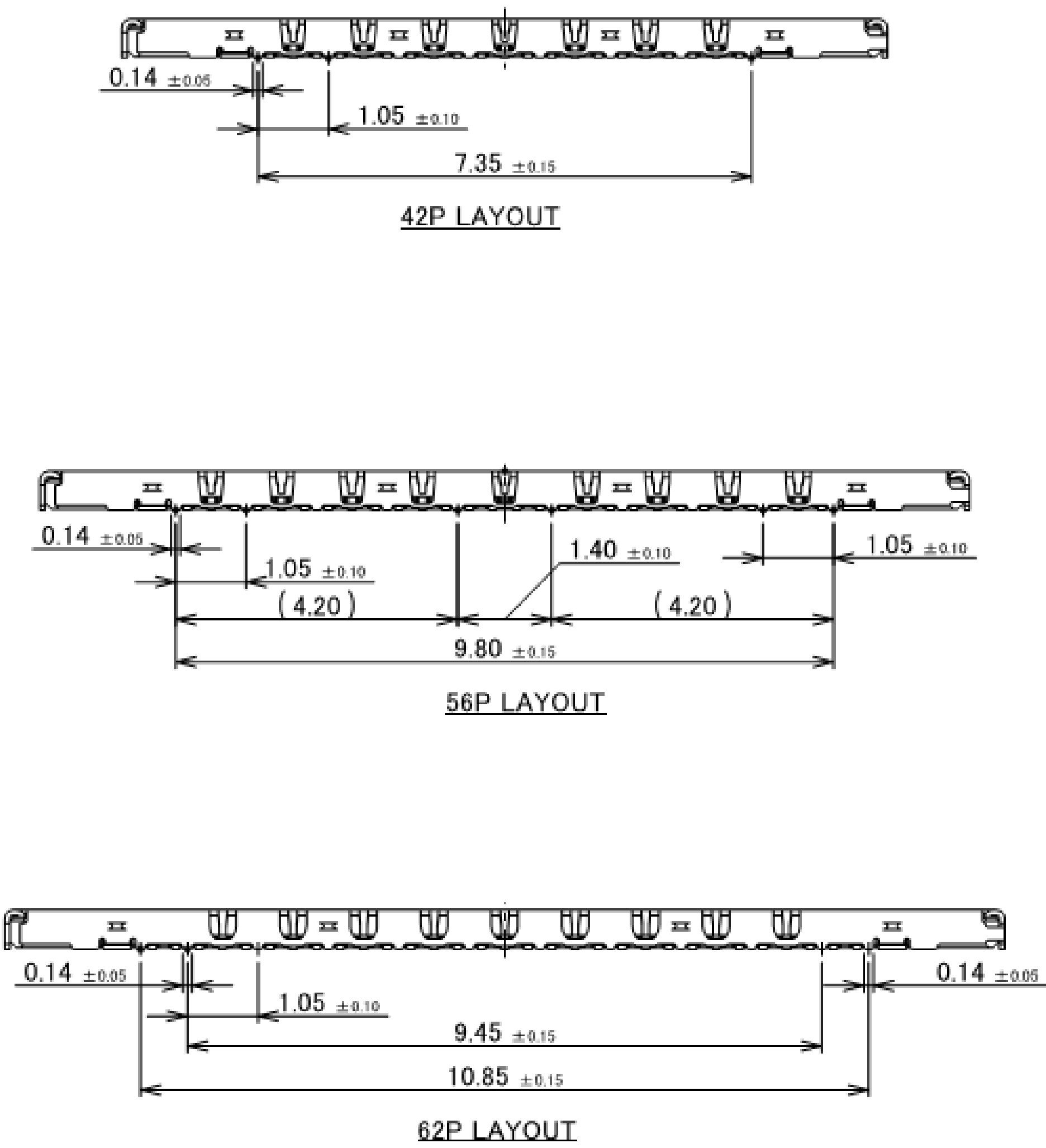
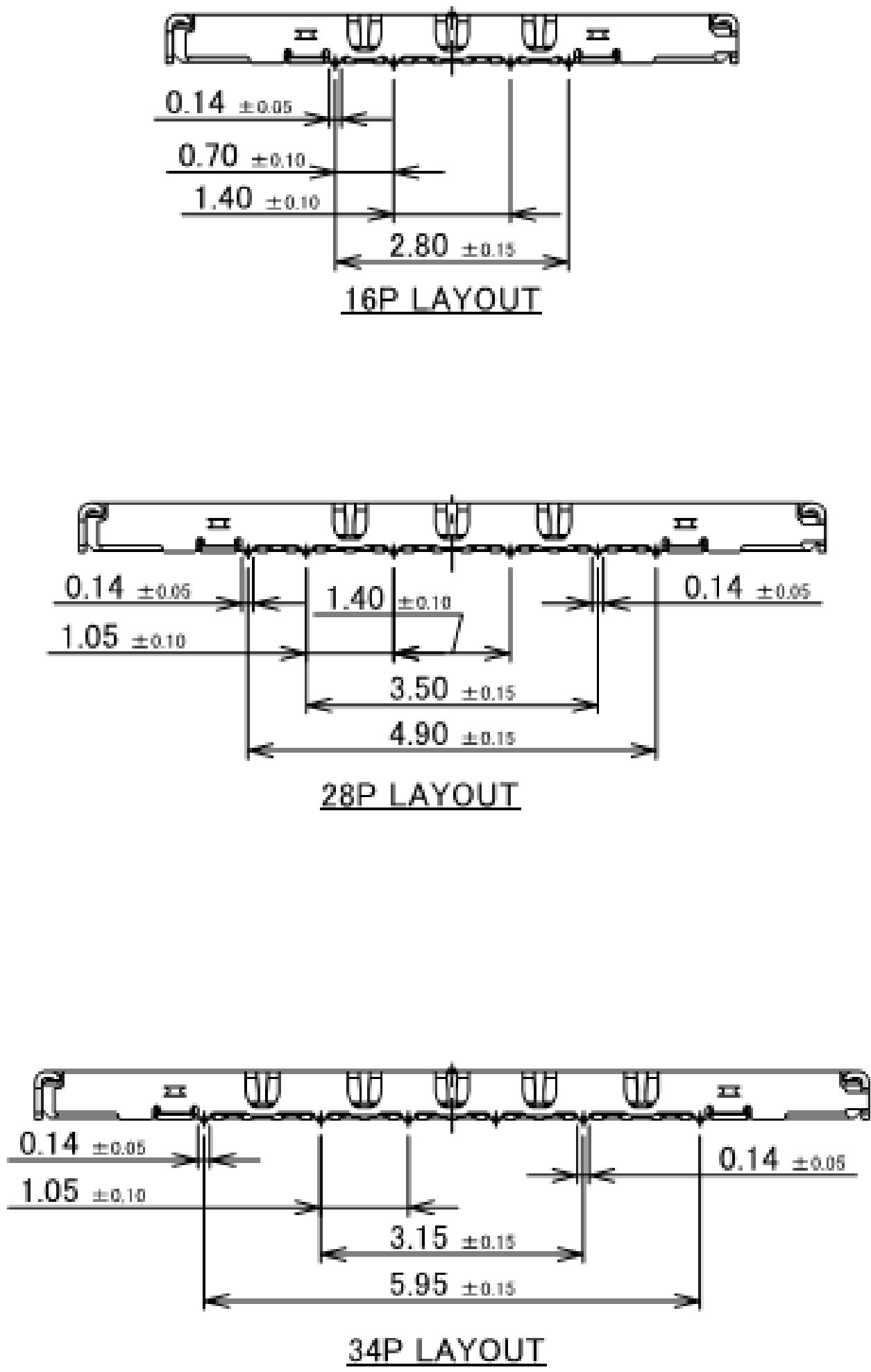


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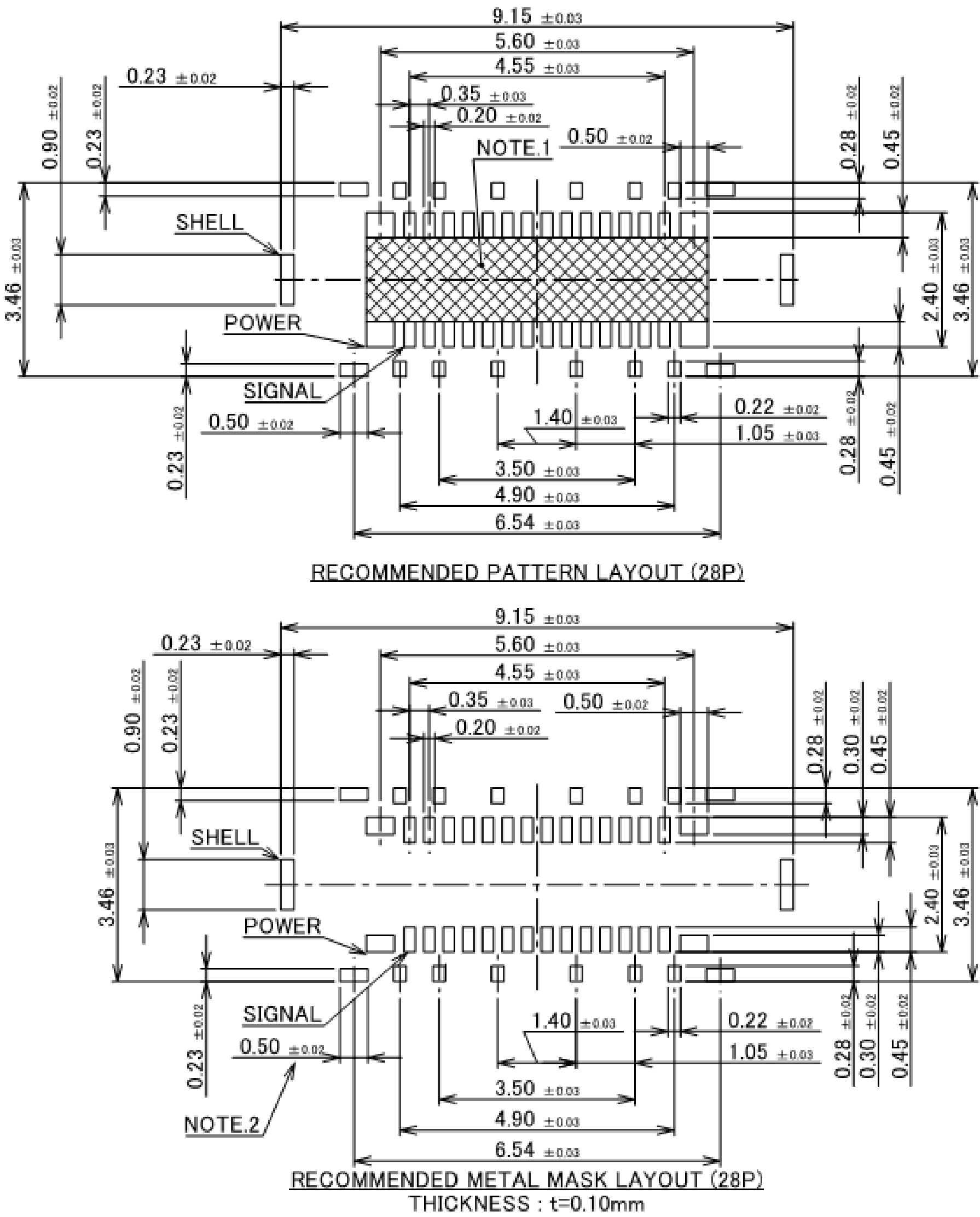
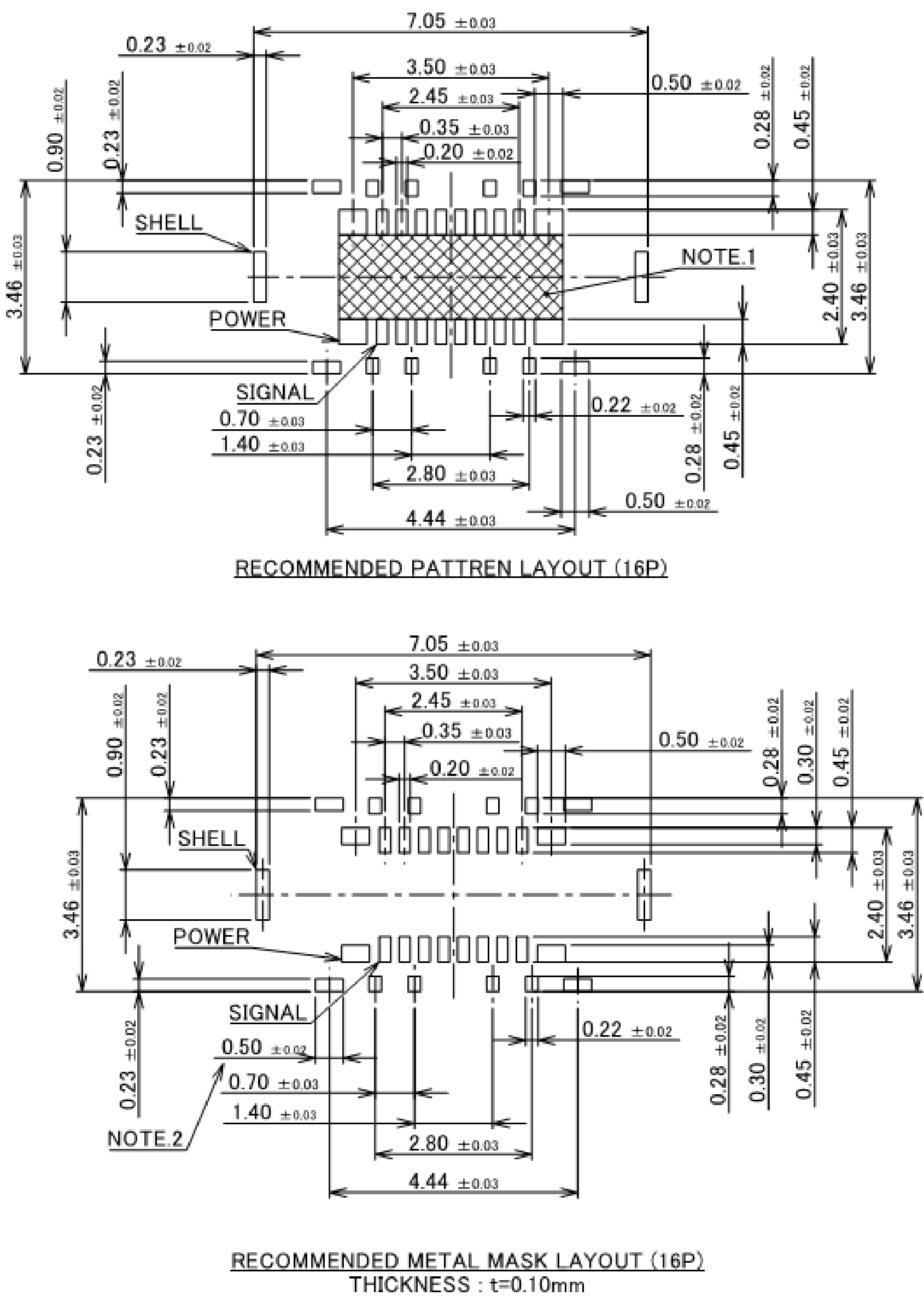
Receptacle Assembly

| PART No.      | SIGNAL POS. | POWER POS. |
|---------------|-------------|------------|
| 20698-016E-01 | 16P         | 4P         |
| 20698-028E-01 | 28P         | 4P         |
| 20698-034E-01 | 34P         | 4P         |
| 20698-042E-01 | 42P         | 4P         |
| 20698-056E-01 | 56P         | 4P         |
| 20698-062E-01 | 62P         | 4P         |

20698-0\*\*E-01  
Pos.



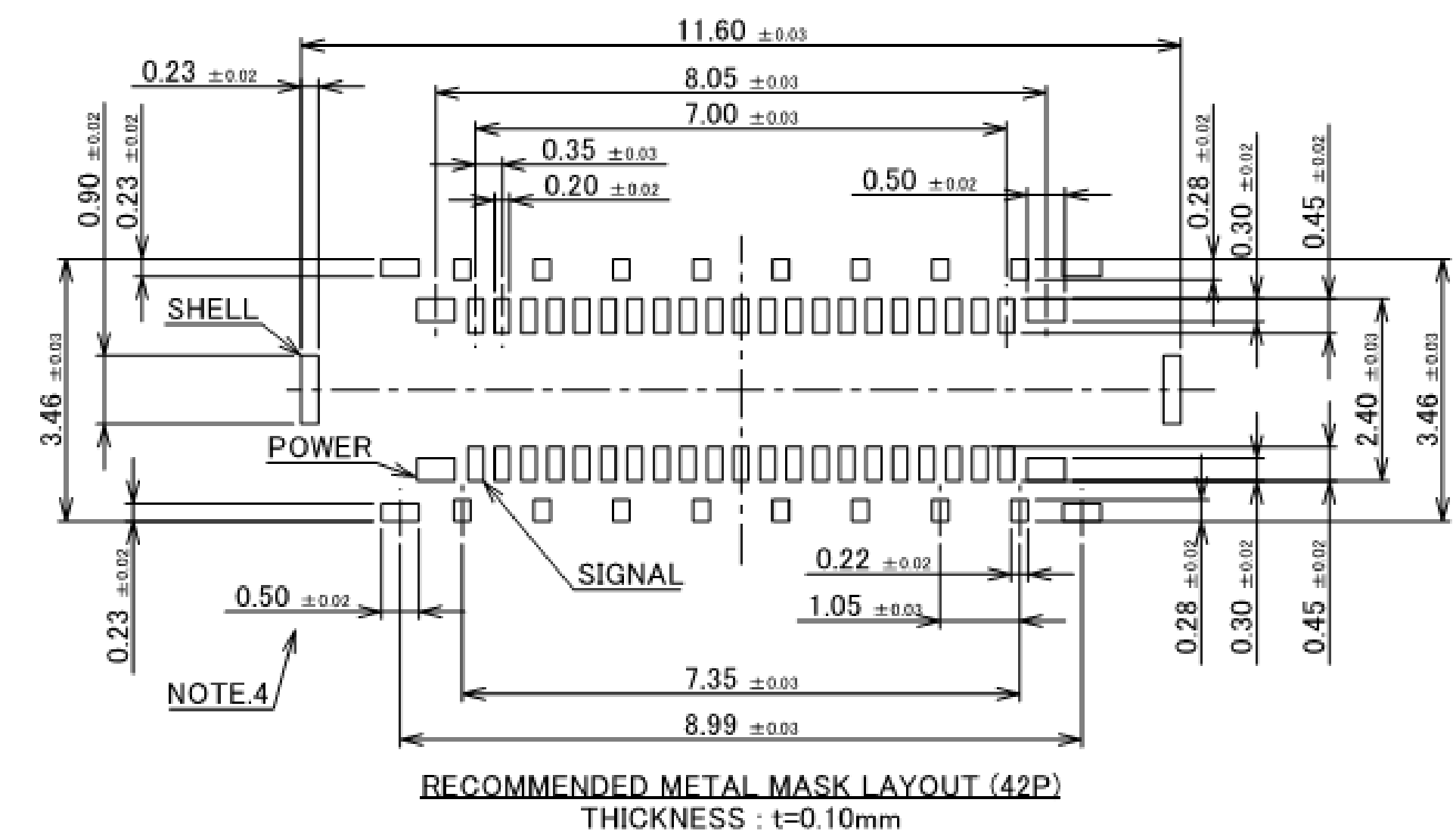
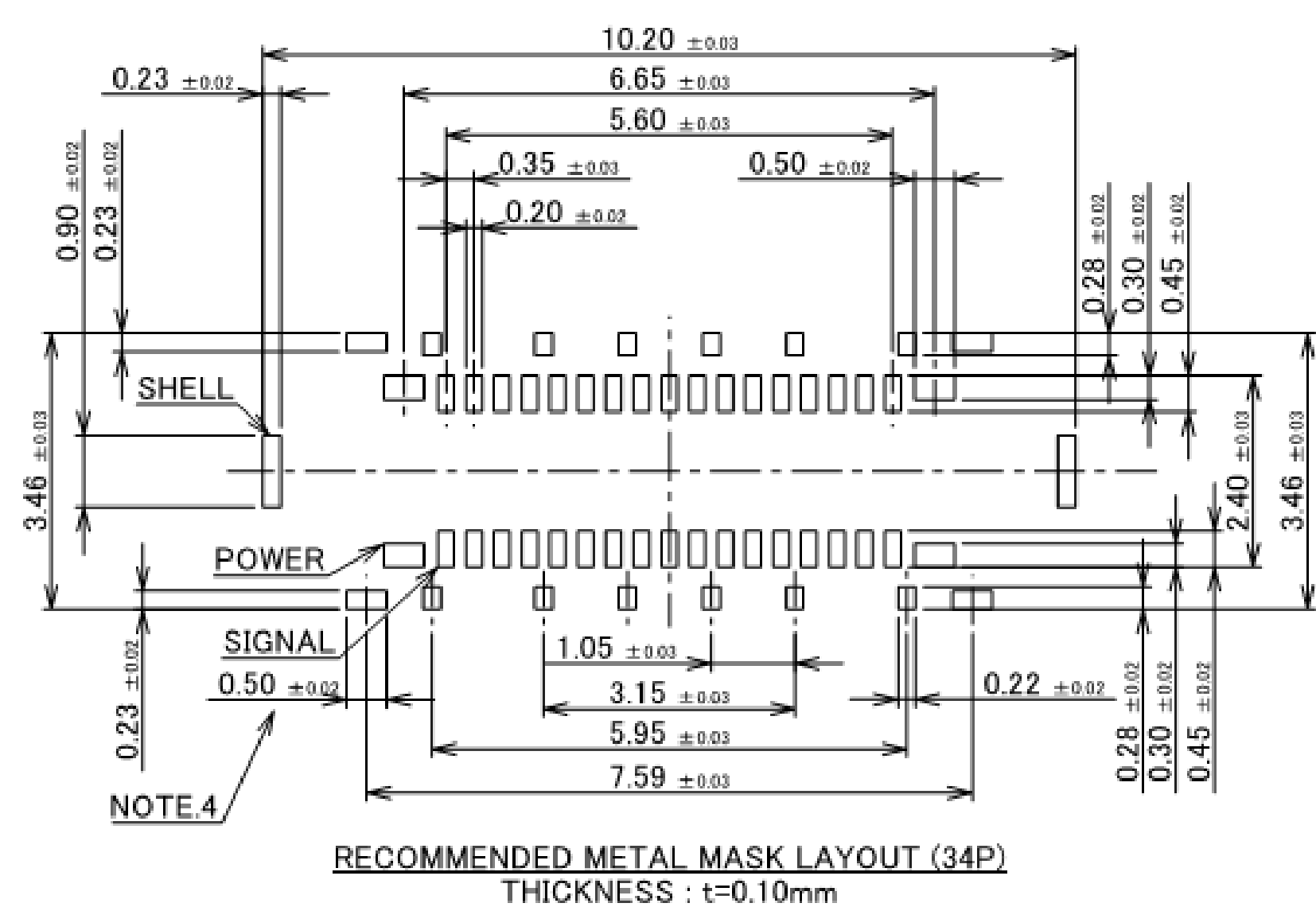
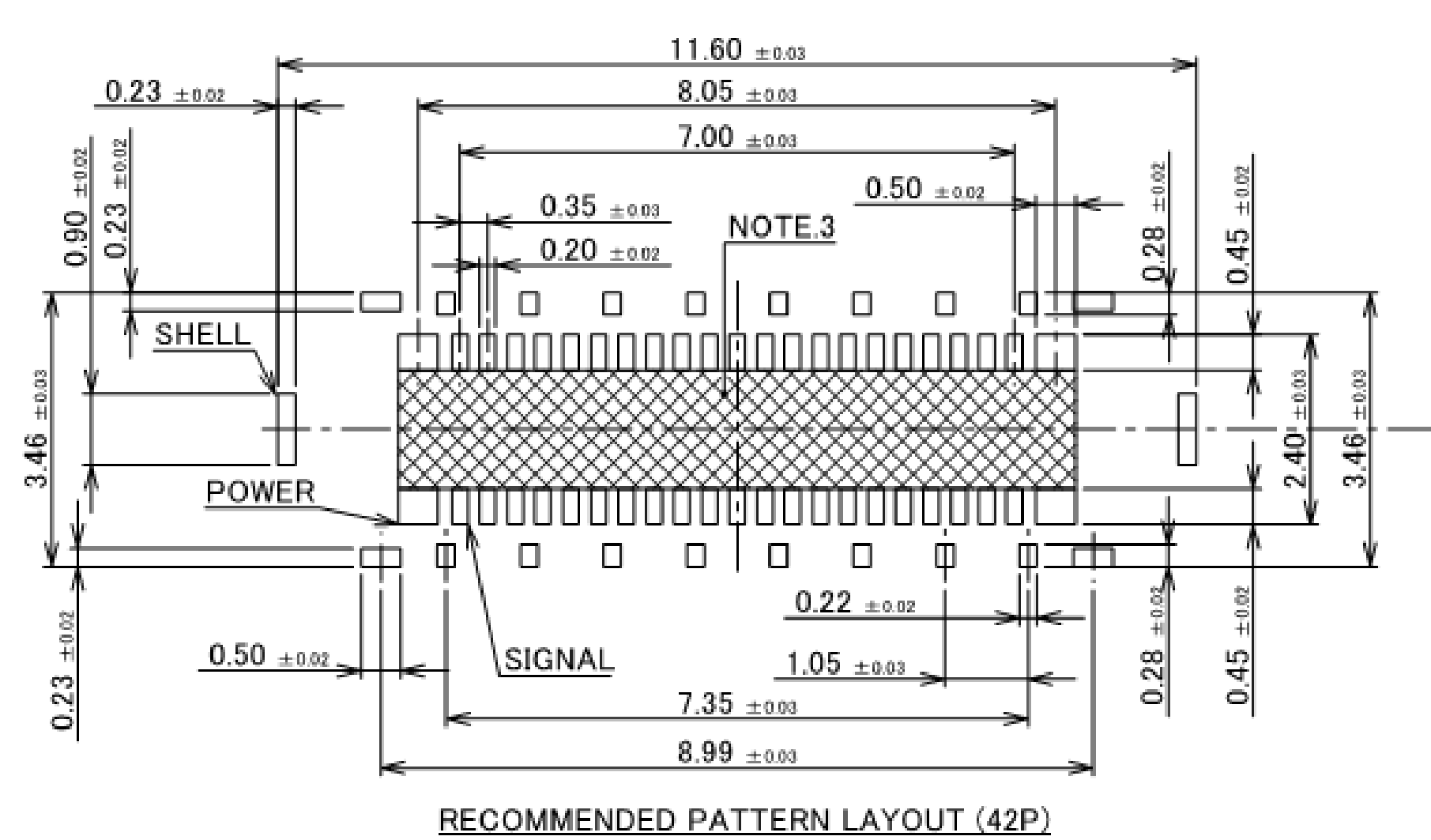
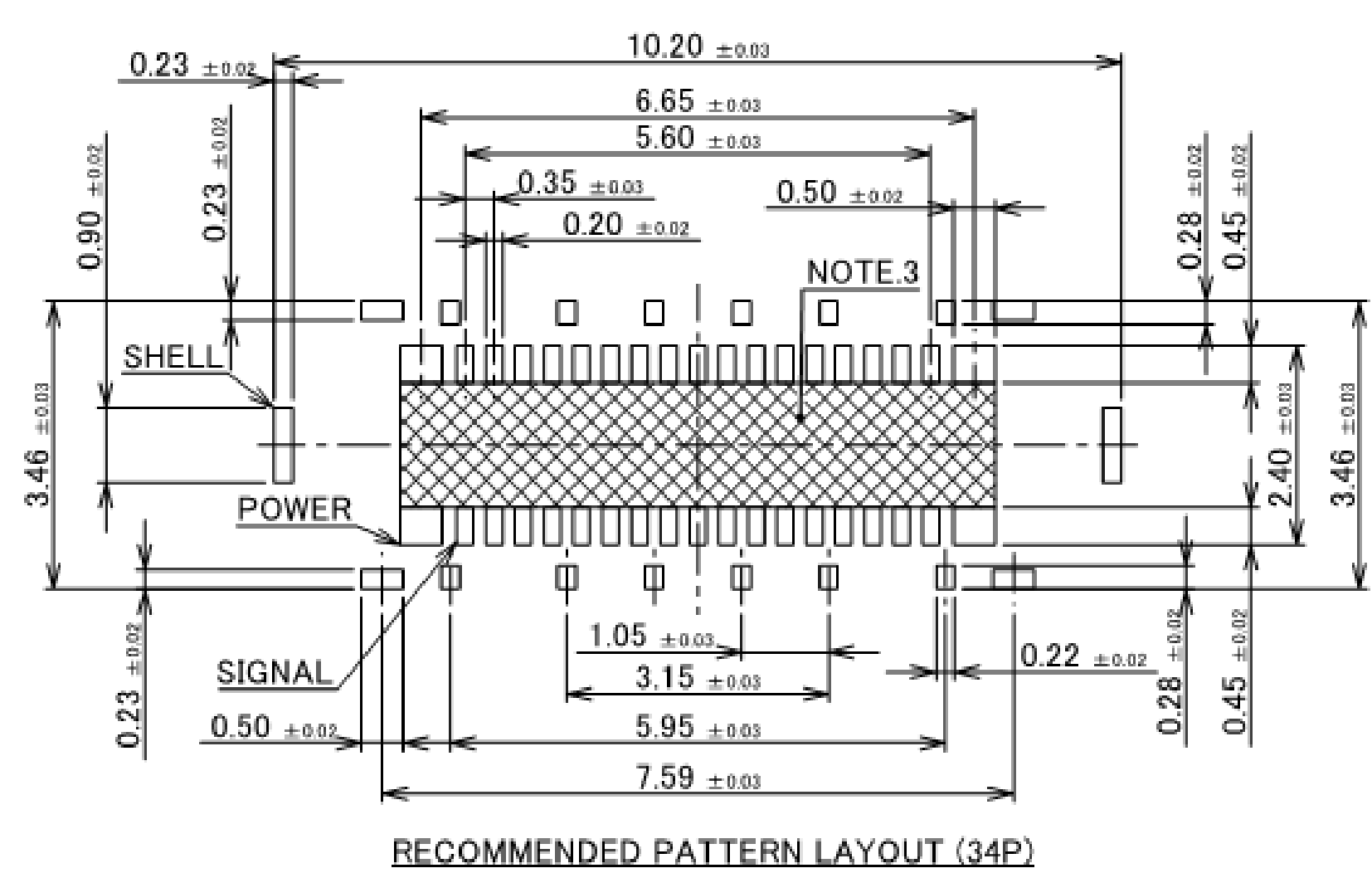
Rev.16



NOTES.  
1. SOLDER RESIST MUST BE APPLIED TO THIS AREA.  
2. WHEN THE THICKNESS OF THE METAL MASK IS 0.12 mm, PLEASE SET IT TO 0.41 mm.

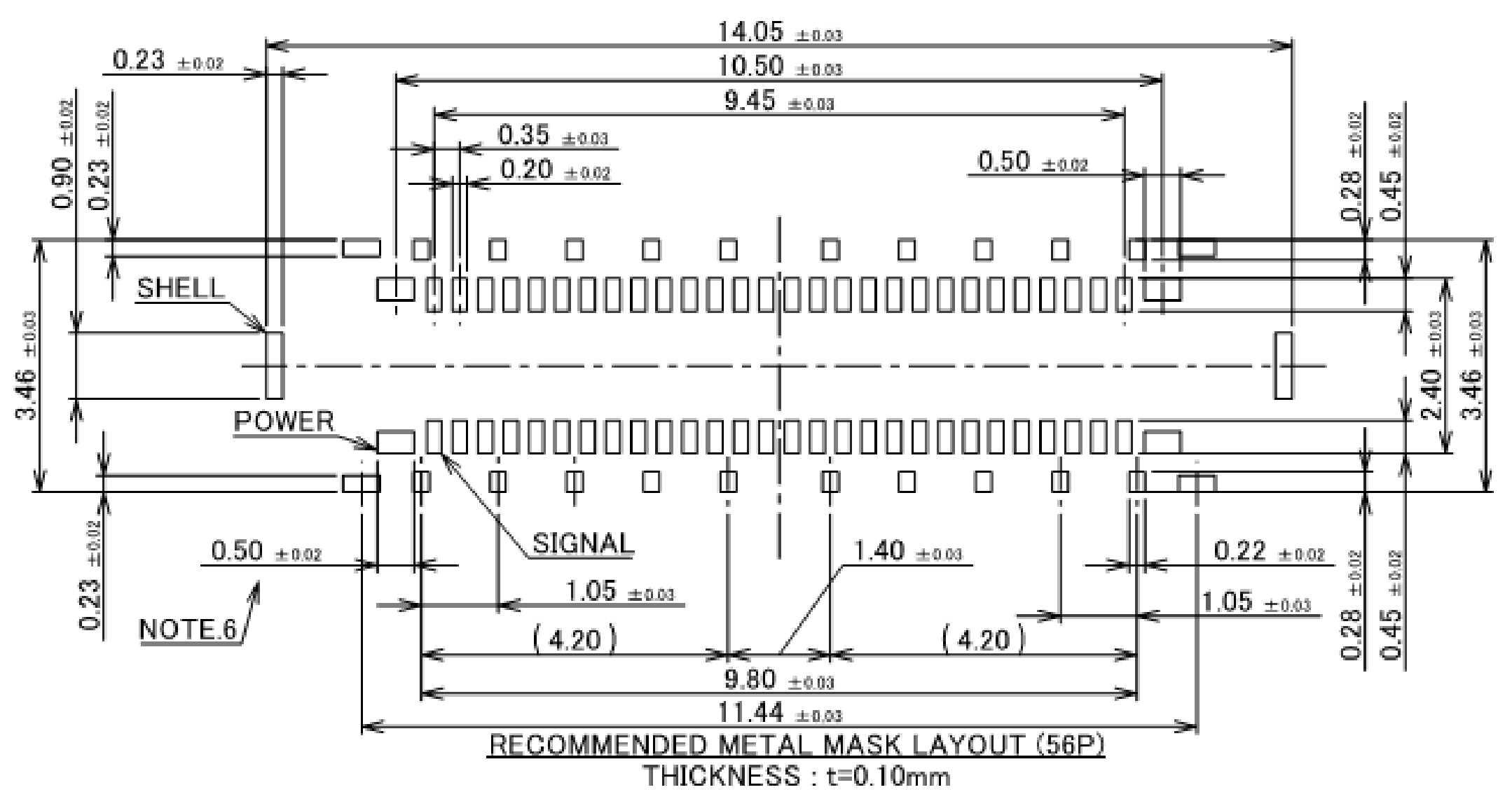
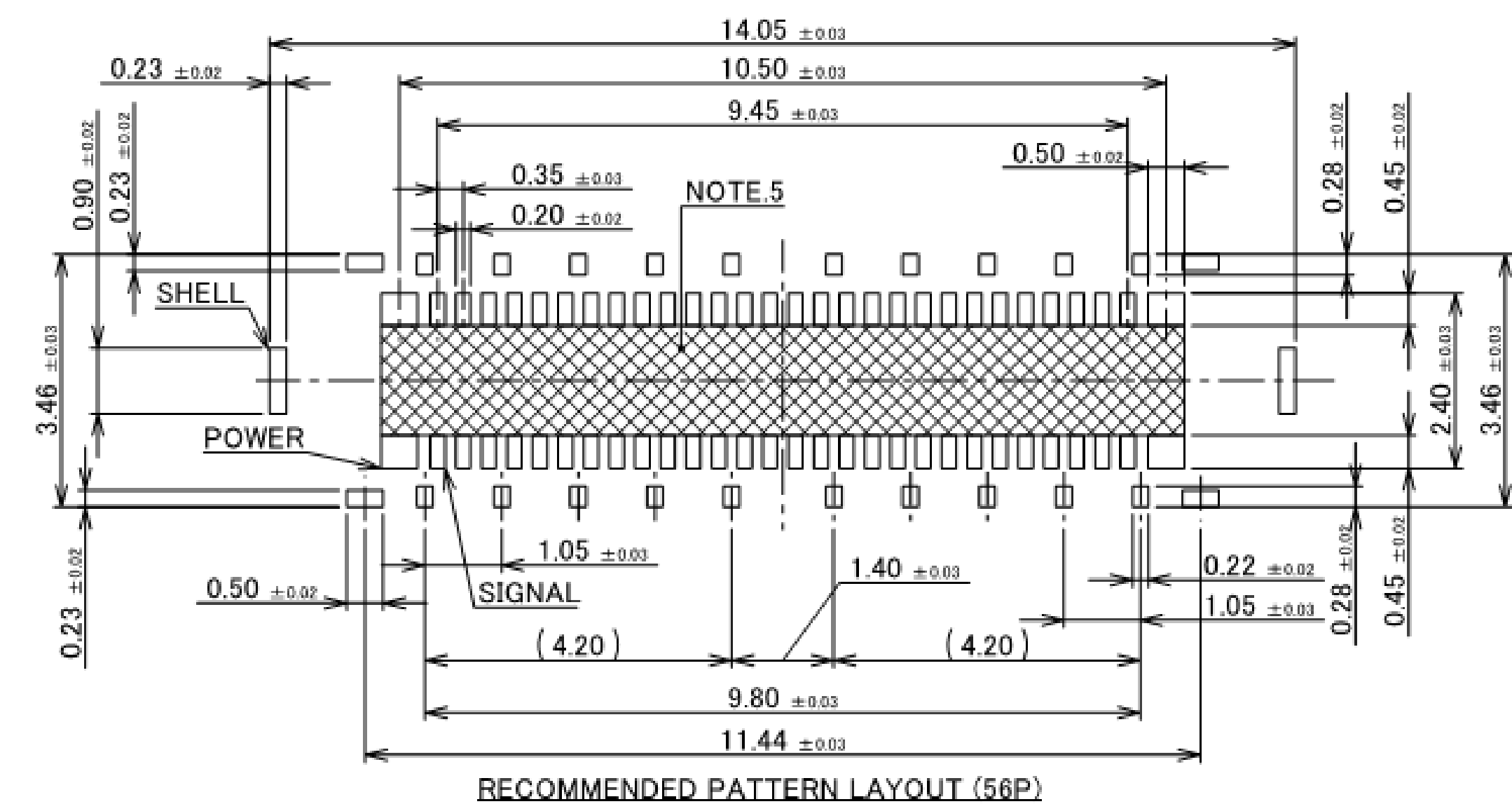
Rev.16

# Receptacle Assembly



NOTES.  
3. SOLDER RESIST MUST BE APPLIED TO THIS AREA.  
4. WHEN THE THICKNESS OF THE METAL MASK IS 0.12 mm, PLEASE SET IT TO 0.41 mm.

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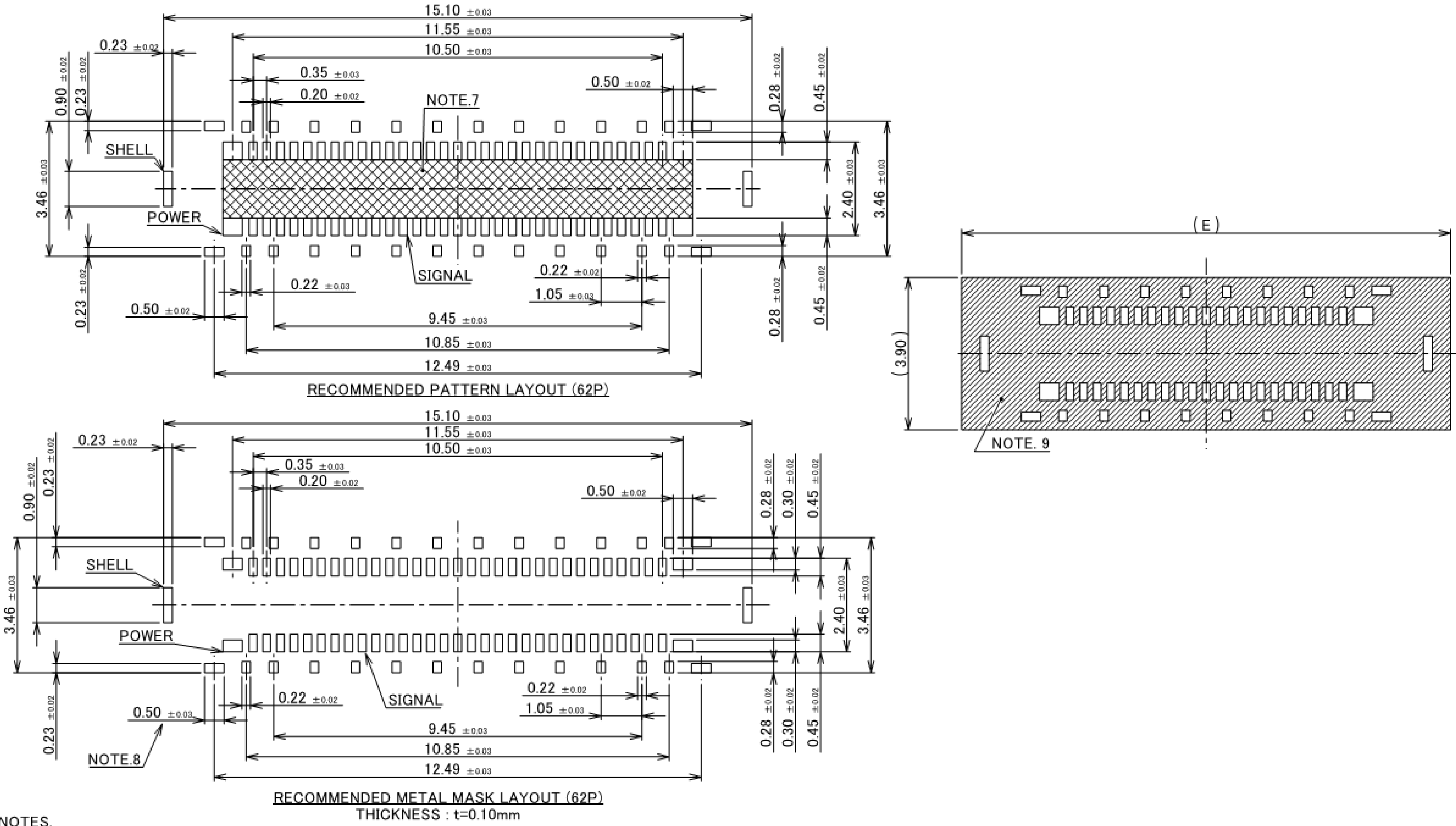


NOTES.  
5. SOLDER RESIST MUST BE APPLIED TO THIS AREA.  
6. WHEN THE THICKNESS OF THE METAL MASK IS 0.12 mm, PLEASE SET IT TO 0.41 mm.

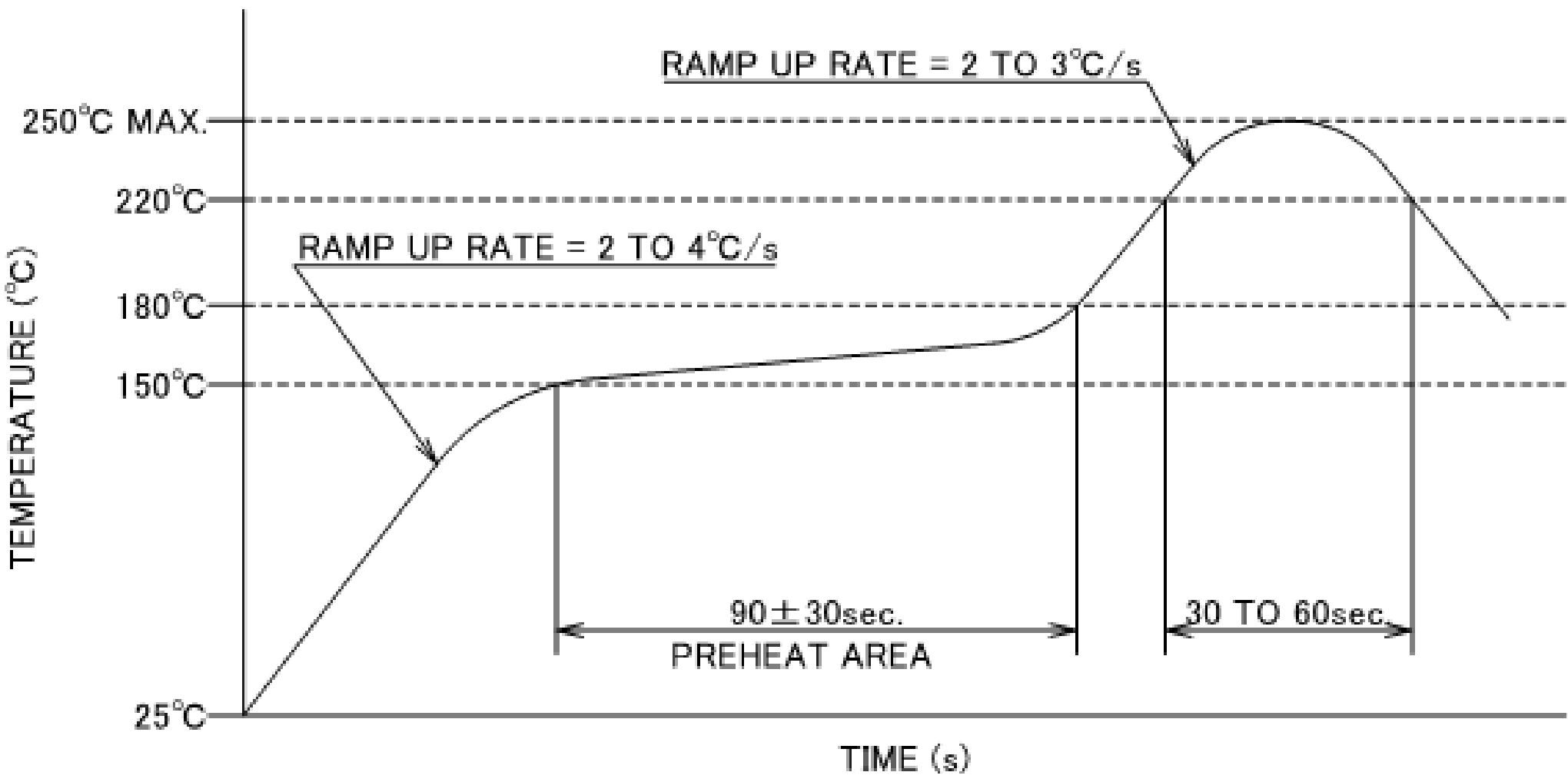
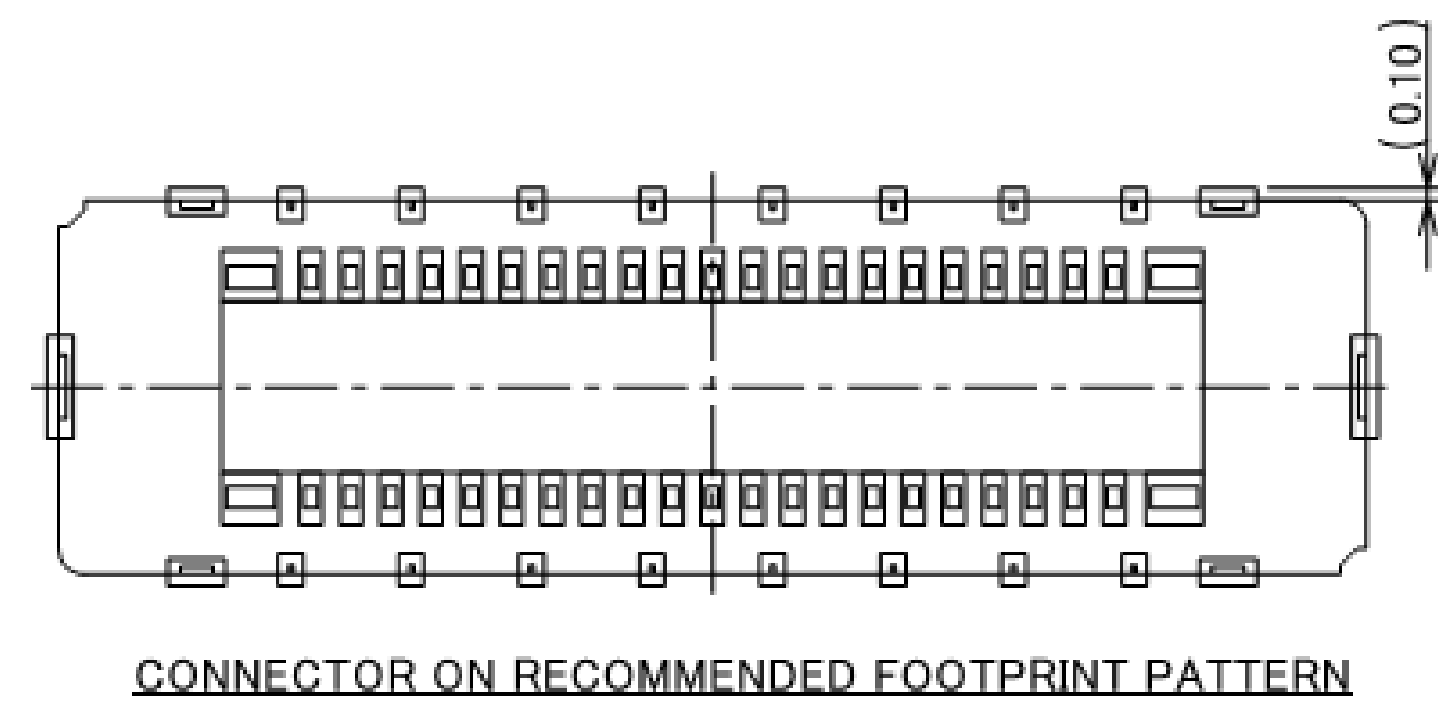
Rev.16

Receptacle Assembly

| PART No.      | SIGNAL POS. | POWER POS. | E     |
|---------------|-------------|------------|-------|
| 20698-016E-01 | 16P         | 4P         | 7.99  |
| 20698-028E-01 | 28P         | 4P         | 10.09 |
| 20698-034E-01 | 34P         | 4P         | 11.14 |
| 20698-042E-01 | 42P         | 4P         | 12.54 |
| 20698-056E-01 | 56P         | 4P         | 14.99 |
| 20698-062E-01 | 62P         | 4P         | 16.04 |



Rev.16



REFLOW TEMPERATURE PROFILE  
SENJU METAL INDUSTRY CO., LTD. : M705-SHF(Sn96.5 Ag3.0 Cu0.5)

Rev.16

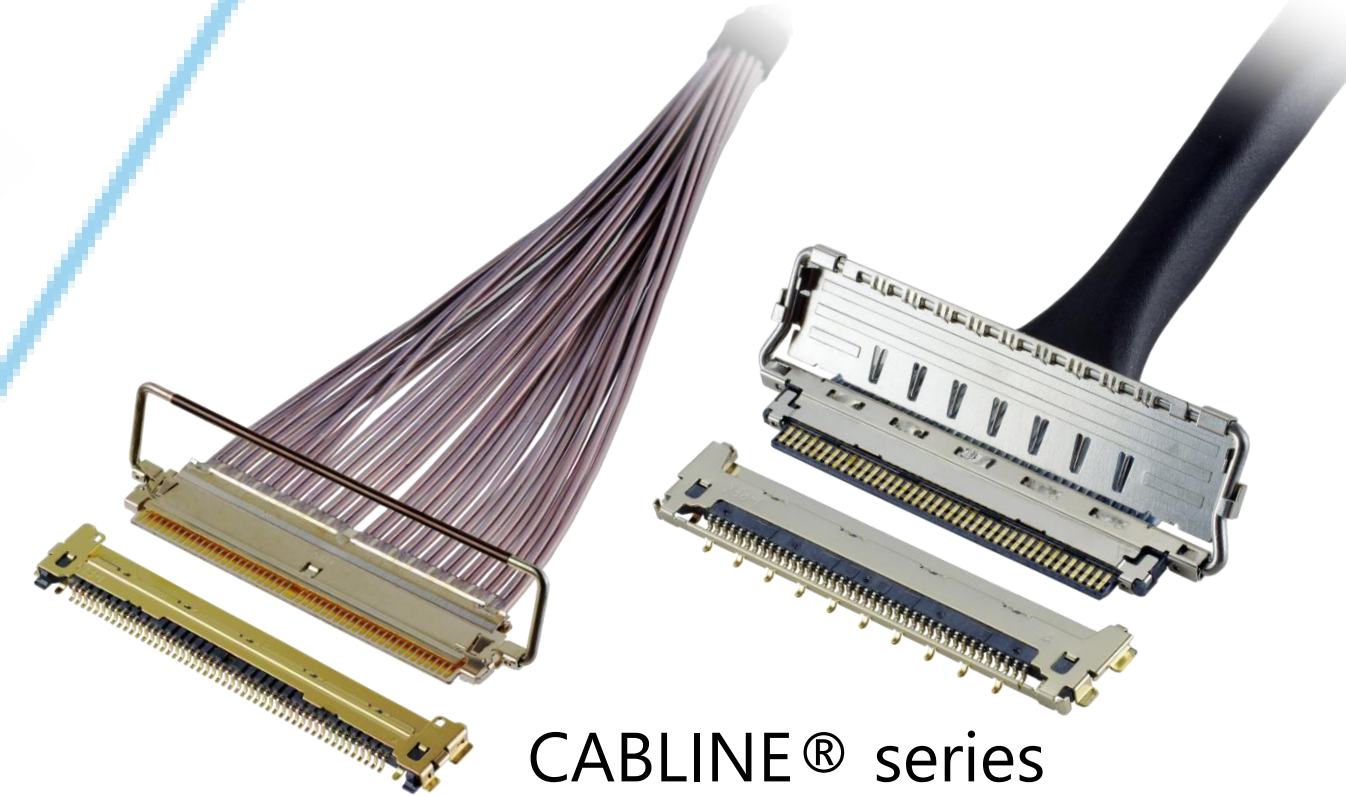
# Receptacle Assembly

| ITEMS                                   | SPECIFICATION                                                                                                        |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| APPLICABLE CONNECTOR PART No.           | 20697-0**E-01                                                                                                        |
| RATED VOLTAGE                           | 60V AC (PER CONTACT PIN)                                                                                             |
| RATED AMPERAGE (FOR SIGNAL CONTACT)     | 0.3A AC/DC (PER CONTACT PIN)/ 12.0A AC/DC(TOTAL)                                                                     |
| RATED AMPERAGE (FOR POWER CONTACT)      | 4.5A AC/DC (PER CONTACT PIN)/ 18.0A AC/DC(TOTAL)                                                                     |
| OPERATING TEMPERATURE                   | 233~358K(-40°C~+85°C)                                                                                                |
| OPERATING HUMIDITY                      | 85% MAX.                                                                                                             |
| CONTACT RESISTANCE (FOR SIGNAL CONTACT) | INITIAL : 40mohm MAX. / AFTER TEST : $\triangle$ 40mohm MAX.                                                         |
| CONTACT RESISTANCE (FOR POWER CONTACT)  | INITIAL : 20mohm MAX. / AFTER TEST : $\triangle$ 20mohm MAX.                                                         |
| CONTACT RESISTANCE (FOR GROUND)         | INITIAL : 20mohm MAX. / AFTER TEST : $\triangle$ 20mohm MAX.                                                         |
| INSULATION RESISTANCE                   | INITIAL : 1,000Mohm MIN. / AFTER TEST : 500Mohm MIN.                                                                 |
| DIELECTRIC WITHSTANDING VOLTAGE         | AC 250V 1 min                                                                                                        |
| DURABILITY                              | 30 CYCLES                                                                                                            |
| MATING FORCE (INITIAL / AFTER TEST)     | 16P: 32.0 N MAX.<br>28P: 32.0 N MAX.<br>34P: 38.0 N MAX.<br>42P: 46.0 N MAX.<br>56P: 60.0 N MAX.<br>62P: 66.0 N MAX. |
| UNMATING FORCE (INITIAL / AFTER TEST)   | 16P: 3.2 N MIN.<br>28P: 3.2 N MIN.<br>34P: 3.8 N MIN.<br>42P: 4.6 N MIN.<br>56P: 6.0 N MIN.<br>62P: 6.6 N MIN.       |
| COPLANARITY                             | 0.08 MAX.                                                                                                            |
| PRODUCT SPECIFICATION                   | PRS-2187                                                                                                             |
| TEST REPORT                             | TR-16014                                                                                                             |
| PACKING STANDARD                        | PST-15084                                                                                                            |
| INSTRUCTION MANUAL                      | HIM-15020                                                                                                            |
| APPEARANCE CRITERIA No.                 | QLS-A***                                                                                                             |

# Custom Connectors Available

## RF Connectors

MHF® series



CABLINE® series

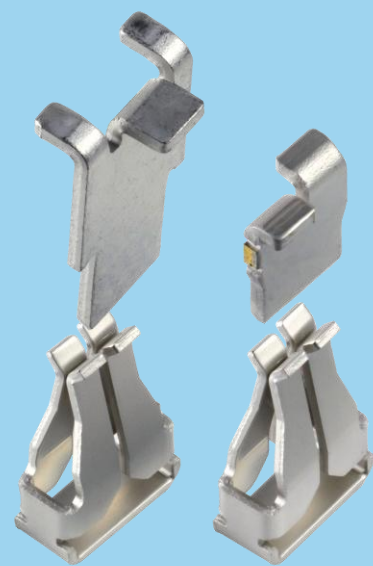


## Micro-Coaxial/Twinaxial Connectors



## Wire-to-Board Connectors/ Terminals

AP series



ISH® series



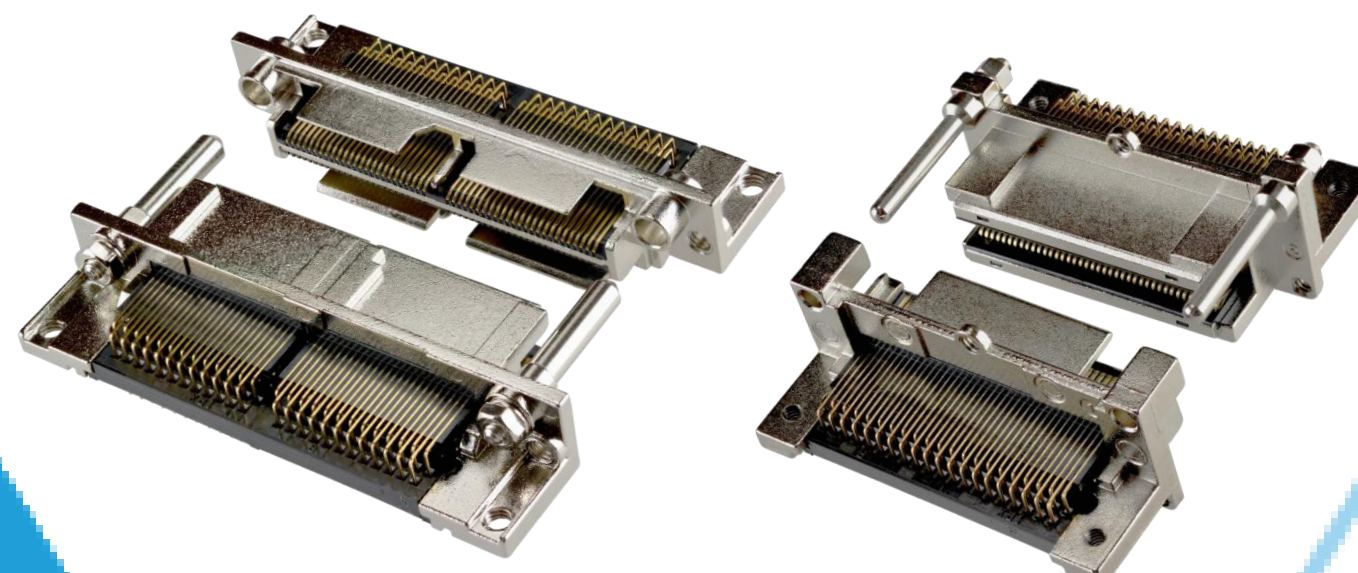
NOVASTACK® series



## Board-to-Board Connectors



## I/O Connectors



MINIDOCK™ series

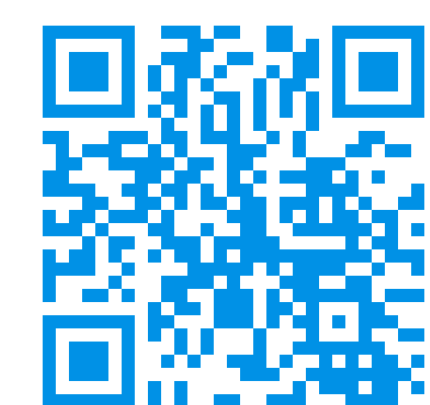
MINIFLEX® series EVAFLEX® series



## FPC/FFC Connectors



Inquiry



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Contact your sales representative  
or more detailed information.

[www.i-pex.com](http://www.i-pex.com)



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