

# EVAFLEX® 5-VS

自動鎖扣，高溫款可選(105°C)，高速數據傳輸，水平插拔, 0.5 mm 間距帶屏蔽罩的 FFC/FPC連接器

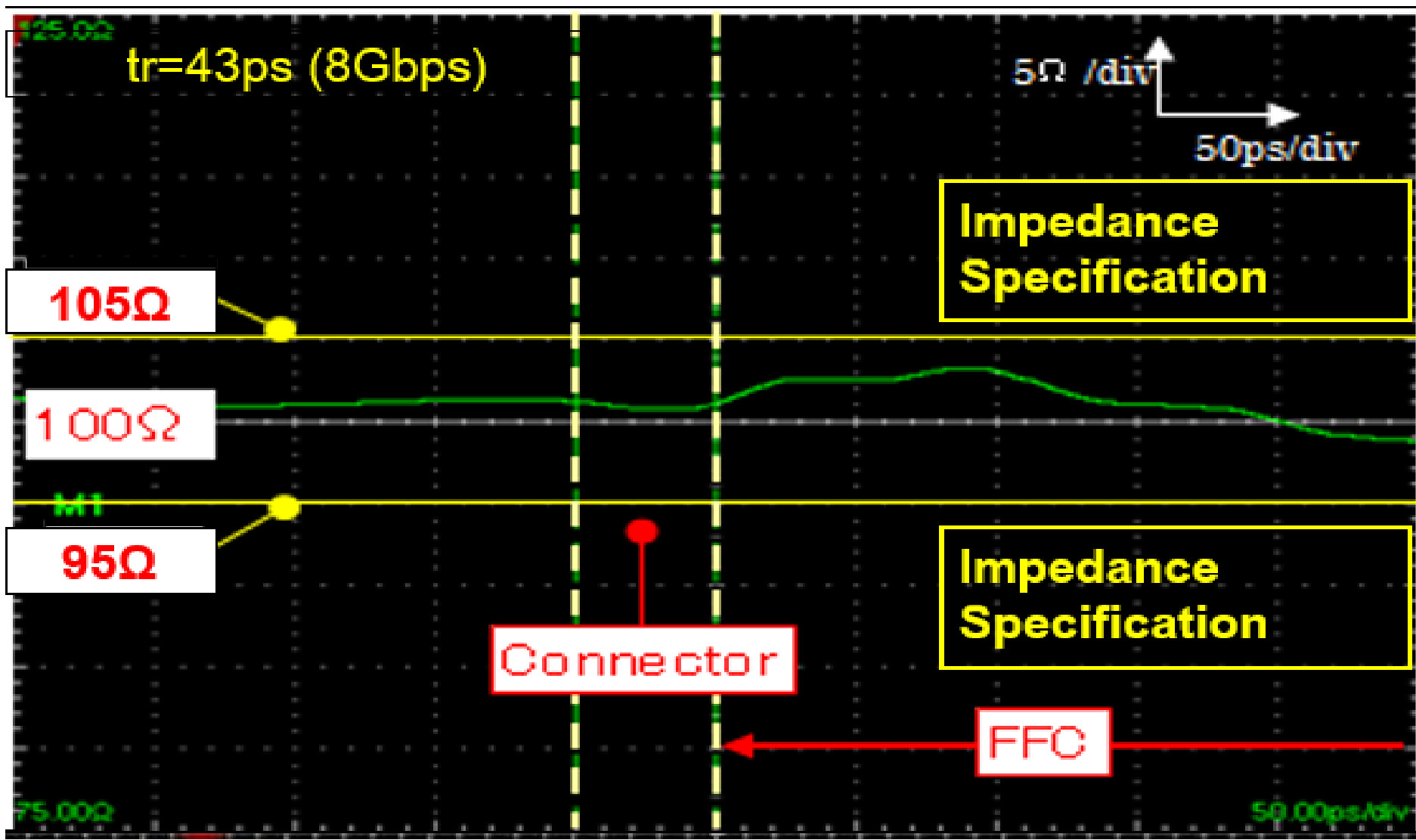


| Product Specifications: |           |                            | Applicable FPC/FFC:                                                                                                                                                                                                         |                                    |
|-------------------------|-----------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Board Pitch (mm)        |           | 0.5                        | FPC/FFC Type                                                                                                                                                                                                                | Shielded FFC, Non-shielded FFC/FPC |
| Wiping Length (mm)      |           | 1.1                        | FPC/FFC Contact Point                                                                                                                                                                                                       | Top                                |
| Size (mm)               | Height    | 1.90 +/- 0.10              | FPC/FFC Thickness (mm)                                                                                                                                                                                                      | 0.33 +/- 0.03                      |
|                         | Width     | Formula: 6.25 + (0.5*?p)   | <b>Applicable Standards (Reference Only):</b><br>USB 3.1 Gen 1 (5 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<br>USCAR II Vibration & Shock V1 |                                    |
|                         | Depth     | 4.95 +/- 0.20              |                                                                                                                                                                                                                             |                                    |
| Pin counts              | Range     | 10 – 50                    |                                                                                                                                                                                                                             |                                    |
|                         | Available | 10, 15, 20, 24, 30, 40, 50 |                                                                                                                                                                                                                             |                                    |

\*若有規格外 Pin 數需求,請與當地負責業務窗口聯繫。

## ► 支持 8+ Gbps 高速信号

輸入上升時間 ( tr ) 與阻抗特性

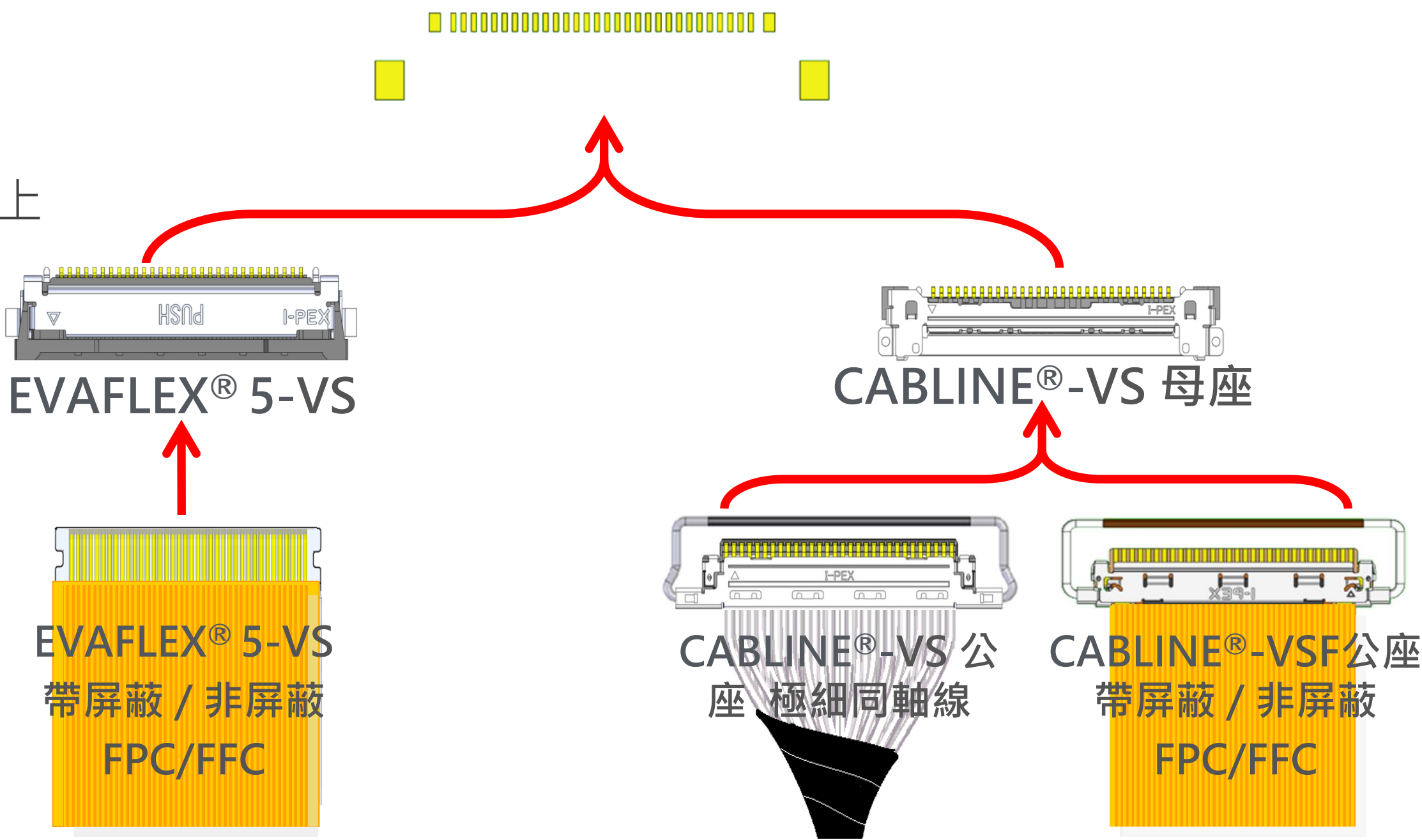


測試條件:  
雙面屏蔽的FFC  
(匹配 100 ohm)

PCI Express® 3.0 (8 Gbps)

## ► 脚位兼容CABLINE®-VS/VESA®标准NotePC LCD 连接器

EVAFLEX® 5-VS可以和 VESA 標準  
CABLINE-VS 母座安裝在相同的PCB布局上



## ► 延伸EVAFLEX® 系列產品自帶鎖扣連接器 還有其他選擇

高速和全罩式EMI 遮罩 : EVAFLEX® 5-HD

|                       | EVAFLEX® 5-HD             |
|-----------------------|---------------------------|
| Height (mm)           | 2.00 +/- 02               |
| Reference Performance | USB4 (20 Gbps)            |
| Special Feature       | 360度全罩式遮罩，多點接地設計防止 EMI 外泄 |



# Component Parts Detail

## Connector Assembly

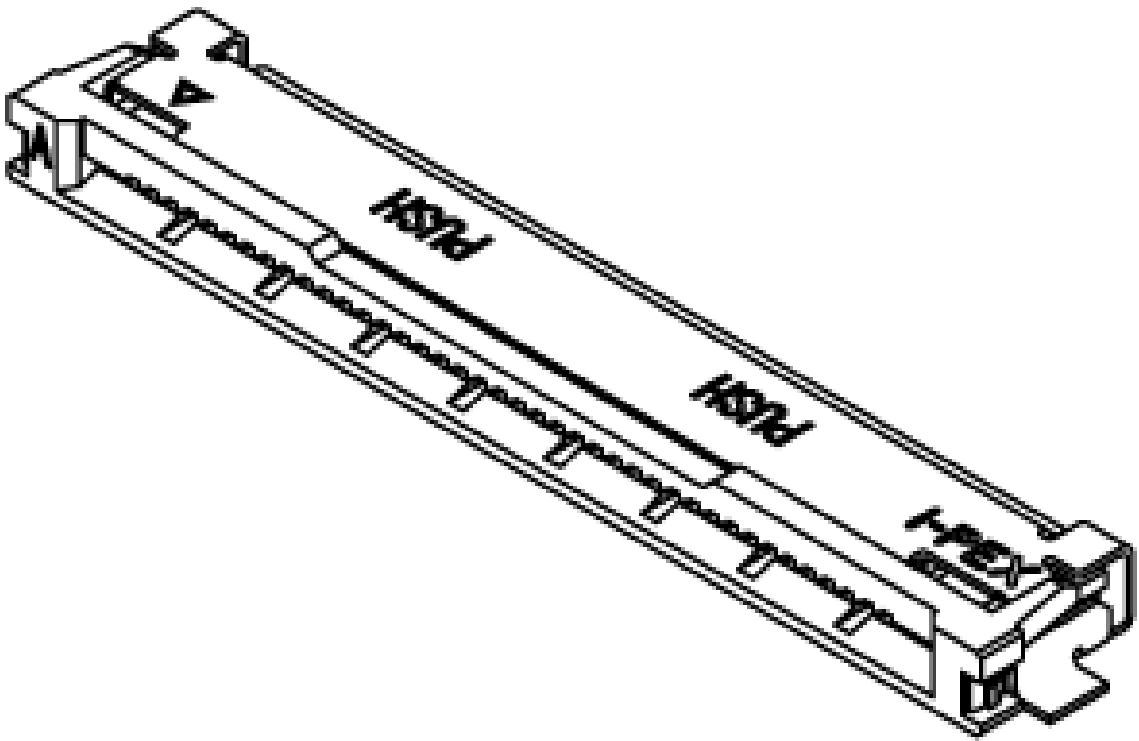
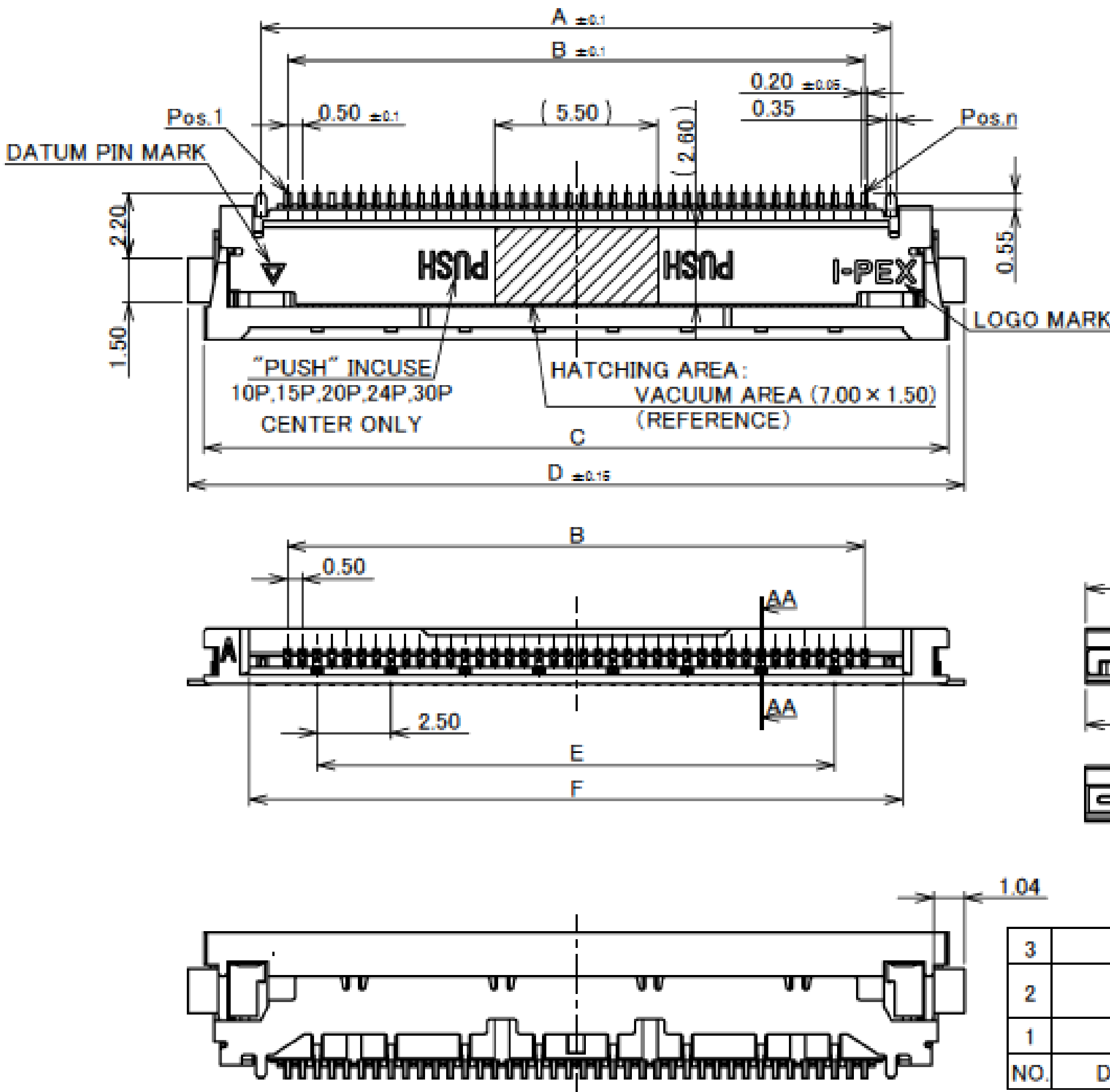
| Recommended P/N |      | 20535-0**E-02 |       |       |       |       |       |
|-----------------|------|---------------|-------|-------|-------|-------|-------|
| PART No.        | POS. | A             | B     | C     | D     | E     | F     |
| 20535-010E-02   | 10P  | 6.30          | 4.50  | 10.17 | 11.25 | 2.50  | 7.10  |
| 20535-015E-02   | 15P  | 8.80          | 7.00  | 12.67 | 13.75 | 5.00  | 9.60  |
| 20535-020E-02   | 20P  | 11.30         | 9.50  | 15.17 | 16.25 | 7.50  | 12.10 |
| 20535-024E-02   | 24P  | 13.30         | 11.50 | 17.17 | 18.25 | 7.50  | 14.10 |
| 20535-030E-02   | 30P  | 16.30         | 14.50 | 20.17 | 21.25 | 12.50 | 17.10 |
| 20535-040E-02   | 40P  | 21.30         | 19.50 | 25.17 | 26.25 | 17.50 | 22.10 |



Halogen Free



RoHS Compliant

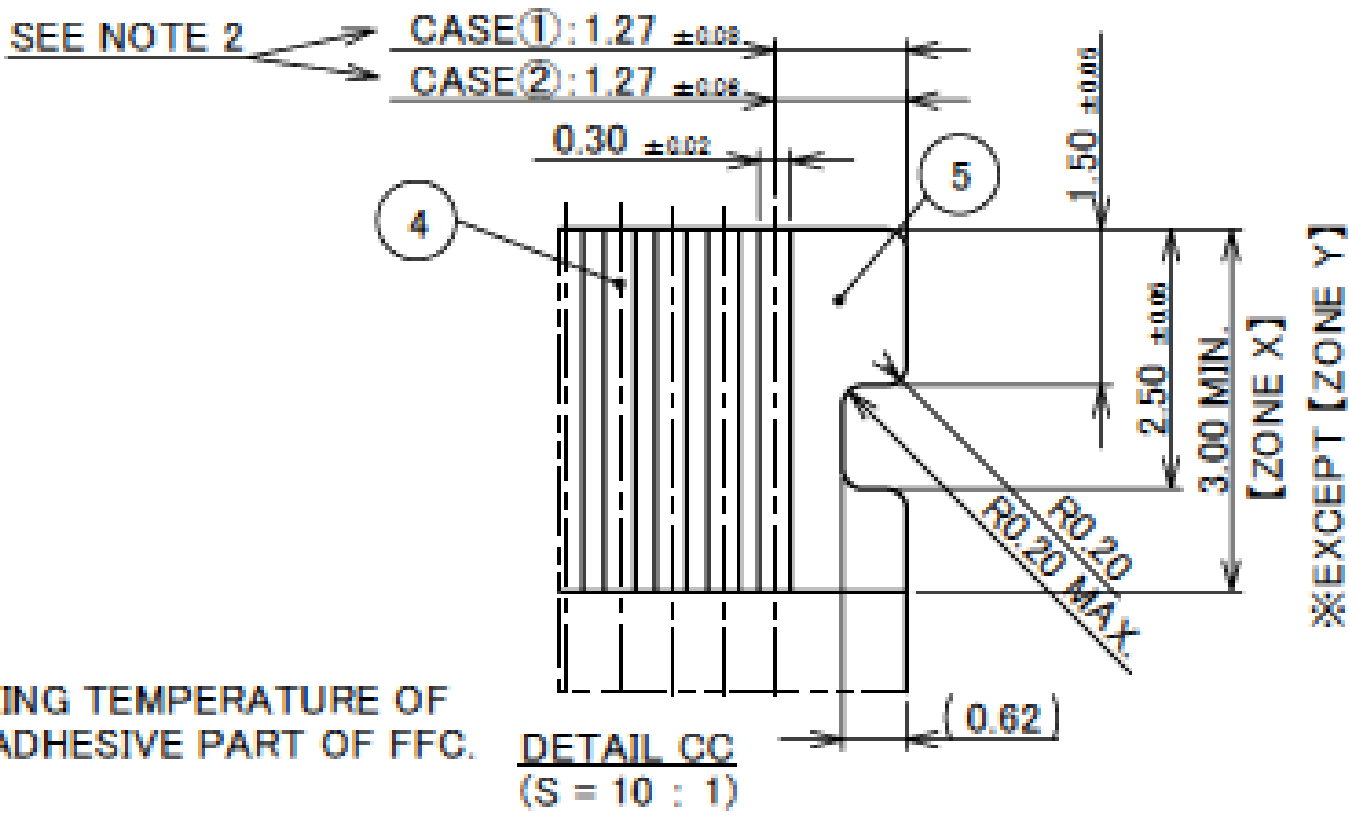
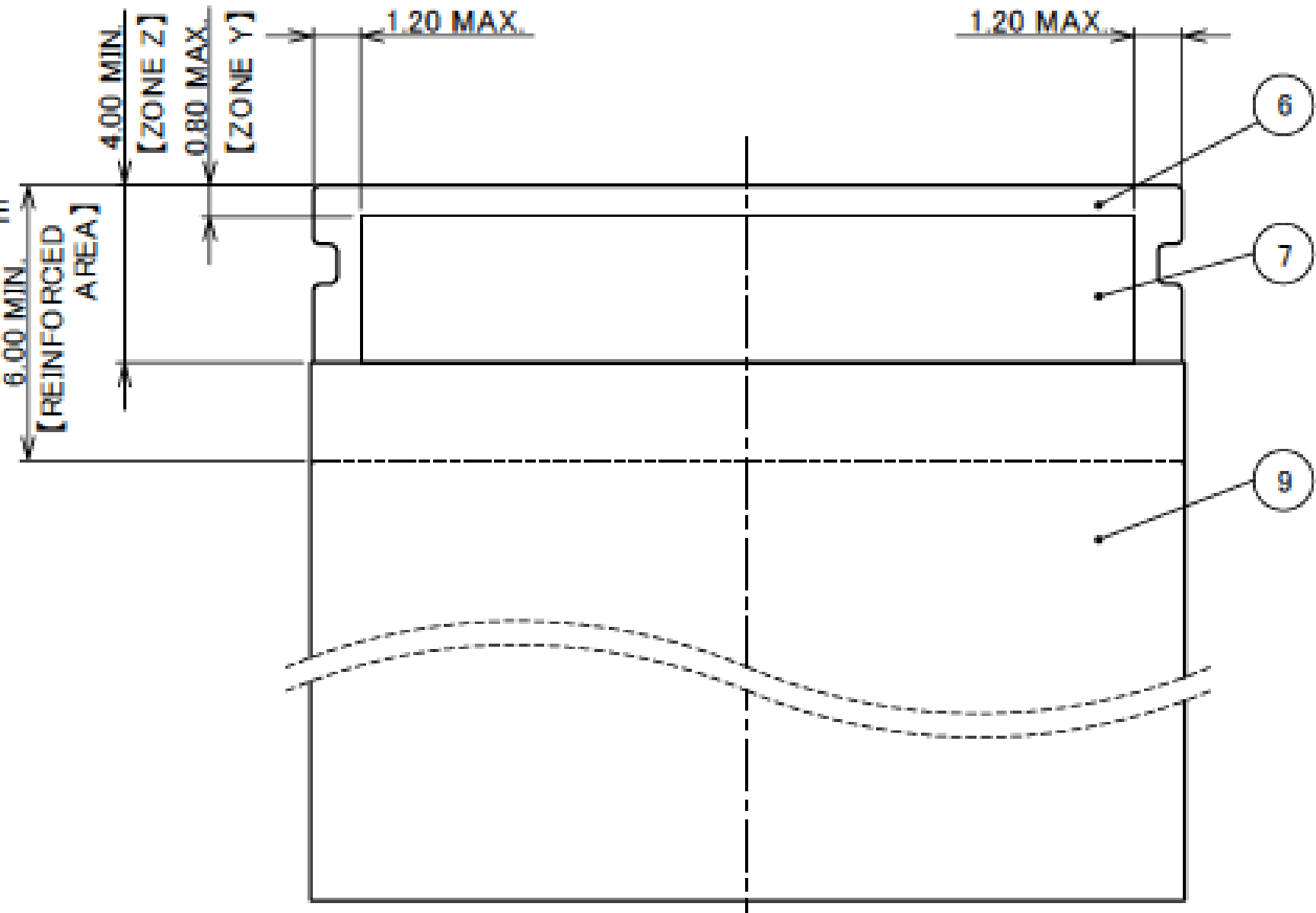
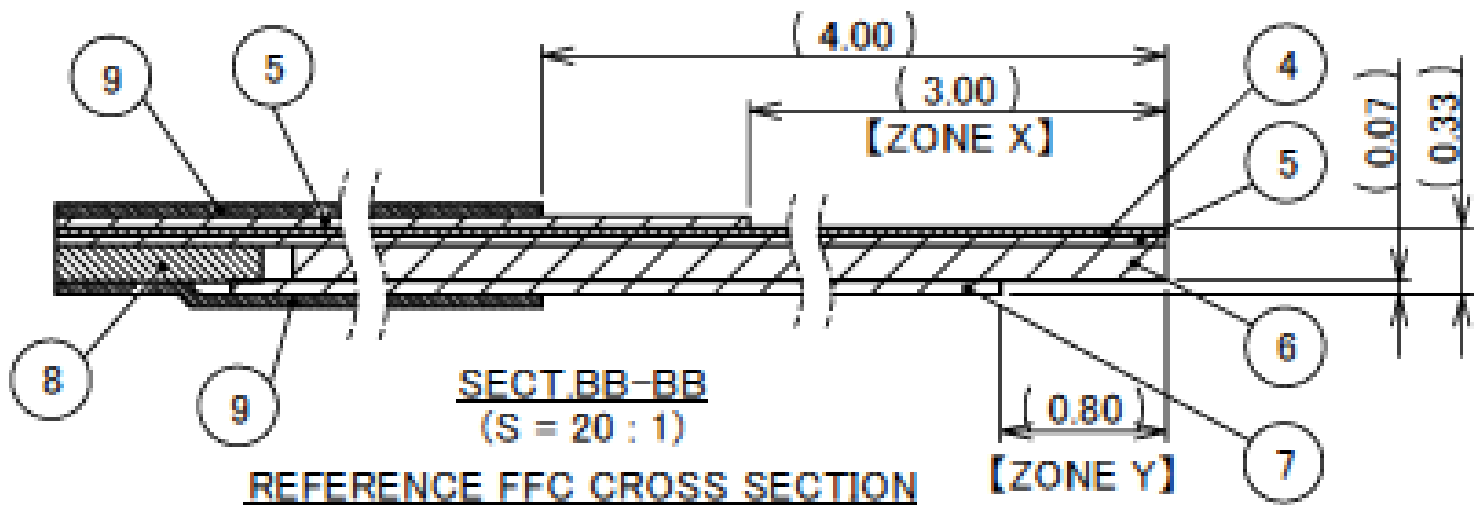
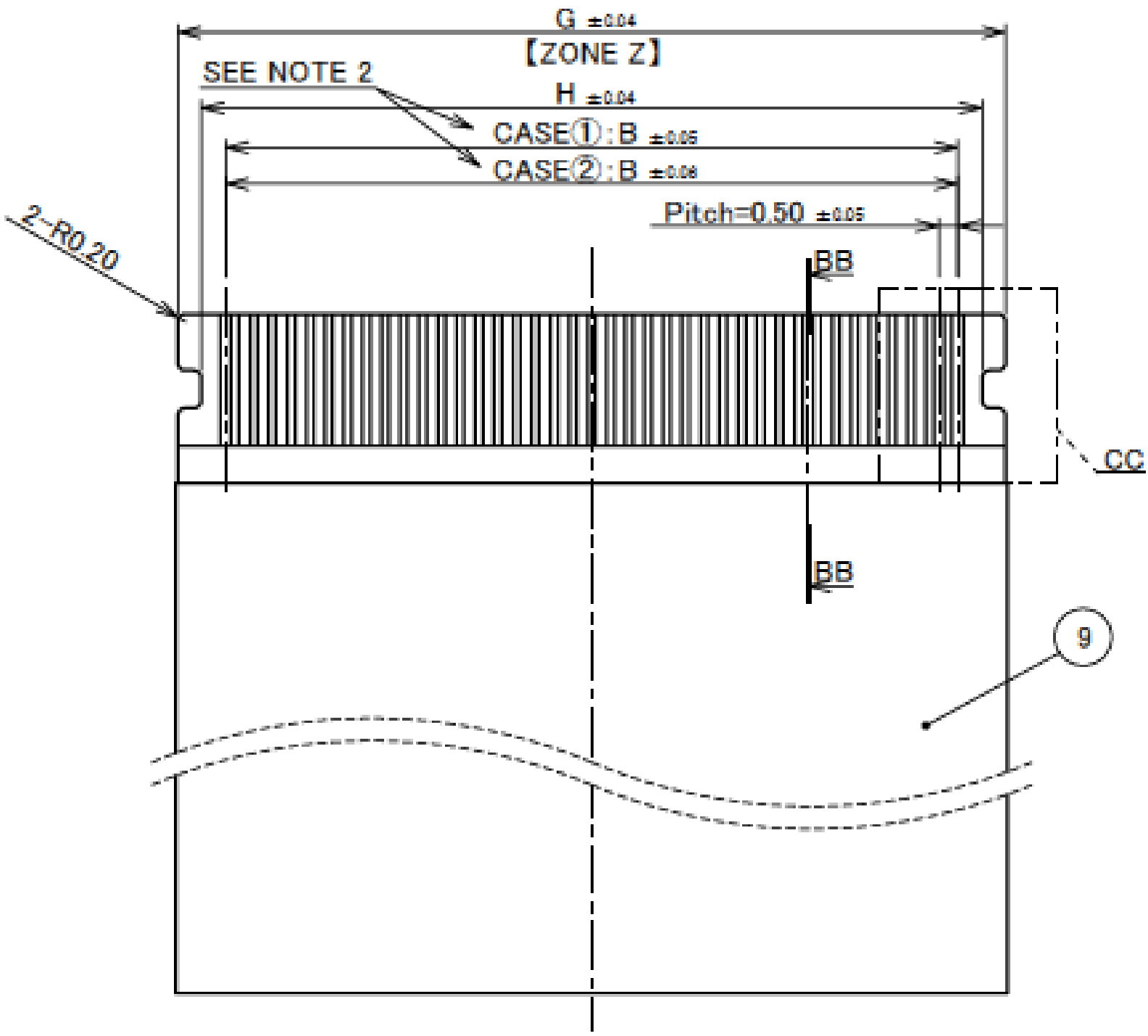


| NO. | DISCRIPTION | MATERIAL        | FINISH , REMARKS                                                                   |
|-----|-------------|-----------------|------------------------------------------------------------------------------------|
| 3   | SHELL       | PHOSPHOR BRONZE | Sn 1.00 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN. PLATING                             |
| 2   | CONTACT     | PHOSPHOR BRONZE | Au OVER Ni PLATING<br>CONTACT AREA: Au 0.03 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN. |
| 1   | HOUSING     | LCP             | UL94V-0, BLACK                                                                     |

Connector Assembly

| Recommended P/N |      | 20535-0**E-02 |       |       |
|-----------------|------|---------------|-------|-------|
| PART No.        | POS. | B             | G     | H     |
| 20535-010E-02   | 10P  | 4.50          | 7.04  | 5.80  |
| 20535-015E-02   | 15P  | 7.00          | 9.54  | 8.30  |
| 20535-020E-02   | 20P  | 9.50          | 12.04 | 10.80 |
| 20535-024E-02   | 24P  | 11.50         | 14.04 | 12.80 |
| 20535-030E-02   | 30P  | 14.50         | 17.04 | 15.80 |
| 20535-040E-02   | 40P  | 19.50         | 22.04 | 20.80 |

RECOMMENDED FFC DIMENSION

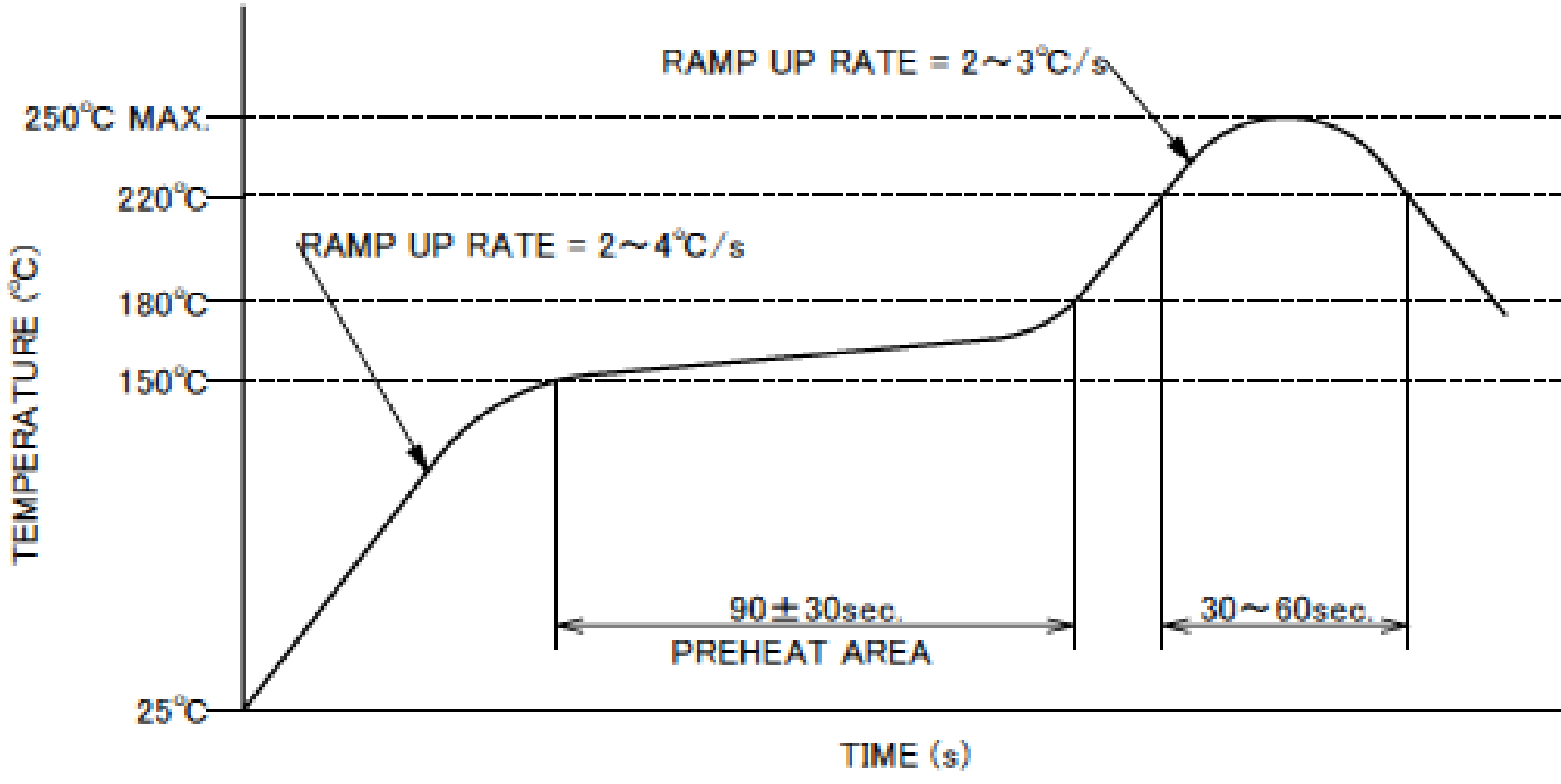
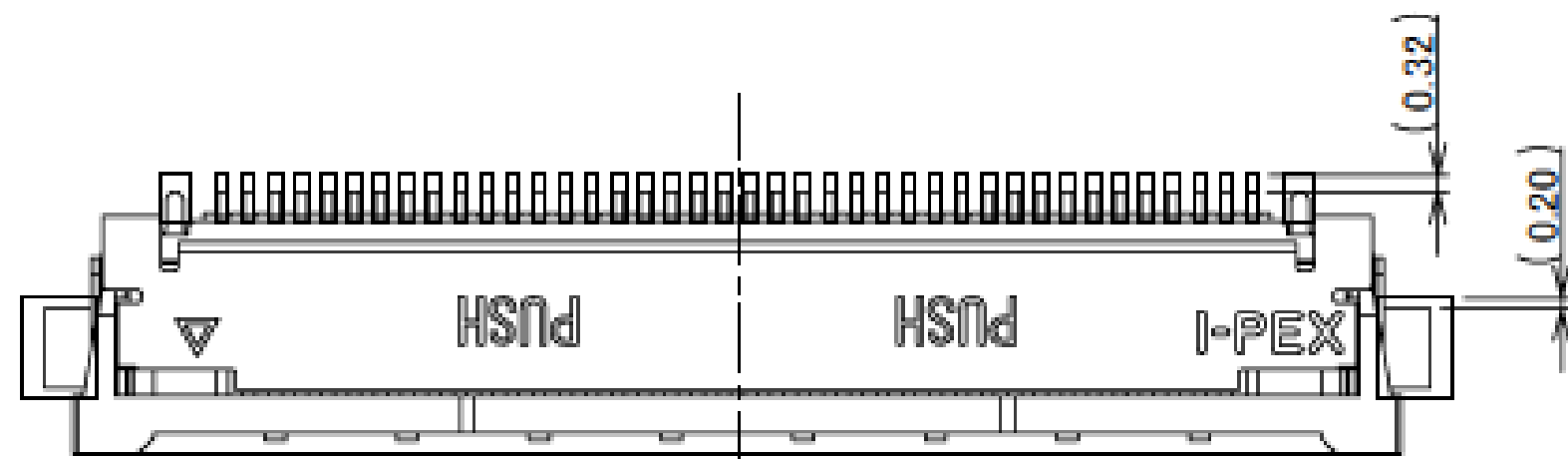
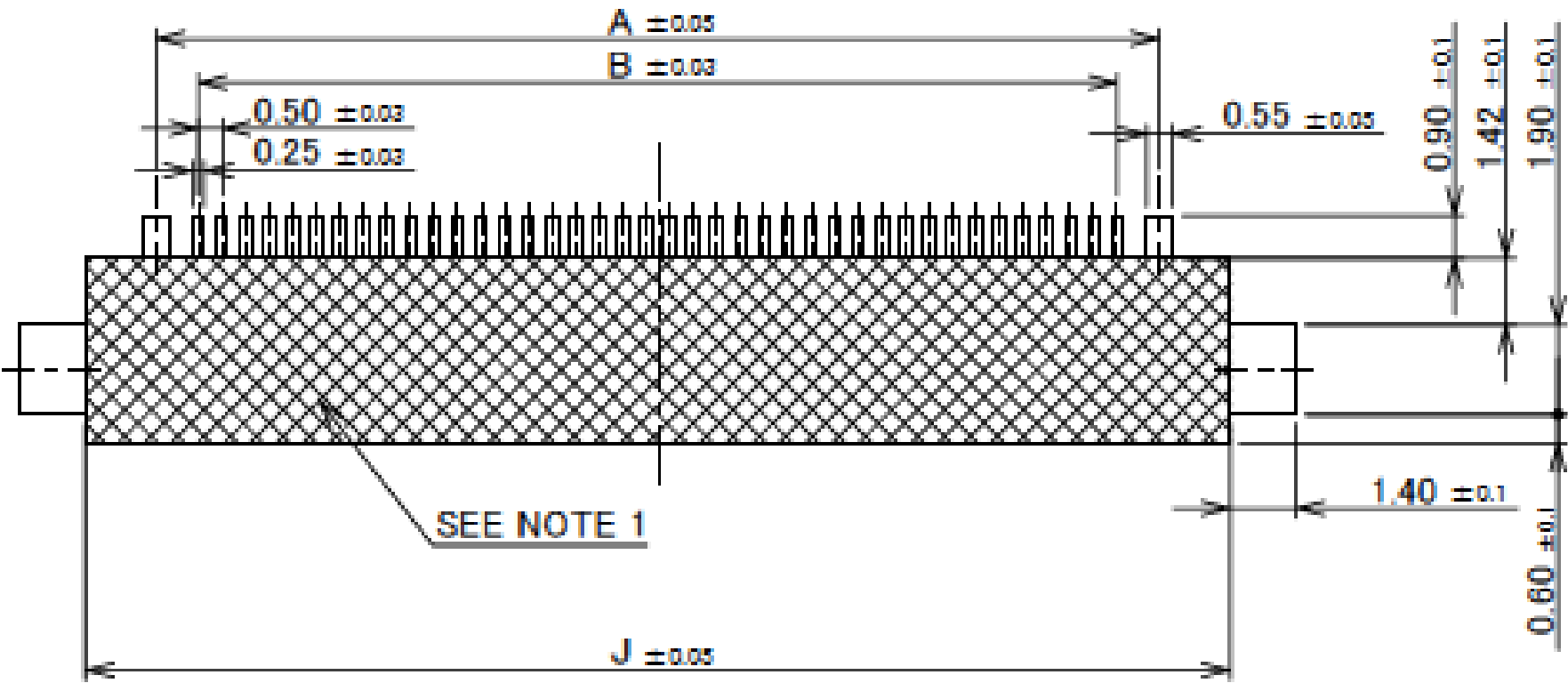


|     |                 |              |                                                                |
|-----|-----------------|--------------|----------------------------------------------------------------|
| 9   | SHIELD TAPE     | METALIC FILM | -                                                              |
| 8   | INTERLAYER      | ARBITRARY    | -                                                              |
| 7   | GROUND PLATE    | METARIC FILM | POLISH or HALF POLISH<br>Sn PLATING                            |
| 6   | REINFORCED TAPE | ARBITRARY    | -                                                              |
| 5   | INSULATION FILM | ARBITRARY    | -                                                              |
| 4   | CONDUCTOR       | COPPER ALLOY | CONTACT AREA: Au 0.05 $\mu$ m MIN.<br>OVER Ni 0.5 $\mu$ m MIN. |
| NO. | DISCRPTION      | MATERIAL     | FINISH , REMARKS                                               |

- NOTES
- 1. DIFFERENTIAL IMPEDAMCE : 100  $\Omega$
  - 2. MANUFACTURE CASE(1) or CASE(2)
  - 3. SELECT A MATERIAL WITH A SOFTENING TEMPERATURE OF 85°C OR HIGHER FOR THE PATTERN ADHESIVE PART OF FFC.

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| Recommended P/N |      | 20535-0**E-02 |       |       |
|-----------------|------|---------------|-------|-------|
| PART No.        | POS. | A             | B     | J     |
| 20535-010E-02   | 10P  | 6.30          | 4.50  | 9.30  |
| 20535-015E-02   | 15P  | 8.80          | 7.00  | 11.80 |
| 20535-020E-02   | 20P  | 11.30         | 9.50  | 14.30 |
| 20535-024E-02   | 24P  | 13.30         | 11.50 | 16.30 |
| 20535-030E-02   | 30P  | 16.30         | 14.50 | 19.30 |
| 20535-040E-02   | 40P  | 21.30         | 19.50 | 24.30 |



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

NOTE

- 1. SOLDER RESIST MUST BE APPLIED TO THIS AREA.

Rev.14

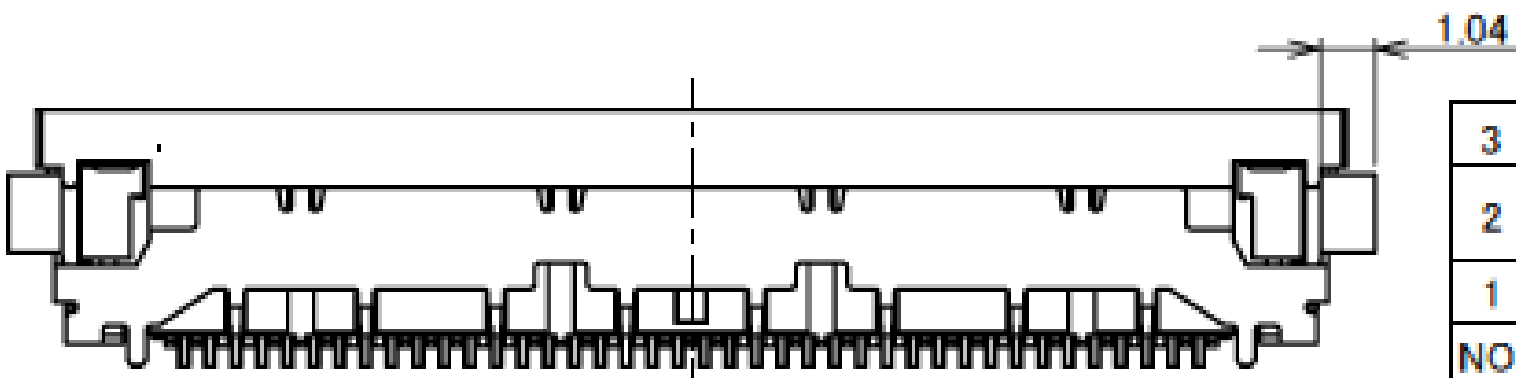
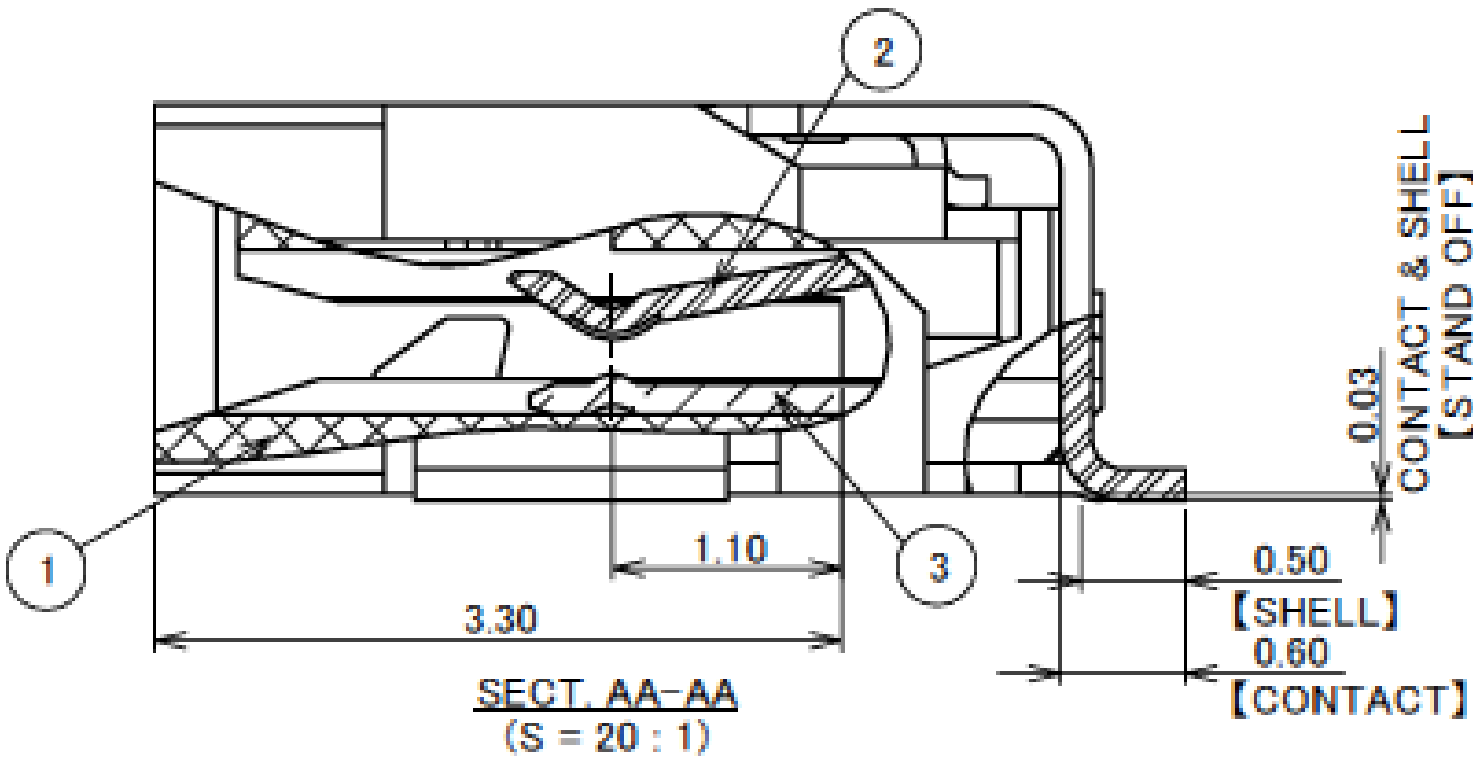
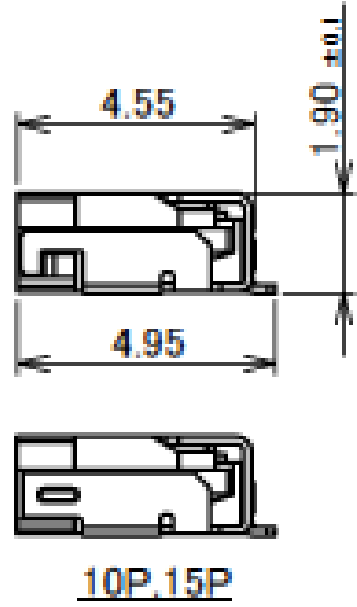
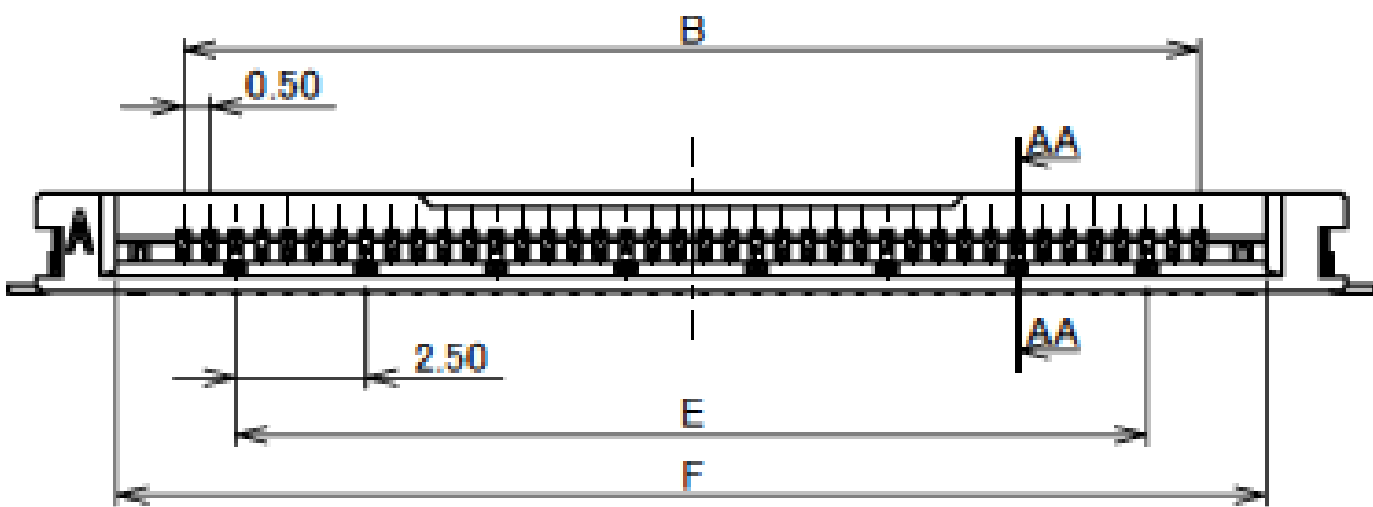
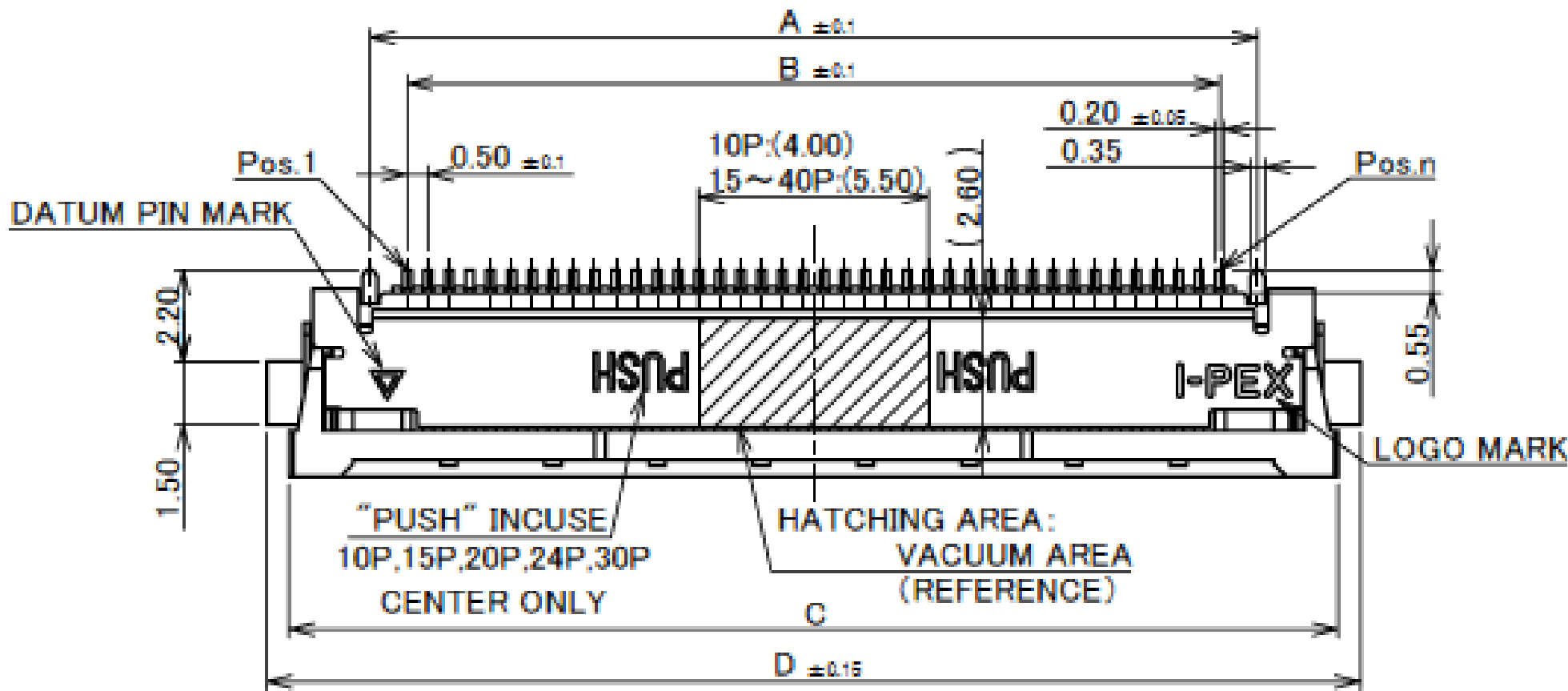
Connector Assembly

| ITEMS                                   | SPECIFICATION                                                                                                                                     |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| RATING VOLTAGE                          | 200V AC/DC (PER CONTACT PIN)                                                                                                                      |
| RATING AMPERAGE (FOR CONTACT)           | 0.3A AC/DC (PER CONTACT PIN)<br>IN CASE OF APPLYING 0.5A PER CONTACT PIN,<br>THE TOTAL CURRENT OF THE WHOLE CONNECTOR<br>SHALL BE 15.0A OR LOWER. |
| OPERATING TEMPERATURE                   | 233~358K(-40℃~+85℃)                                                                                                                               |
| OPERATING HUMIDITY                      | 85% MAX.(NON-CONDENSING)                                                                                                                          |
| CONTACT RESISTANCE (FOR SIGNAL CONTACT) | INITIAL : 60mohm MAX. / AFTER TEST : $\triangle$ 40mohm MAX.                                                                                      |
| INSULATION RESISTANCE                   | INITIAL : 100Mohm MIN. / AFTER TEST : 100Mohm MIN.                                                                                                |
| DIELECTRIC WITHSTANDING VOLTAGE         | AC250V 1min                                                                                                                                       |
| DURABILITY                              | 30 CYCLES                                                                                                                                         |
| MATING FORCE (INITIAL / AFTER TEST)     | 10P : 6.0N MAX.<br>15P : 9.0N MAX.<br>20P : 12.0N MAX.<br>24P : 14.4N MAX.<br>30P : 18.0N MAX.<br>40P : 24.0N MAX.                                |
| UNMATING FORCE (INITIAL / AFTER TEST)   | 10P : 1.0N MIN.<br>15P : 1.5N MIN.<br>20P : 2.0N MIN.<br>24P : 2.4N MIN.<br>30P : 3.0N MIN.<br>40P : 4.0N MIN.                                    |
| COPLANARITY                             | 0.10 MAX.                                                                                                                                         |
| PRODUCT SPECIFICATION                   | PRS-1670                                                                                                                                          |
| TEST REPORT                             | TR-12108                                                                                                                                          |
| PACKING STANDARD                        | 300-997                                                                                                                                           |
| INSTRUCTION MANUAL                      | HIM-12003                                                                                                                                         |
| APPEARANCE CRITERIA No.                 | QLS-A***                                                                                                                                          |

Rev.14

Recommended P/N 20720-0\*\*E-02

| PART NO.      | POS. | A     | B     | C     | D     | E     | F     |
|---------------|------|-------|-------|-------|-------|-------|-------|
| 20720-010E-02 | 10P  | 6.30  | 4.50  | 10.17 | 11.25 | 2.50  | 7.10  |
| 20720-015E-02 | 15P  | 8.80  | 7.00  | 12.67 | 13.75 | 5.00  | 9.60  |
| 20720-020E-02 | 20P  | 11.30 | 9.50  | 15.17 | 16.25 | 7.50  | 12.10 |
| 20720-024E-02 | 24P  | 13.30 | 11.50 | 17.17 | 18.25 | 7.50  | 14.10 |
| 20720-030E-02 | 30P  | 16.30 | 14.50 | 20.17 | 21.25 | 12.50 | 17.10 |
| 20720-040E-02 | 40P  | 21.30 | 19.50 | 25.17 | 26.25 | 17.50 | 22.10 |



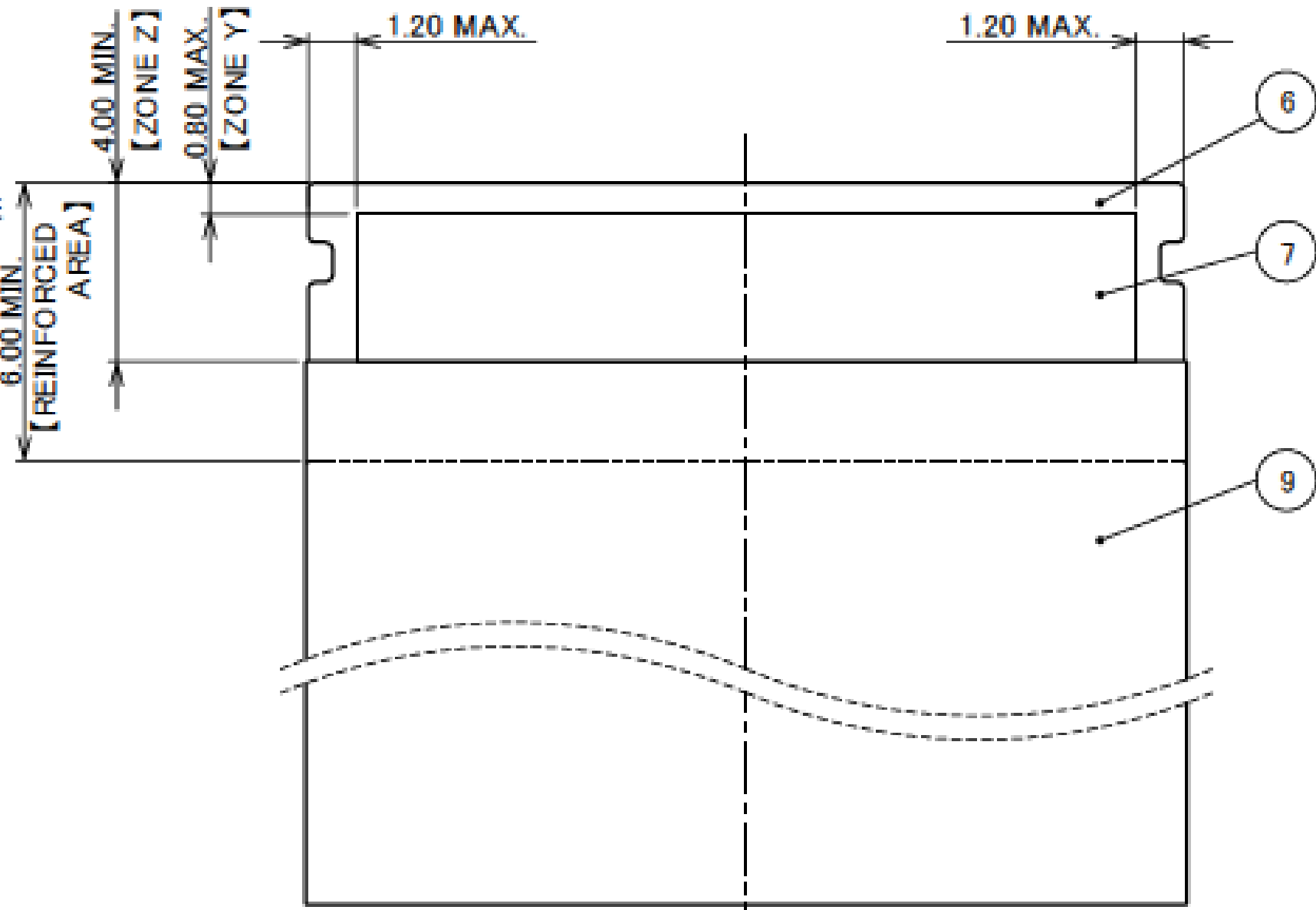
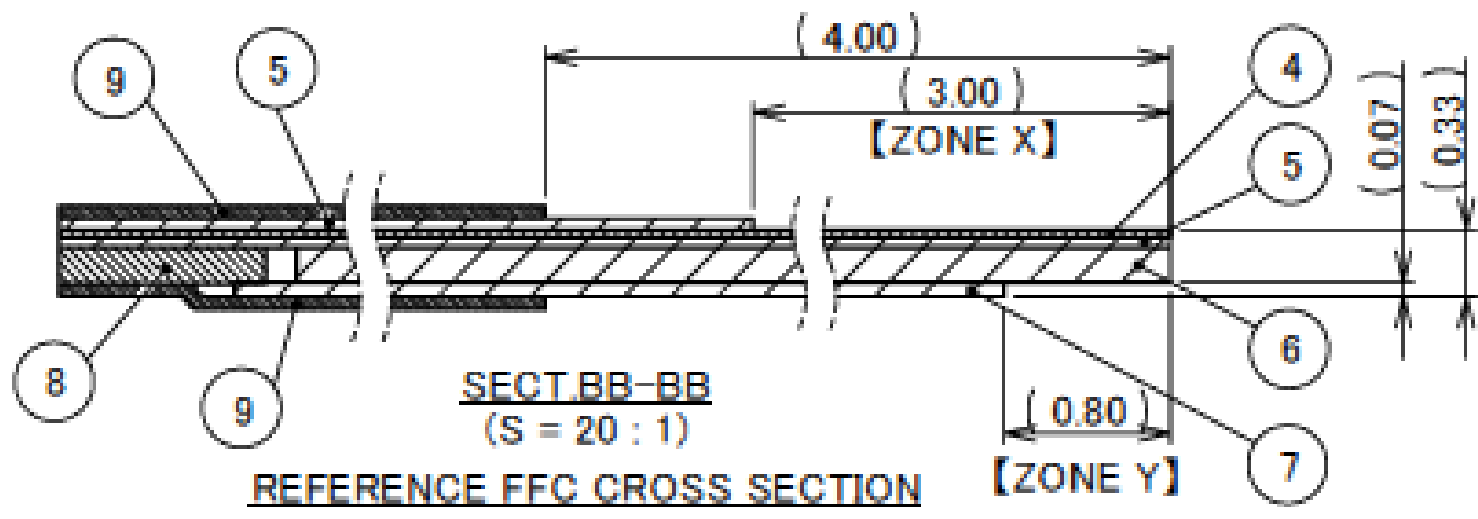
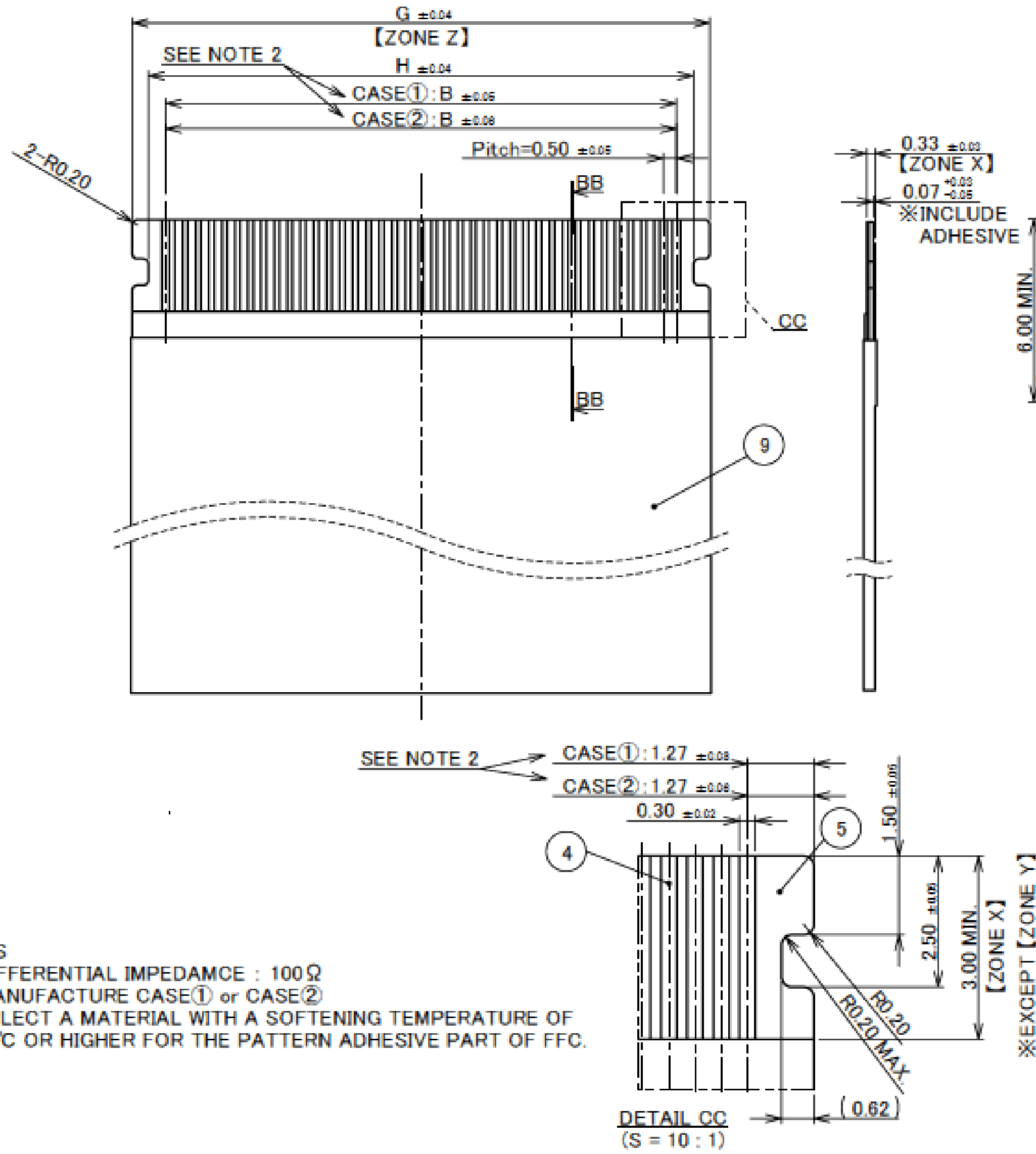
| NO. | DISCRIPTION | MATERIAL        | FINISH . REMARKS                                                                   |
|-----|-------------|-----------------|------------------------------------------------------------------------------------|
| 3   | SHELL       | PHOSPHOR BRONZE | Sn OVER Ni PLATING                                                                 |
| 2   | CONTACT     | CORSON ALLOY    | Au OVER Ni PLATING<br>CONTACT AREA: Au 0.03 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN. |
| 1   | HOUSING     | LCP             | UL94V-0, BLACK                                                                     |

Rev.7

Connector Assembly

| Recommended P/N |      | 20720-0**E-02 |       |       |
|-----------------|------|---------------|-------|-------|
| FOR             | POS. | B             | G     | H     |
| 20720-010E-02   | 10P  | 4.50          | 7.04  | 5.80  |
| 20720-015E-02   | 15P  | 7.00          | 9.54  | 8.30  |
| 20720-020E-02   | 20P  | 9.50          | 12.04 | 10.80 |
| 20720-024E-02   | 24P  | 11.50         | 14.04 | 12.80 |
| 20720-030E-02   | 30P  | 14.50         | 17.04 | 15.80 |
| 20720-040E-02   | 40P  | 19.50         | 22.04 | 20.80 |

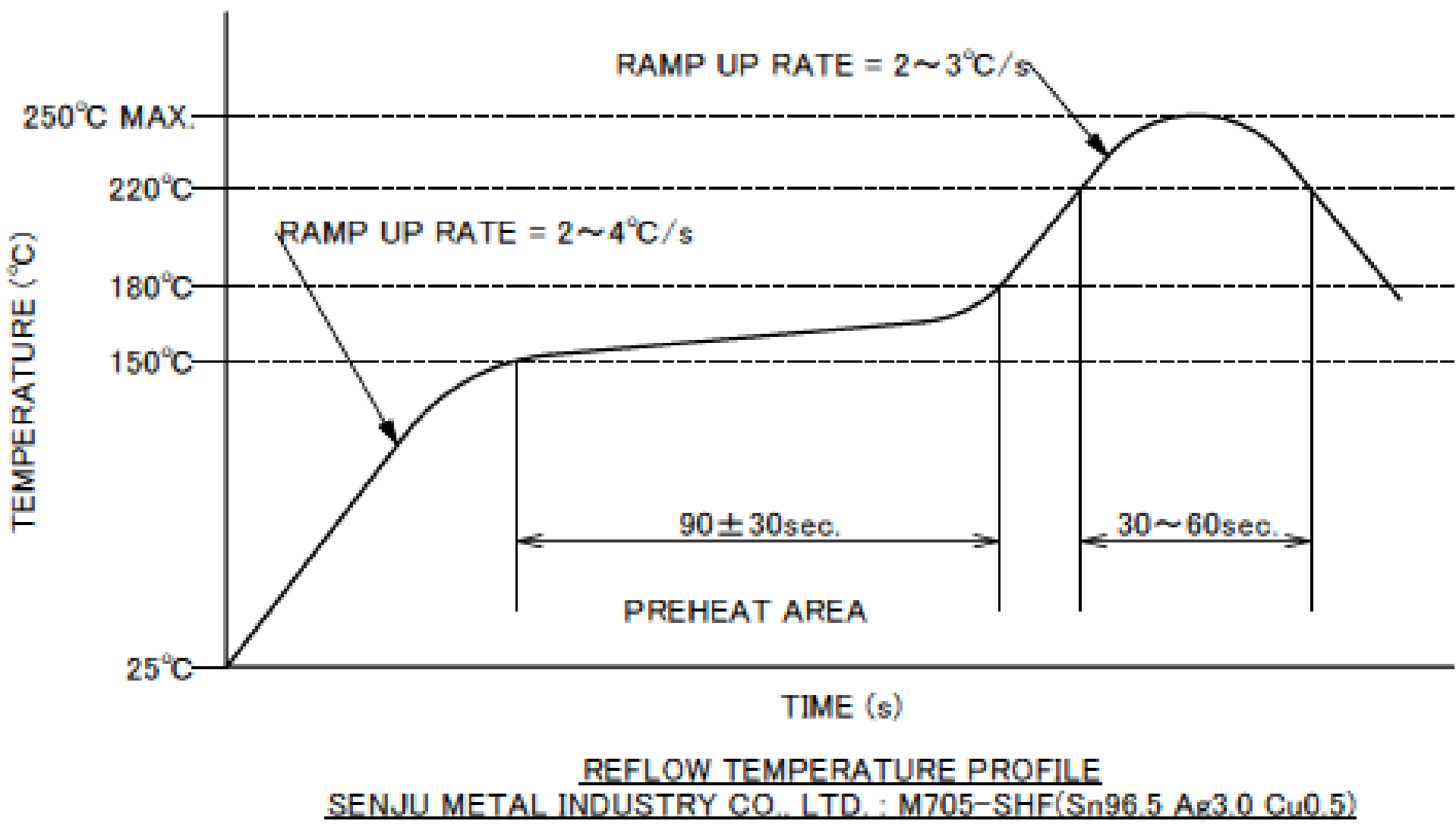
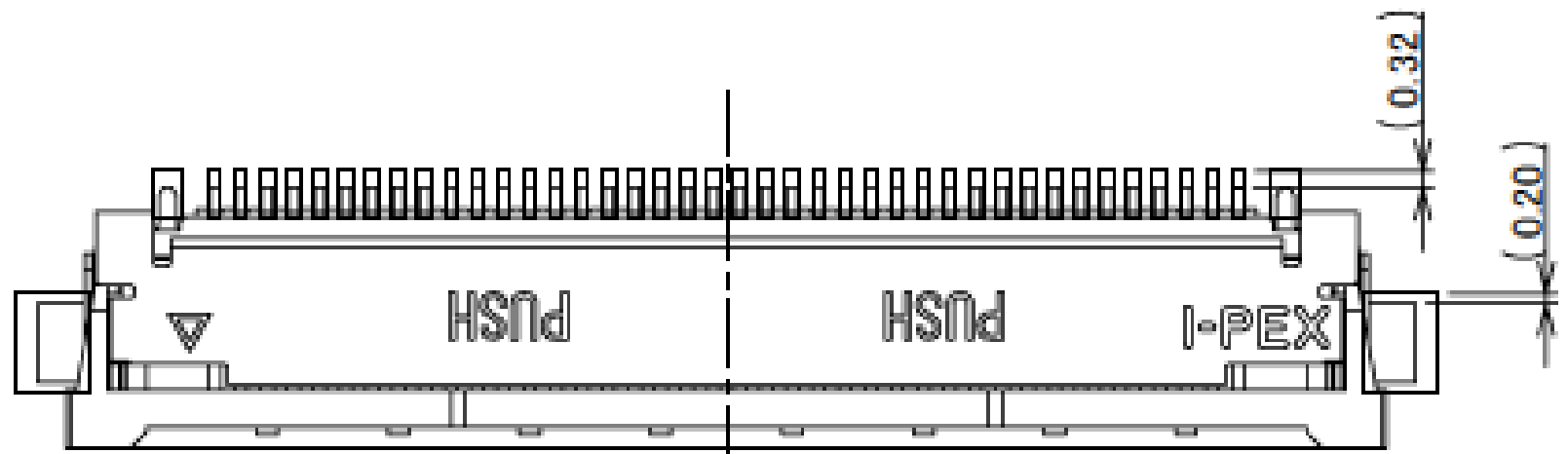
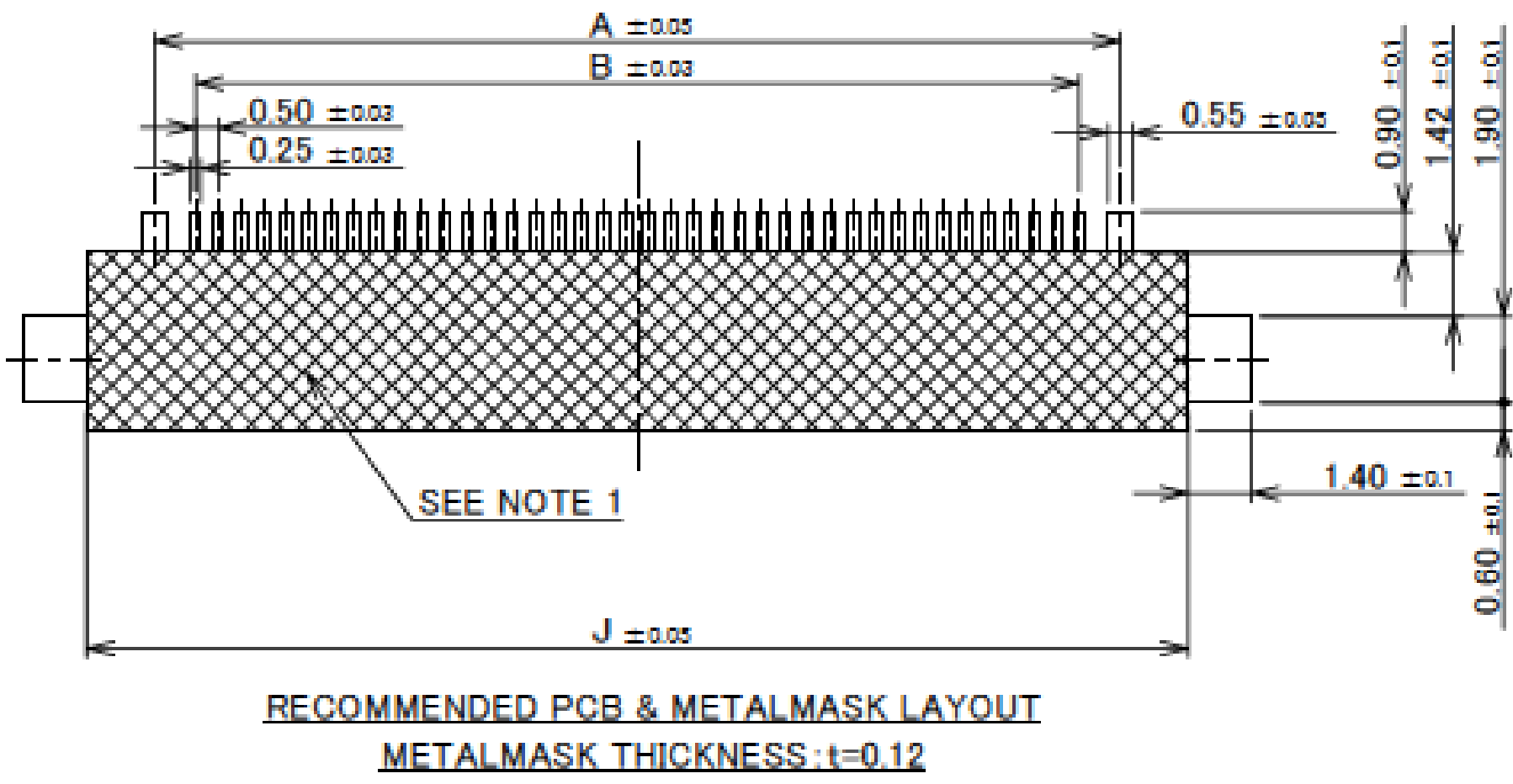
RECOMMENDED FFC DIMENSION



|     |                 |              |                                                     |
|-----|-----------------|--------------|-----------------------------------------------------|
| 9   | SHIELD TAPE     | METALIC FILM | -                                                   |
| 8   | INTERLAYER      | ARBITRARY    | -                                                   |
| 7   | GROUND PLATE    | METARIC FILM | POLISH or HALF POLISH Sn PLATING                    |
| 6   | REINFORCED TAPE | ARBITRARY    | -                                                   |
| 5   | INSULATION FILM | ARBITRARY    | -                                                   |
| 4   | CONDUCTOR       | COPPER ALLOY | CONTACT AREA: Au 0.05 μ m MIN. OVER Ni 0.5 μ m MIN. |
| NO. | DISCRIPTION     | MATERIAL     | FINISH , REMARKS                                    |

Rev.7

| Recommended P/N |      | 20720-0**E-02 |       |       |
|-----------------|------|---------------|-------|-------|
| PART NO.        | POS. | A             | B     | J     |
| 20720-010E-02   | 10P  | 6.30          | 4.50  | 9.30  |
| 20720-015E-02   | 15P  | 8.80          | 7.00  | 11.80 |
| 20720-020E-02   | 20P  | 11.30         | 9.50  | 14.30 |
| 20720-024E-02   | 24P  | 13.30         | 11.50 | 16.30 |
| 20720-030E-02   | 30P  | 16.30         | 14.50 | 19.30 |
| 20720-040E-02   | 40P  | 21.30         | 19.50 | 24.30 |



NOTE  
1. SOLDER RESIST MUST BE APPLIED TO THIS AREA.

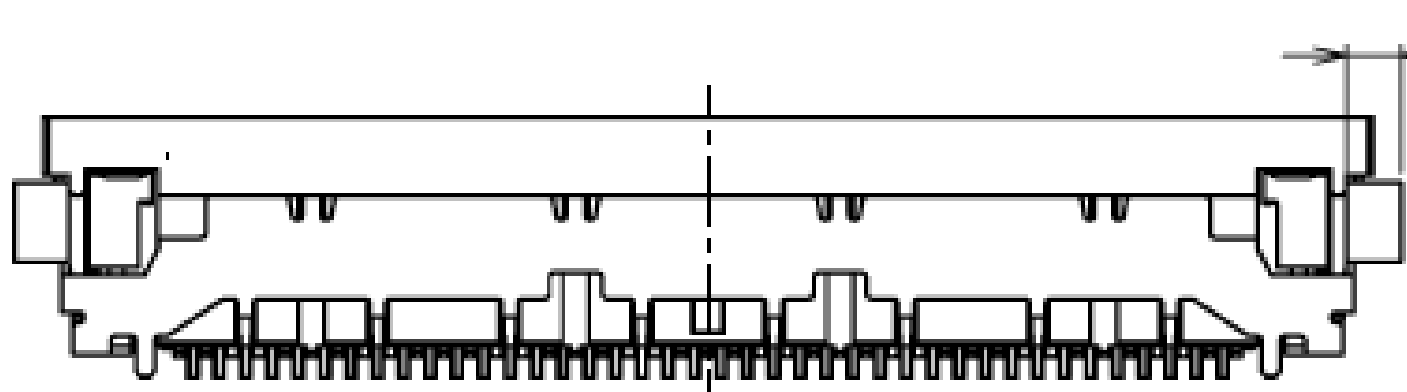
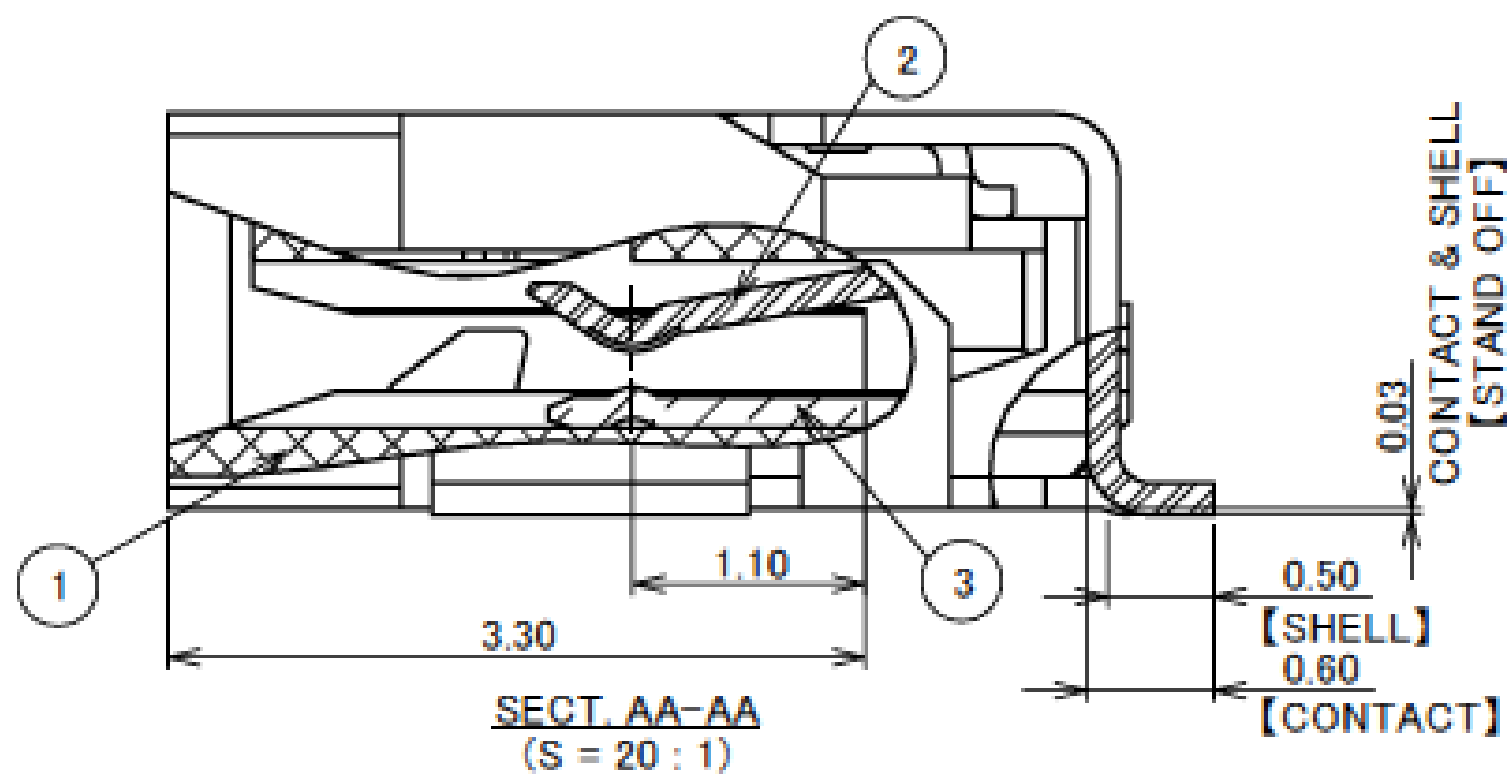
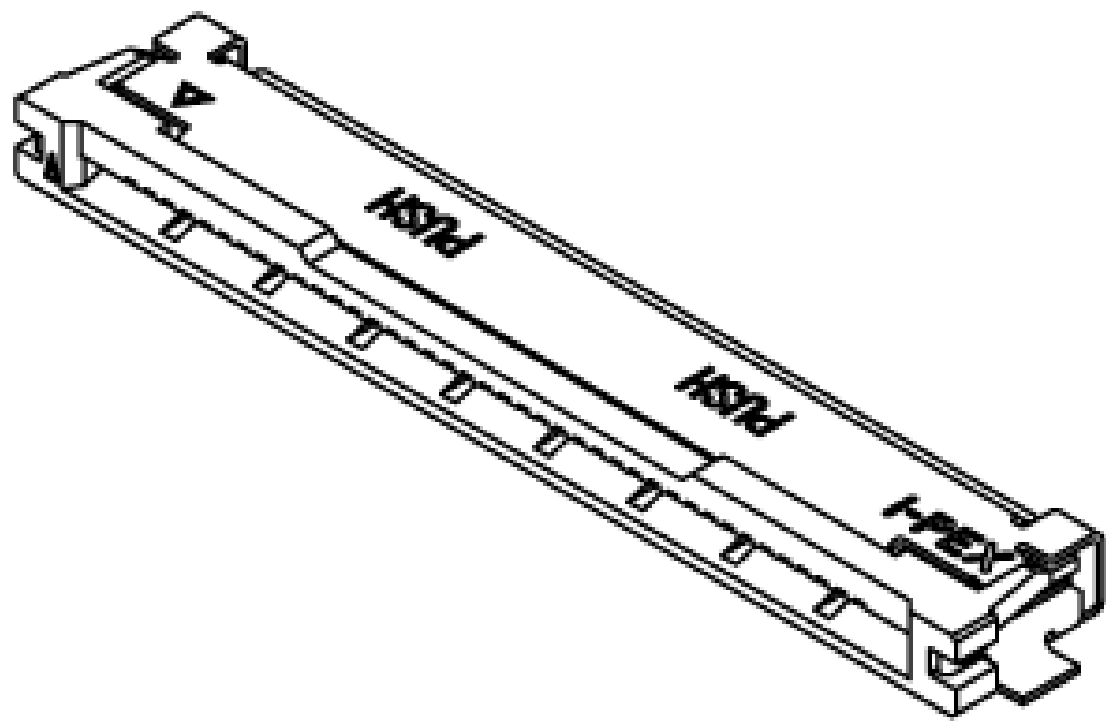
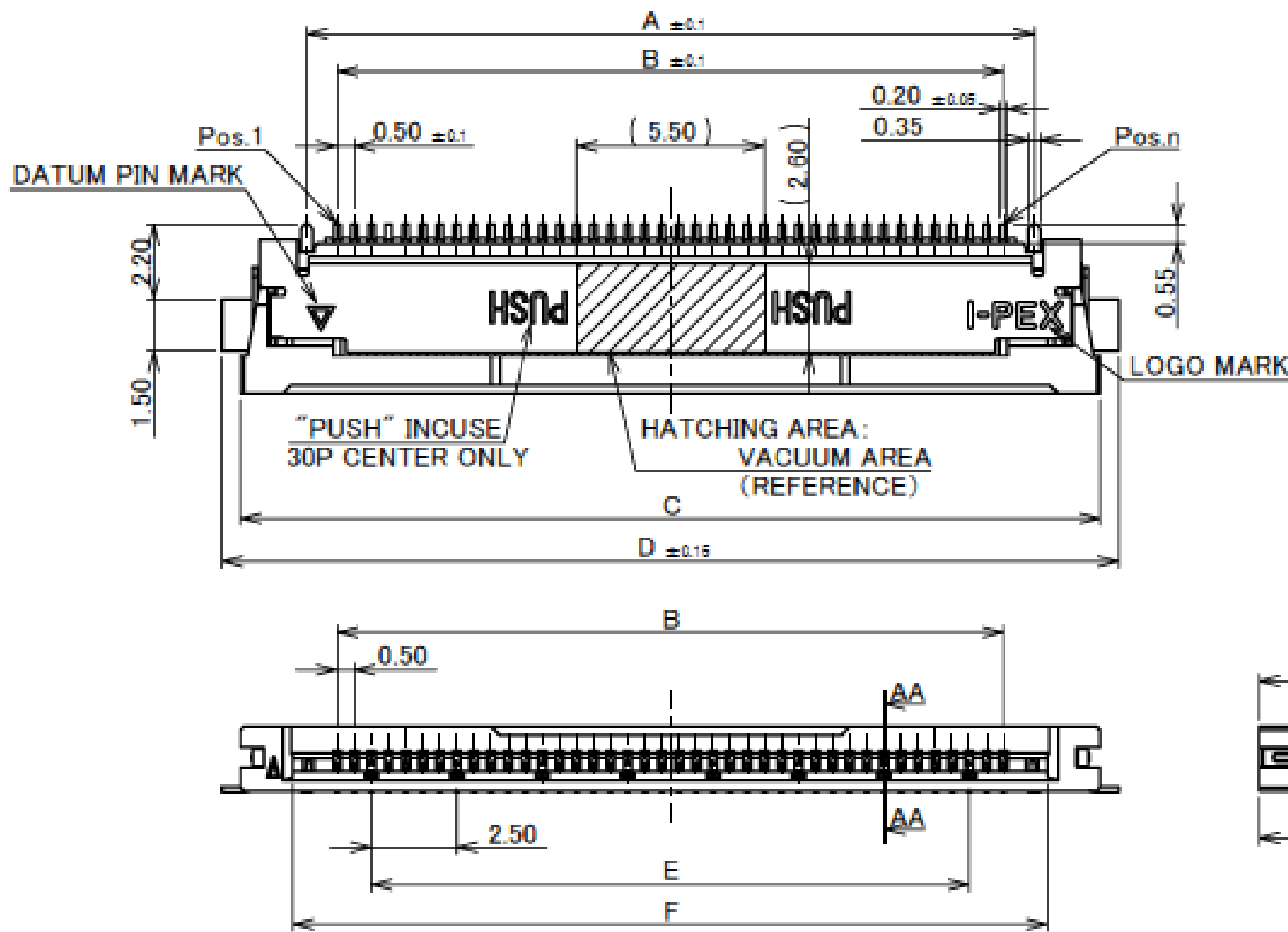
Rev.7

Connector Assembly

| ITEMS                                   | SPECIFICATION                                                                                                                                     |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| RATING VOLTAGE                          | 200V AC/DC (PER CONTACT PIN)                                                                                                                      |
| RATING AMPERAGE (FOR CONTACT)           | 0.3A AC/DC (PER CONTACT PIN)<br>IN CASE OF APPLYING 0.5A PER CONTACT PIN,<br>THE TOTAL CURRENT OF THE WHOLE<br>CONNECTOR SHALL BE 15.0A OR LOWER. |
| OPERATING TEMPERATURE                   | 233~378K(-40℃~+105℃)                                                                                                                              |
| OPERATING HUMIDITY                      | 85% MAX.(NON-CONDENSING)                                                                                                                          |
| CONTACT RESISTANCE (FOR SIGNAL CONTACT) | INITIAL : 60mohm MAX. / AFTER TEST : $\triangle$ 40mohm MAX.                                                                                      |
| INSULATION RESISTANCE                   | INITIAL : 100Mohm MIN. / AFTER TEST : 100Mohm MIN.                                                                                                |
| DIELECTRIC WITHSTANDING VOLTAGE         | AC250V 1min                                                                                                                                       |
| DURABILITY                              | 30 CYCLES                                                                                                                                         |
| MATING FORCE (INITIAL / AFTER TEST)     | 10P : 6.0N MAX.<br>15P : 9.0N MAX.<br>20P : 12.0N MAX.<br>24P : 14.4N MAX.<br>30P : 18.0N MAX.<br>40P : 24.0N MAX.                                |
| UNMATING FORCE (INITIAL / AFTER TEST)   | 10P : 1.0N MIN.<br>15P : 1.5N MIN.<br>20P : 2.0N MIN.<br>24P : 2.4N MIN.<br>30P : 3.0N MIN.<br>40P : 4.0N MIN.                                    |
| COPLANARITY                             | 0.10 MAX.                                                                                                                                         |
| PRODUCT SPECIFICATION                   | PRS-2224                                                                                                                                          |
| TEST REPORT                             | TR-16039                                                                                                                                          |
| PACKING STANDARD                        | 300-997                                                                                                                                           |
| INSTRUCTION MANUAL                      | HIM-12003                                                                                                                                         |
| APPEARANCE CRITERIA No.                 | QLS-A***                                                                                                                                          |

Rev.7

| Recommended P/N |      | 20893-0**E-02 |       |       |       |       |       |
|-----------------|------|---------------|-------|-------|-------|-------|-------|
| PART NO.        | POS. | A             | B     | C     | D     | E     | F     |
| 20893-030E-02   | 30P  | 16.30         | 14.50 | 20.17 | 21.25 | 12.50 | 17.10 |
| 20893-040E-02   | 40P  | 21.30         | 19.50 | 25.17 | 26.25 | 17.50 | 22.10 |
| 20893-050E-02   | 50P  | 26.30         | 24.50 | 30.17 | 31.25 | 22.50 | 27.10 |



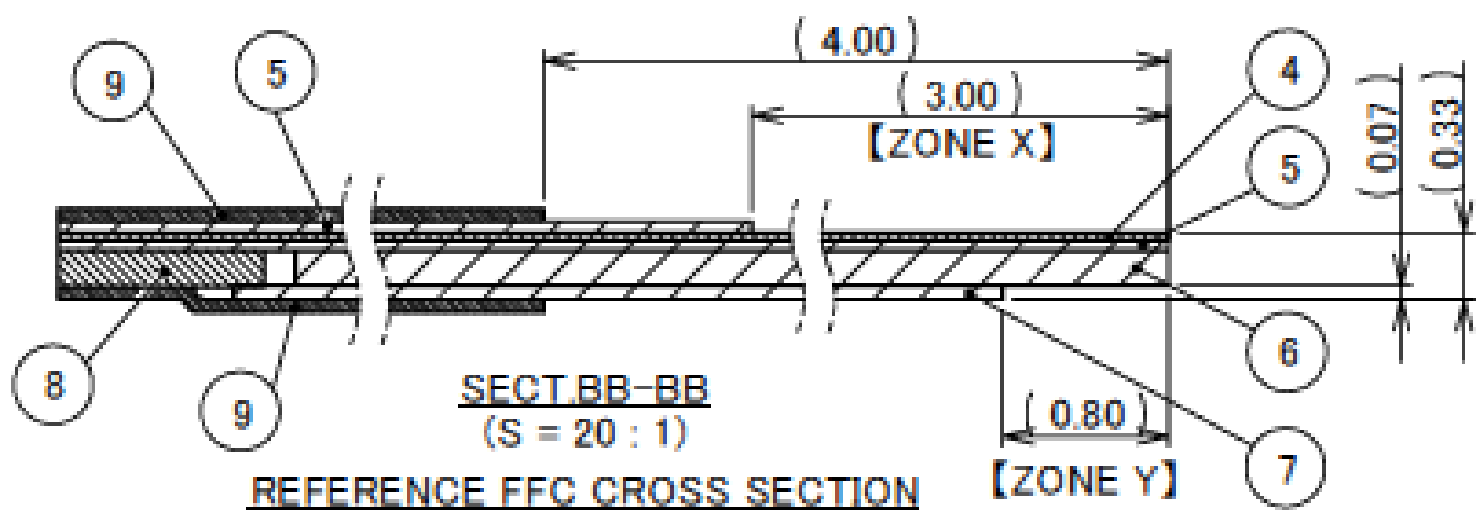
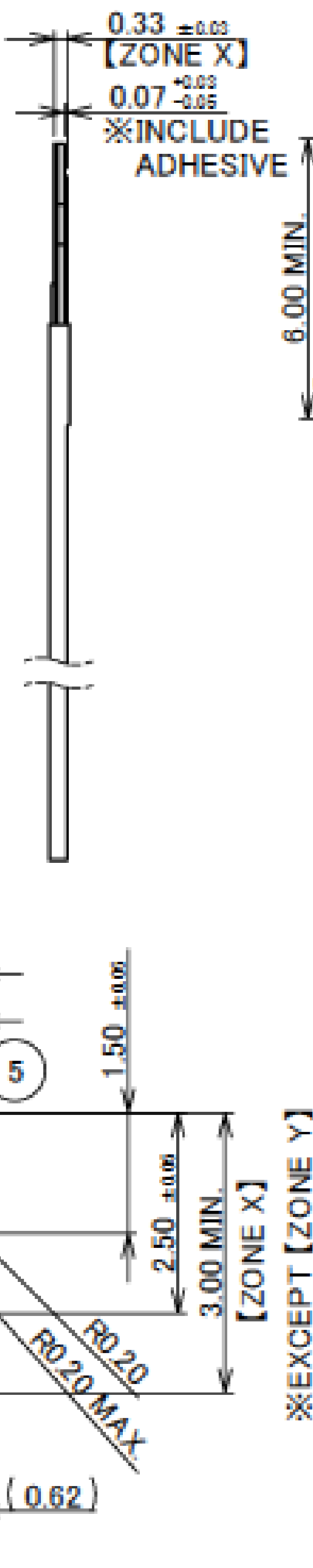
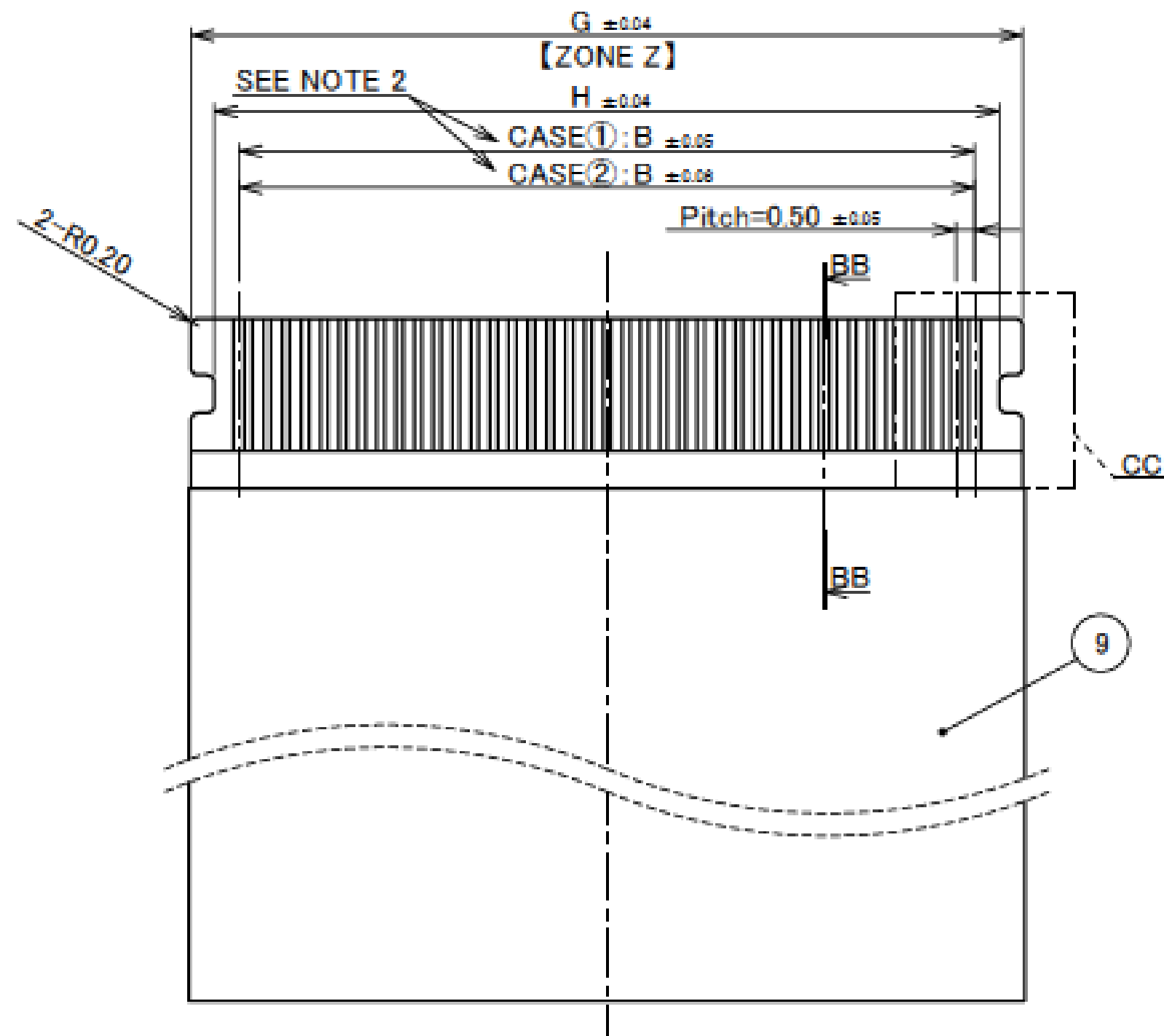
|     |             |                 |                                                                                                                                |
|-----|-------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------|
| 3   | SHELL       | PHOSPHOR BRONZE | SOLDERING AREA: Sn 3.00 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN.<br>OTHER AREA: Sn 1.00 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN.   |
| 2   | CONTACT     | CORSON ALLOY    | CONTACT AREA: Au 0.03 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN.<br>SOLDERING AREA: Au 0.03 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN. |
| 1   | HOUSING     | LCP             | UL94V-0, BLACK                                                                                                                 |
| NO. | DISCRIPTION | MATERIAL        | FINISH , REMARKS                                                                                                               |

Rev.3

Connector Assembly

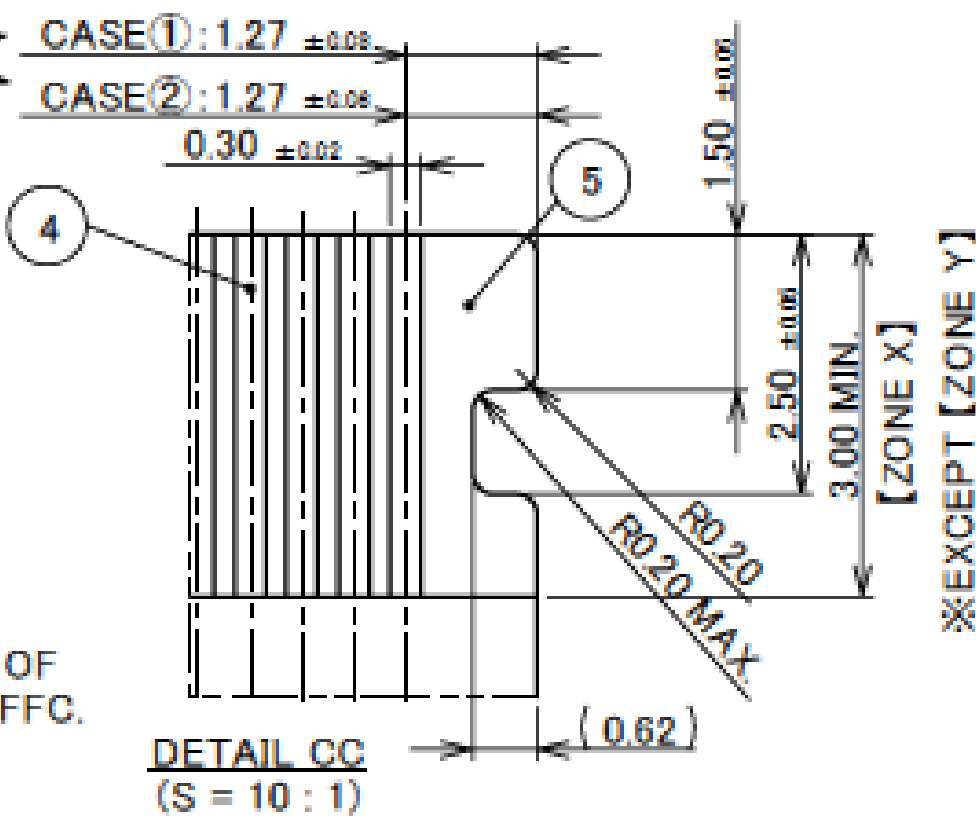
| Recommended P/N |      | 20893-0**E-02 |       |       |  |
|-----------------|------|---------------|-------|-------|--|
| FOR             | POS. | B             | G     | H     |  |
| 20893-030E-02   | 30P  | 14.50         | 17.04 | 15.80 |  |
| 20893-040E-02   | 40P  | 19.50         | 22.04 | 20.80 |  |
| 20893-050E-02   | 50P  | 24.50         | 27.04 | 25.80 |  |

RECOMMENDED FFC DIMENSION

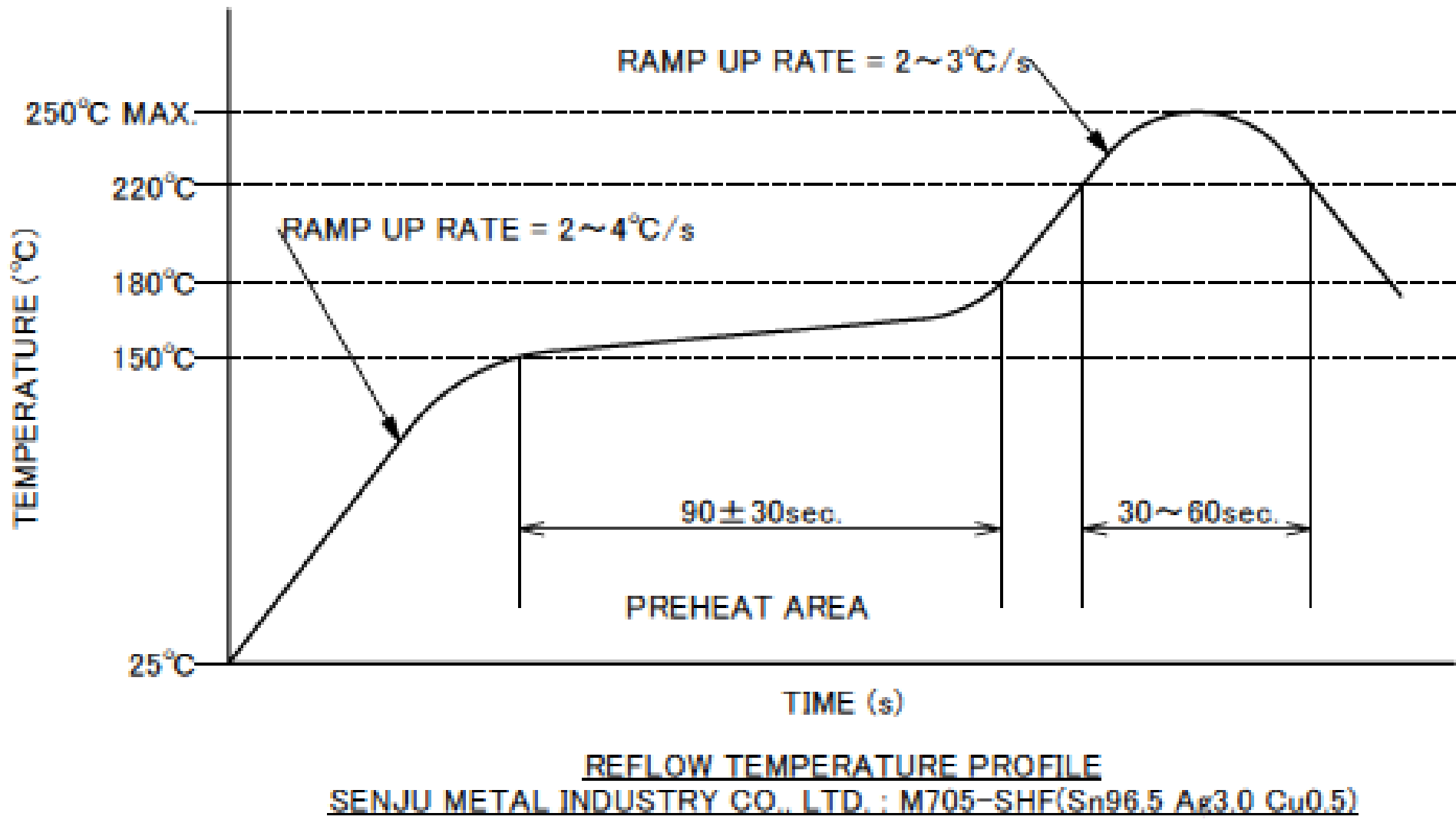
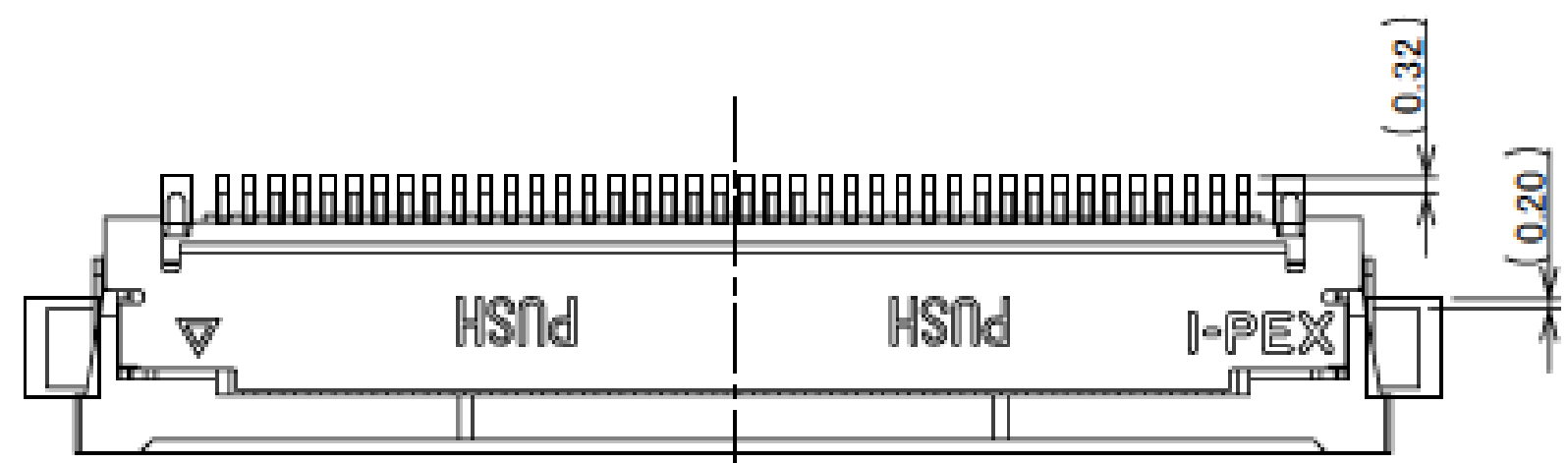
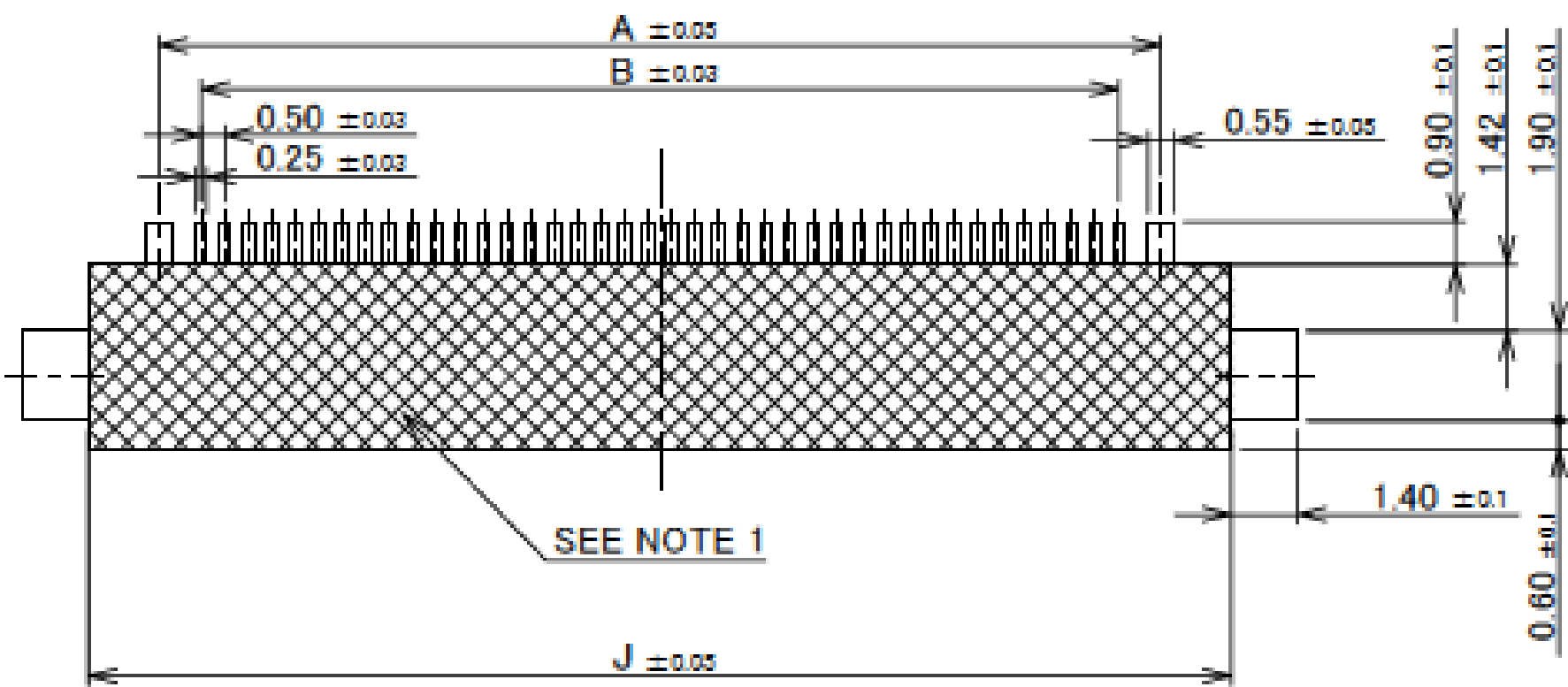


|     |                 |              |                                                     |
|-----|-----------------|--------------|-----------------------------------------------------|
| 9   | SHIELD TAPE     | METALIC FILM | -                                                   |
| 8   | INTERLAYER      | ARBITRARY    | -                                                   |
| 7   | GROUND PLATE    | METARIC FILM | POLISH or HALF POLISH Sn PLATING                    |
| 6   | REINFORCED TAPE | ARBITRARY    | -                                                   |
| 5   | INSULATION FILM | ARBITRARY    | -                                                   |
| 4   | CONDUCTOR       | COPPER ALLOY | CONTACT AREA: Au 0.05 μ m MIN. OVER Ni 0.5 μ m MIN. |
| NO. | DISCRIPTION     | MATERIAL     | FINISH , REMARKS                                    |

- NOTES
- 1.DIFFERENTIAL IMPEDAMCE : 100Ω
  - 2.MANUFACTURE CASE① or CASE②
  - 3. SELECT A MATERIAL WITH A SOFTENING TEMPERATURE OF 85°C OR HIGHER FOR THE PATTERN ADHESIVE PART OF FFC.



| Recommended P/N |      | 20893-0**E-02 |       |       |  |
|-----------------|------|---------------|-------|-------|--|
| PART NO.        | POS. | A             | B     | J     |  |
| 20893-030E-02   | 30P  | 16.30         | 14.50 | 19.30 |  |
| 20893-040E-02   | 40P  | 21.30         | 19.50 | 24.30 |  |
| 20893-050E-02   | 50P  | 26.30         | 24.50 | 29.30 |  |



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NOTE

1. SOLDER RESIST MUST BE APPLIED TO THIS AREA.

# Connector Assembly

| ITEMS                                   | SPECIFICATION                                                                                                                                     |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| RATING VOLTAGE                          | 200V AC/DC (PER CONTACT PIN)                                                                                                                      |
| RATING AMPERAGE (FOR CONTACT)           | 0.3A AC/DC (PER CONTACT PIN)<br>IN CASE OF APPLYING 0.5A PER CONTACT PIN,<br>THE TOTAL CURRENT OF THE WHOLE<br>CONNECTOR SHALL BE 15.0A OR LOWER. |
| OPERATING TEMPERATURE                   | 233~378K(-40℃~+105℃)                                                                                                                              |
| OPERATING HUMIDITY                      | 85% MAX.(NON-CONDENSING)                                                                                                                          |
| CONTACT RESISTANCE (FOR SIGNAL CONTACT) | INITIAL : 60mohm MAX. / AFTER TEST : $\triangle$ 40mohm MAX.                                                                                      |
| INSULATION RESISTANCE                   | INITIAL : 100Mohm MIN. / AFTER TEST : 100Mohm MIN.                                                                                                |
| DIELECTRIC WITHSTANDING VOLTAGE         | AC250V 1min                                                                                                                                       |
| DURABILITY                              | 30 CYCLES                                                                                                                                         |
| MATING FORCE (INITIAL / AFTER TEST)     | 30P : 18.0N MAX.<br>40P : 24.0N MAX.<br>50P : 30.0N MAX.                                                                                          |
| UNMATING FORCE (INITIAL / AFTER TEST)   | 30P : 3.0N MIN.<br>40P : 4.0N MIN.<br>50P : 5.0N MIN.                                                                                             |
| COPLANARITY                             | 0.10 MAX.                                                                                                                                         |
| PRODUCT SPECIFICATION                   | PRS-2527                                                                                                                                          |
| TEST REPORT                             | TR-18083                                                                                                                                          |
| PACKING STANDARD                        | 300-997                                                                                                                                           |
| INSTRUCTION MANUAL                      | HIM-12003                                                                                                                                         |
| APPEARANCE CRITERIA No.                 | QLS-A***                                                                                                                                          |

Rev.3

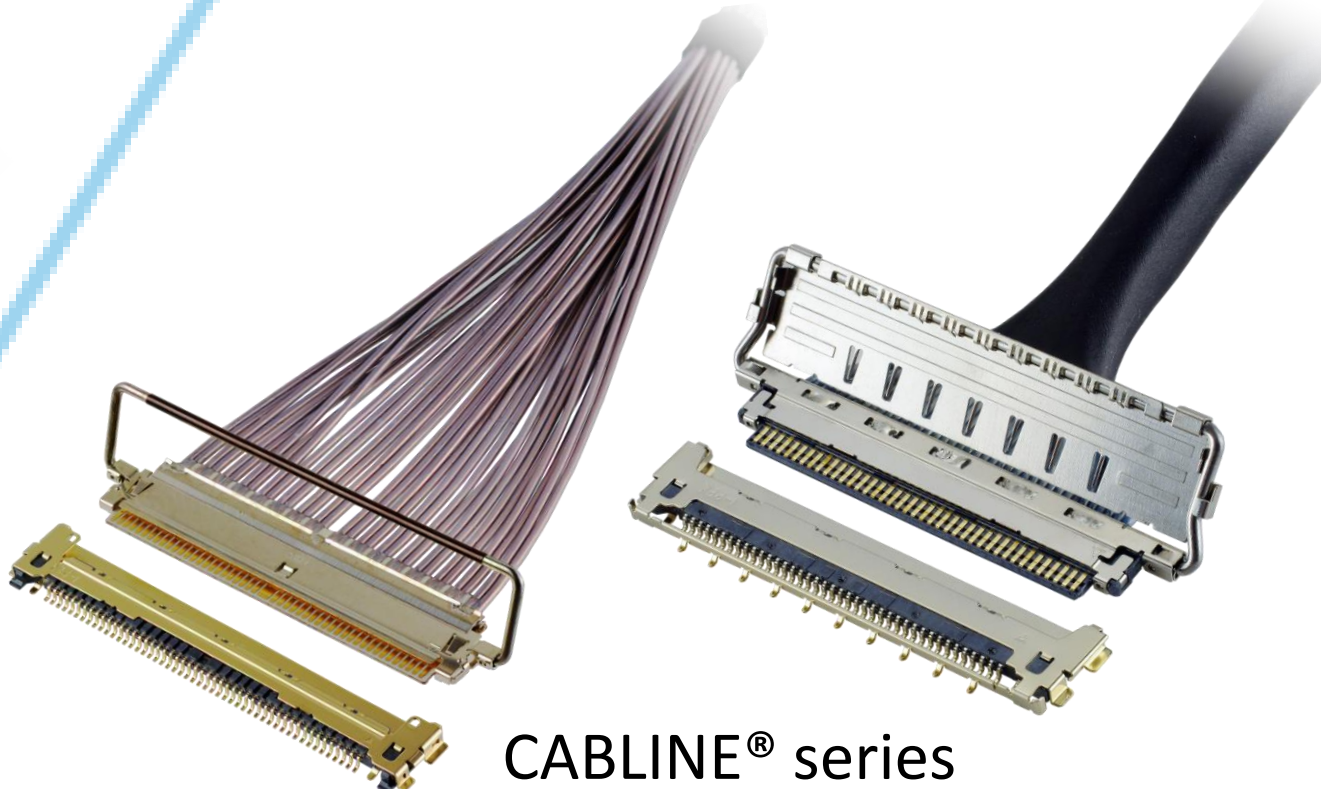
# Custom Connectors Available

 RF  
Connectors

MHF® series



CABLINE® series



Micro-coaxial/Twinax  
Connectors

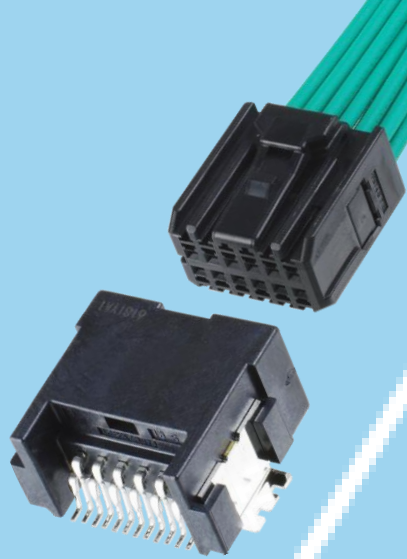


Wire-to-Board  
Connectors/  
Terminals

AP series



ISH® series



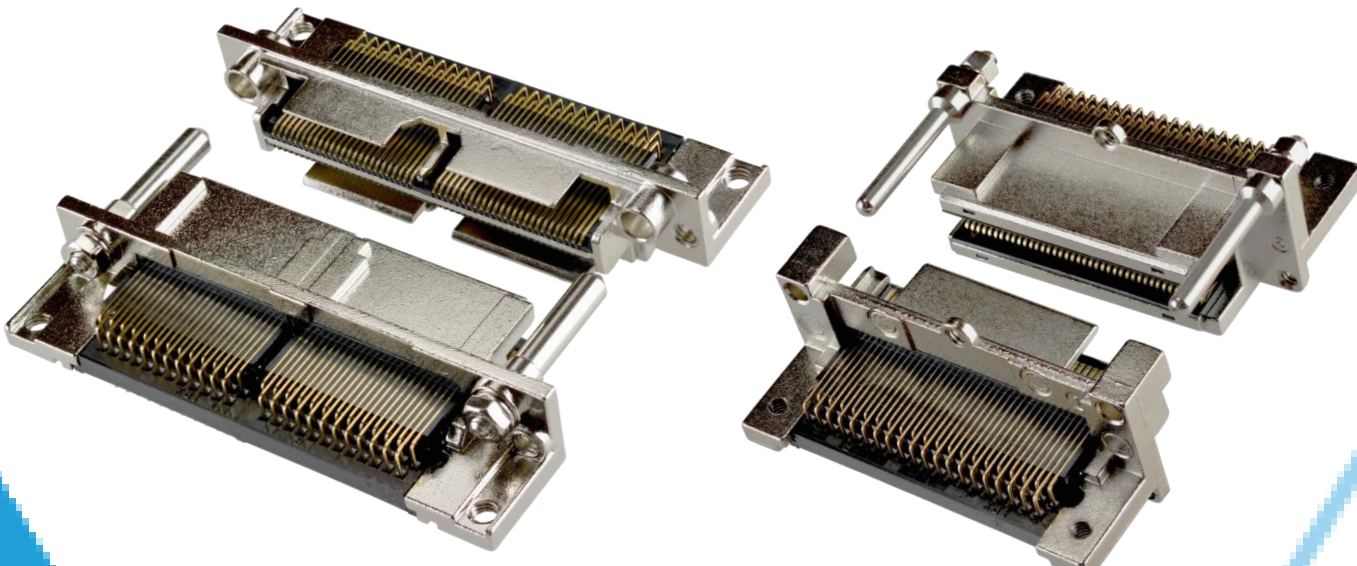
NOVASTACK® series



Board-to-Board  
Connectors



I/O  
Connectors



MINIDOCK™ series

MINIFLEX® series

EVAFLEX® series



FPC/FFC  
Connectors



Inquiry



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