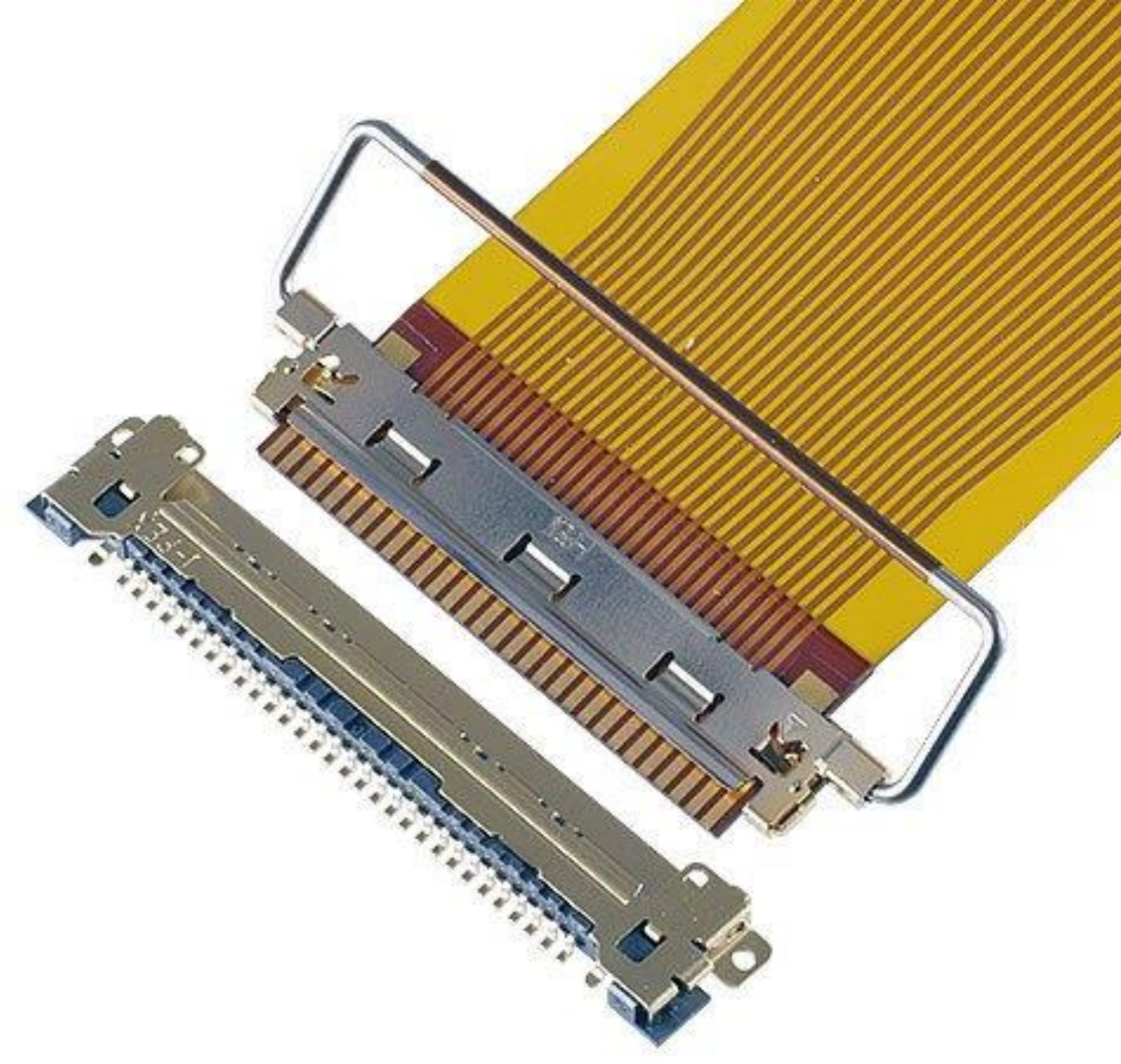


CABLINE®-VSF

メカニカルロック付き、0.5mmピッチ、水平嵌合タイプFPCプラグコネクタ



Product Specifications:

| | | |
|--------------------|------------|--------------------------|
| Mating type | Horizontal | |
| Board Pitch (mm) | 0.5 | |
| Wiping Length (mm) | 0.62 | |
| Mated size (mm) | Height | 1.0 +/- 0.1 |
| | Width | Formula: 7.55 + (0.5*?p) |
| | Depth | 5.97 |
| Pin Counts | Range | Up to 50 |
| | Available | 30, 40 |

Applicable FPC

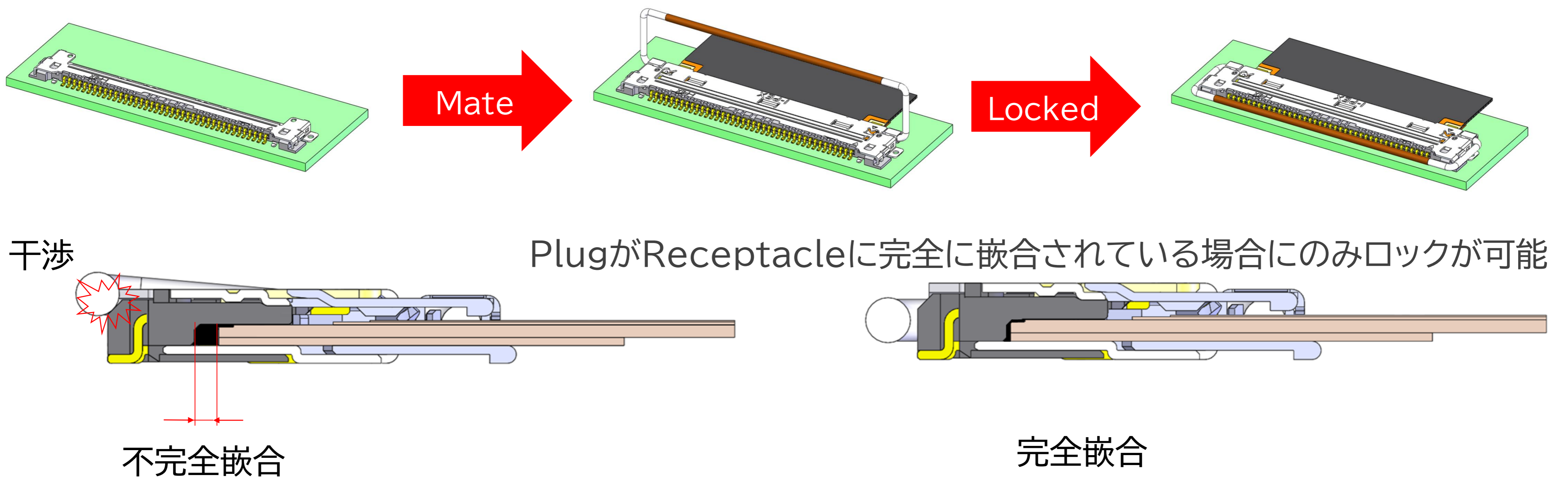
| | |
|--------------------|--------------------------------|
| FPC Type | Shielded/Non-shielded FPC |
| FPC Pitch (mm) | 0.5 |
| FPC Contact Point | Top |
| FPC Thickness (mm) | Contact Area: 0.28 +0.02/-0.03 |
| | Ground Area: 0.34 ± 0.05 |

Applicable Standards (Reference Only):

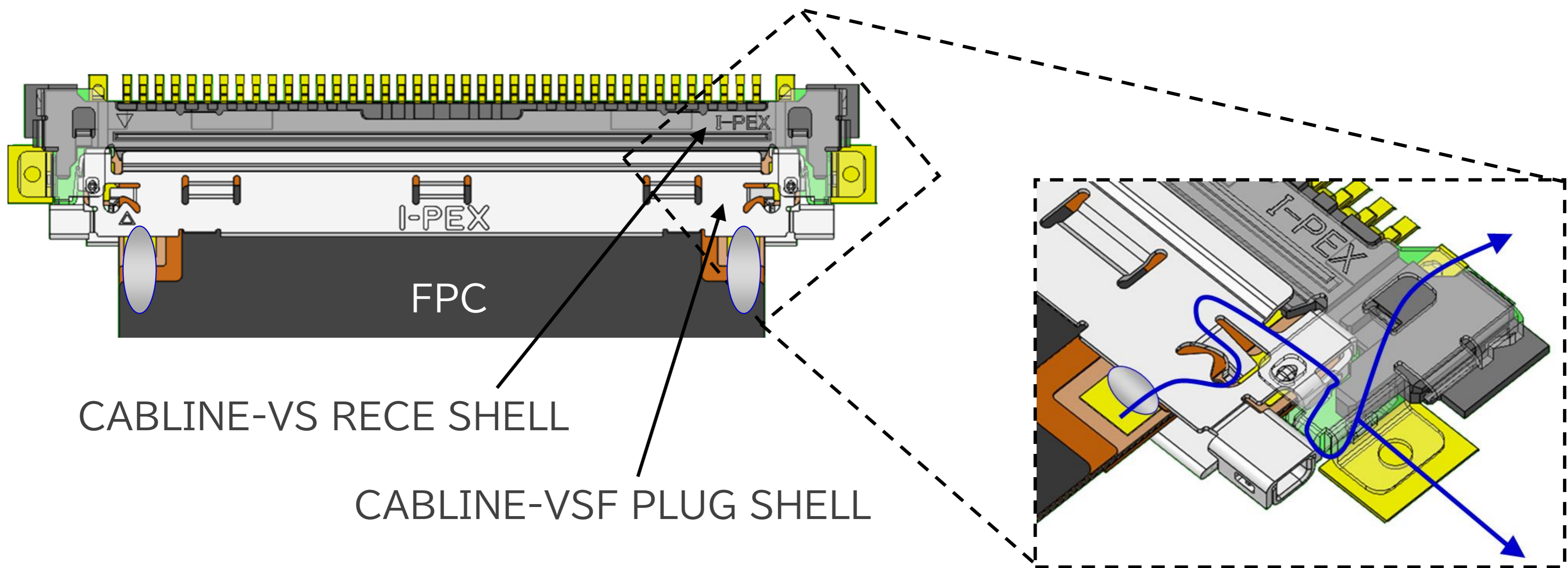
PCIe® Gen 4 (16 GT/s/Lane), USB3.2 Gen2 (10 Gbps/Lane)
eDP HBR 3 (8.1 Gbps/Lane), USB3.2 Gen1(5 Gbps/Lane)

*記載のない極数の対応状況についてはお問い合わせください。

▶ メカニカルロックバーによる不完全嵌合防止とPlug抜け防止



▶ EMIシールドと多点グラウンド接点設計

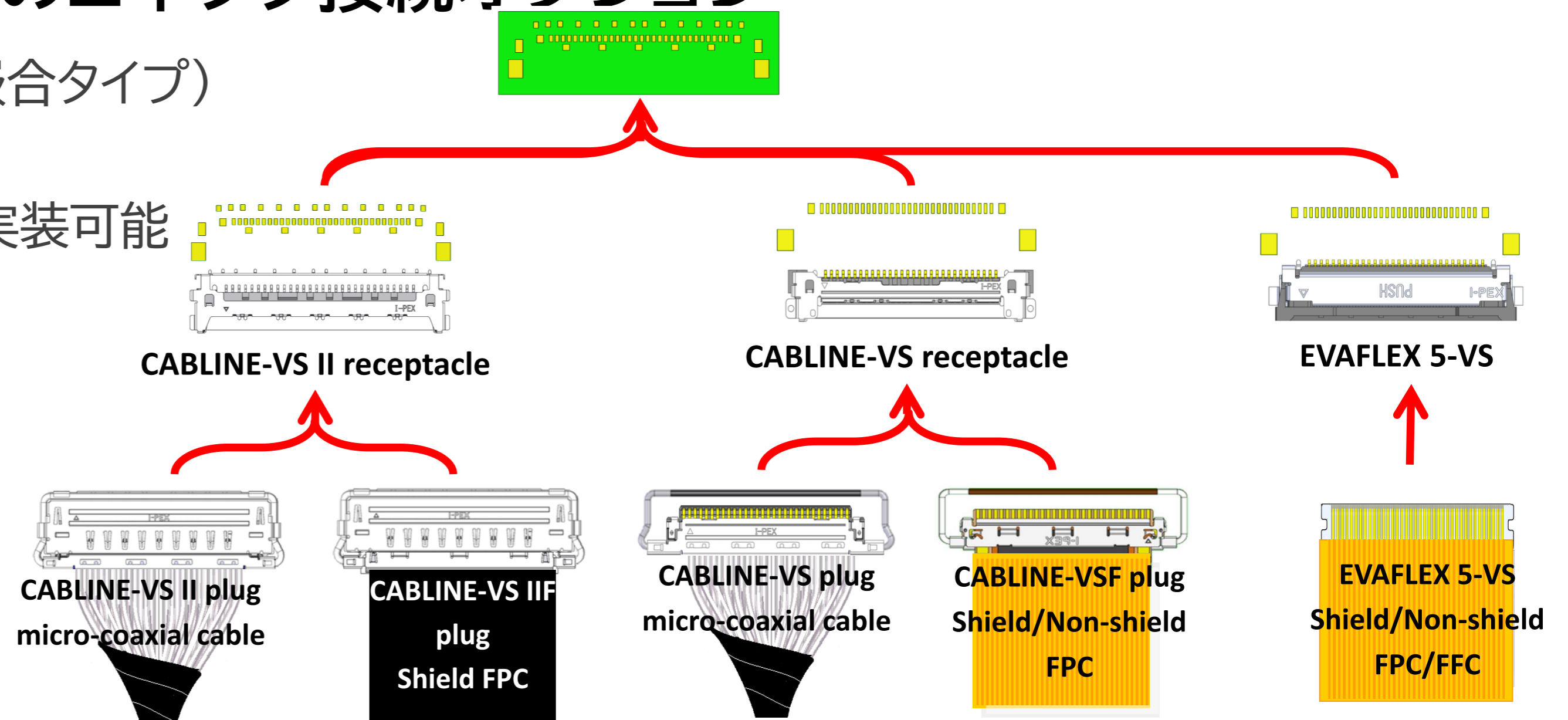


▶ I-PEX VSシリーズにおける複数のコネクタ接続オプション

I-PEX VSシリーズ (0.5mmピッチ、水平嵌合タイプ)

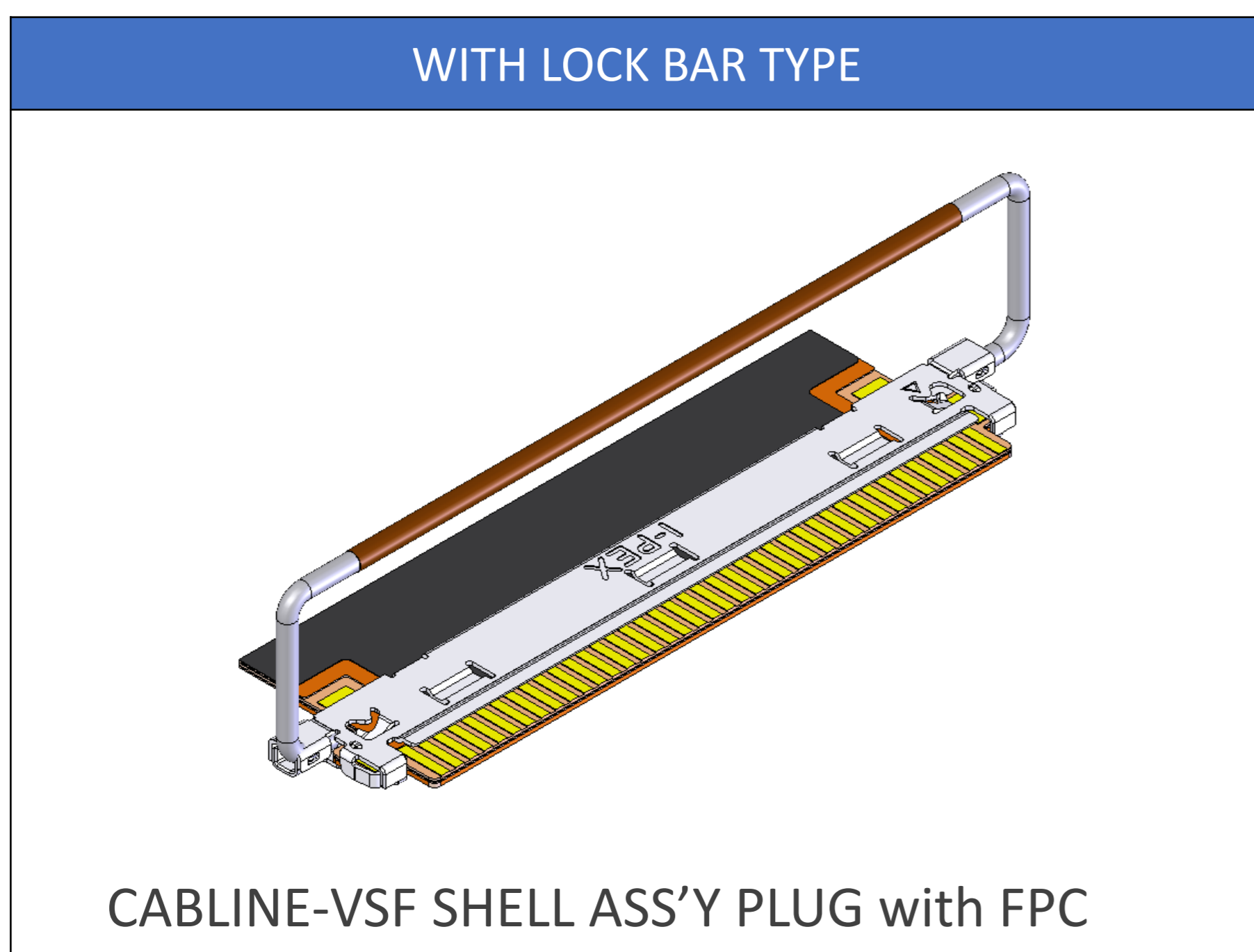
CABLINA-VS、VS II Receptacles と EVAFLEX®5-VSは同じPCBレイアウトに実装可能

CABLINA-VS Receptacle: VESA規格の標準コネクタとして、ノートPC パネル市場のシェア No.1を獲得

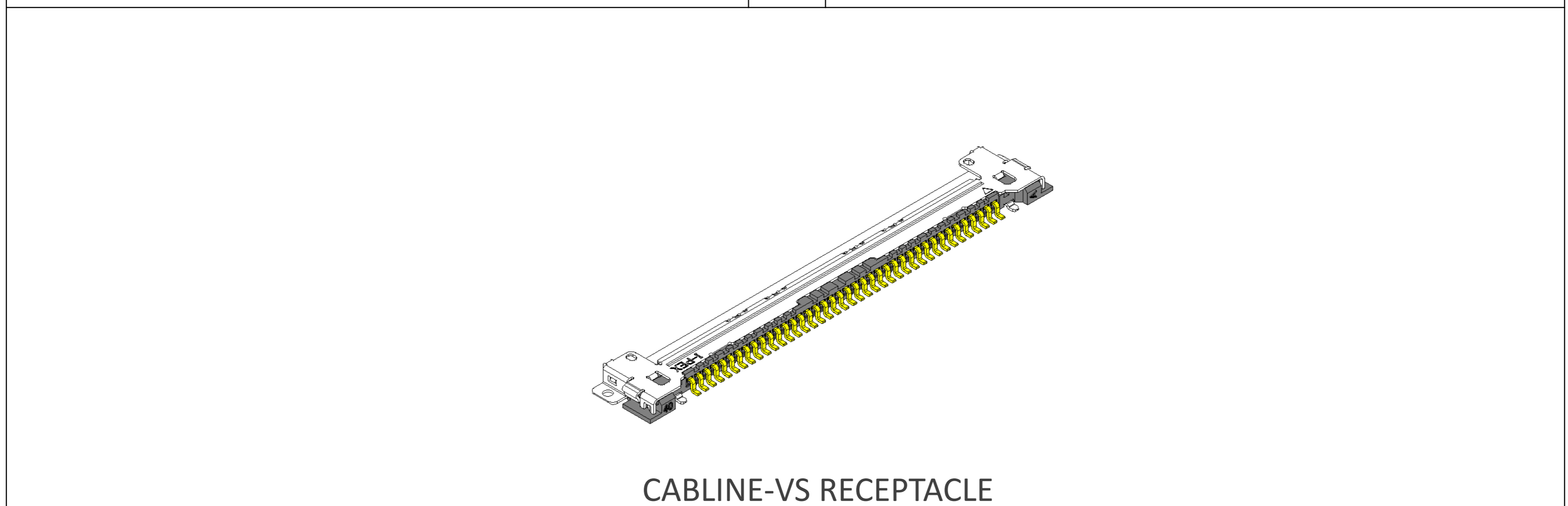
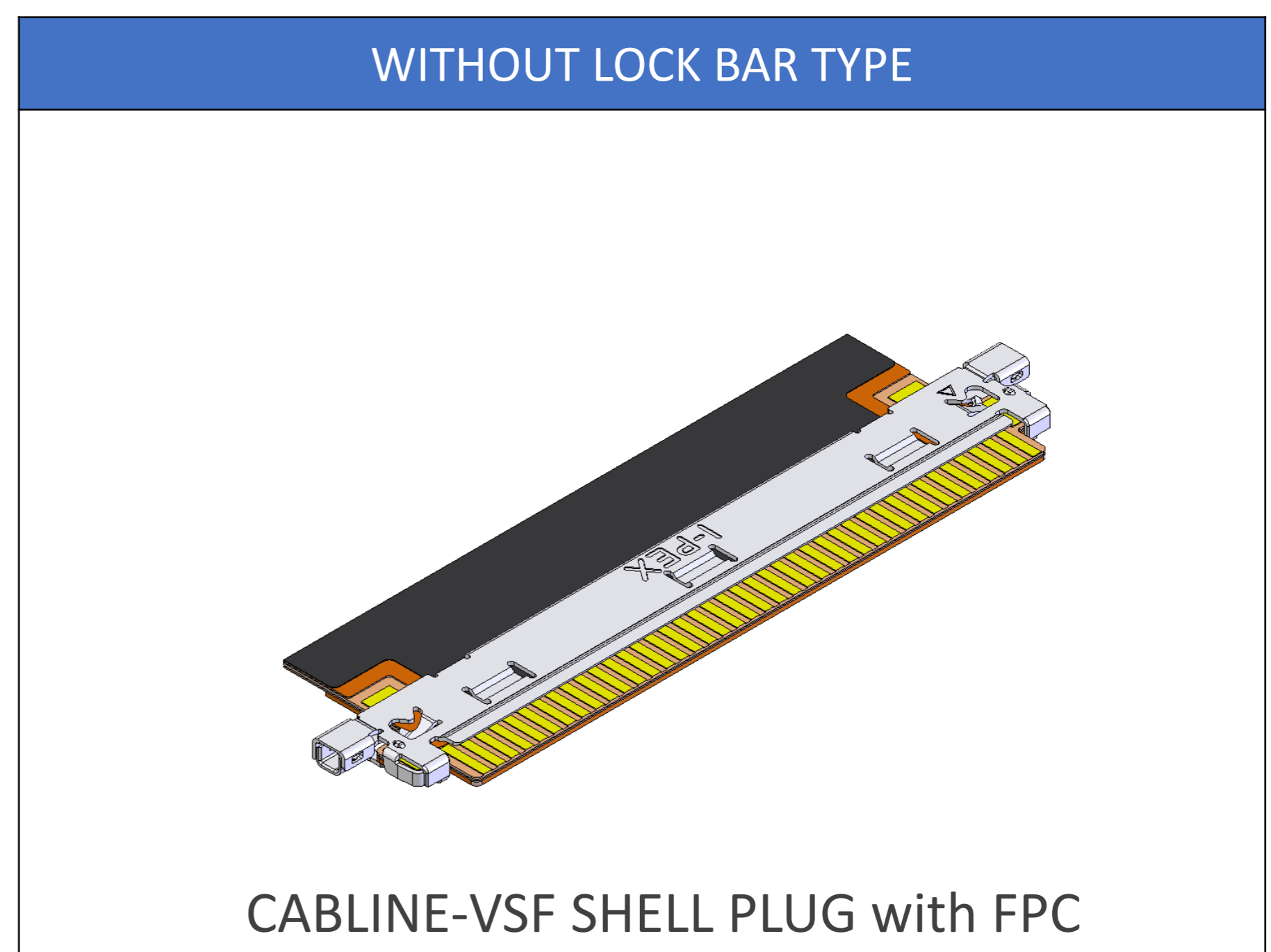


Component Parts Details

Component Parts



OR



Shell Assembly

Recommended P/N: 20645-0**T-01

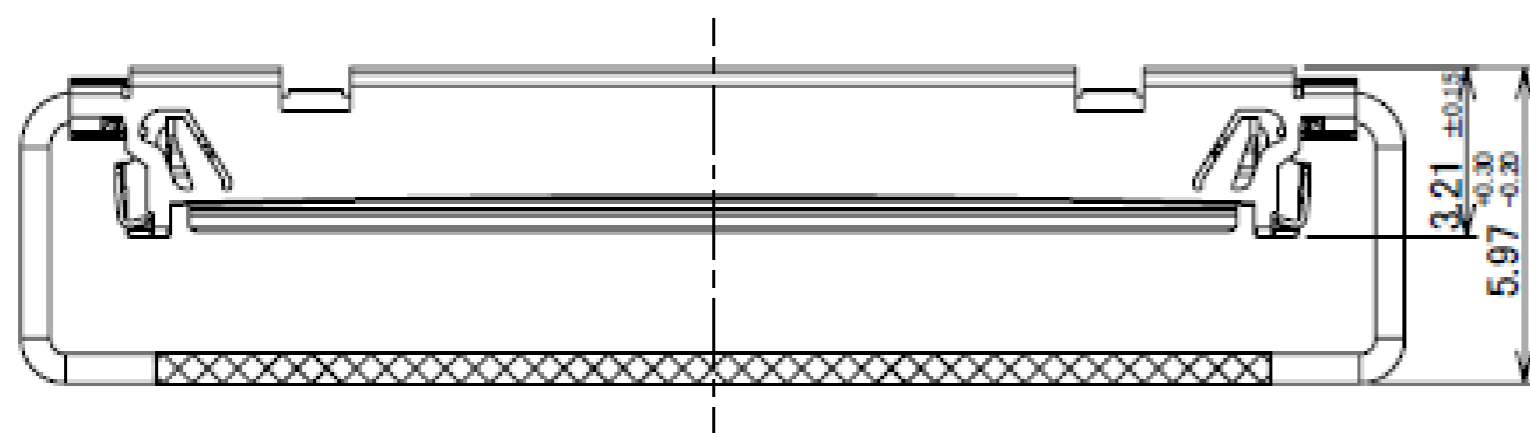
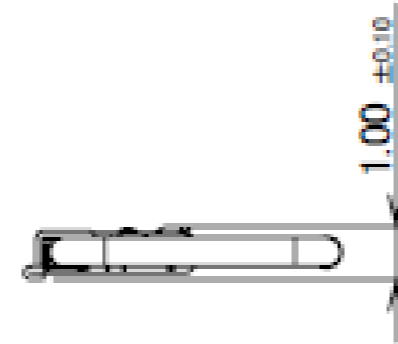
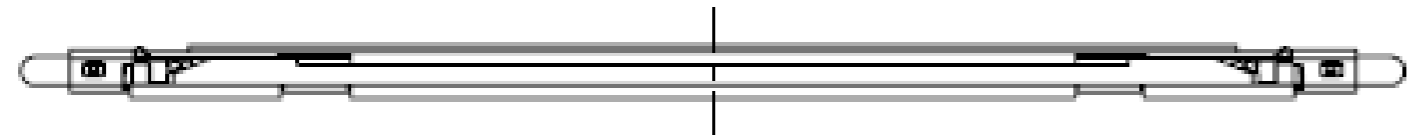
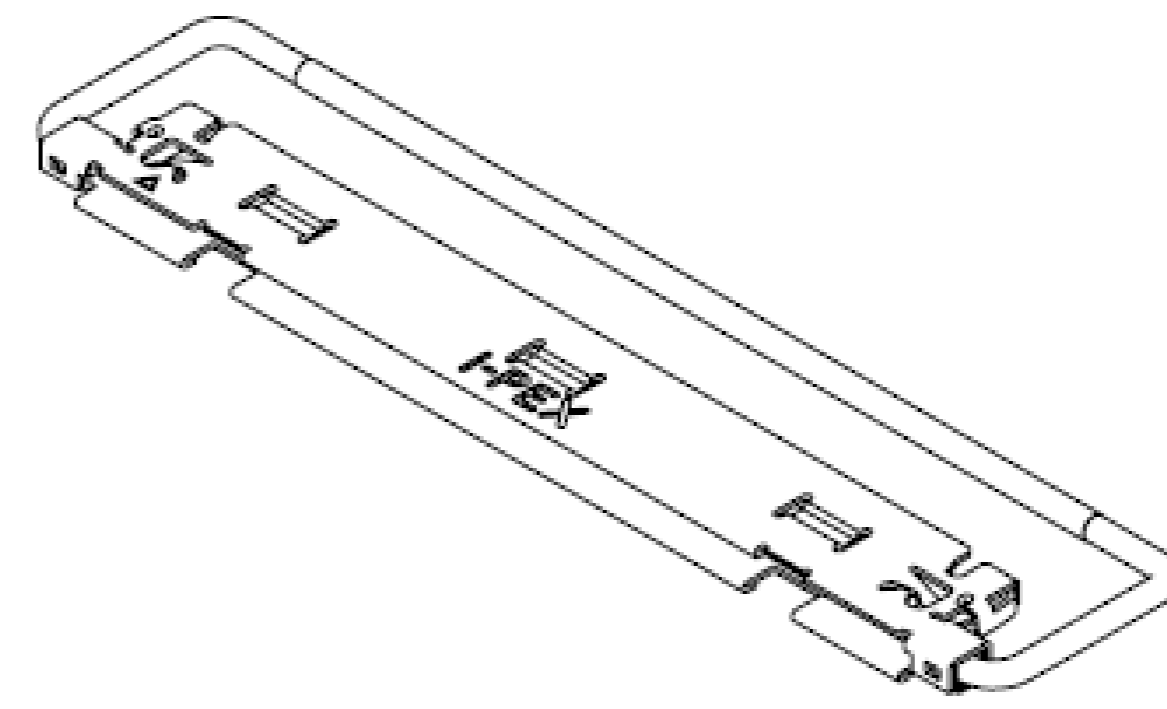
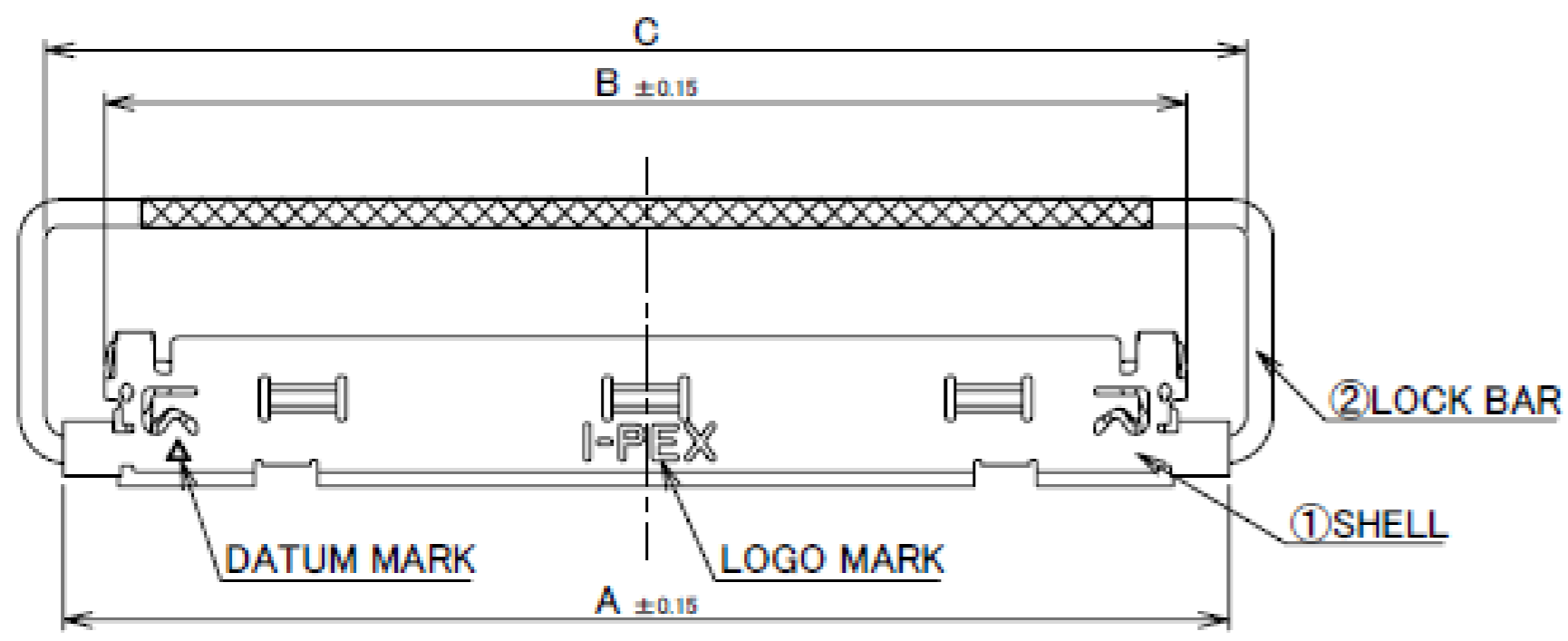
| PART No. | A | B | C |
|---------------|-------|-------|-------|
| 20645-030T-01 | 19.30 | 17.56 | 20.05 |
| 20645-040T-01 | 24.30 | 22.56 | 25.05 |



Halogen Free



RoHS Compliant



| 2 | LOCK BAR | SUS | - |
|-----|-------------|-----------------|--|
| 1 | SHELL | PHOSPHOR BRONZE | ALL OVER Ni 1.00 μm MIN. CONTACT & SOLDERING AREA : Au 0.01 μm MIN. |
| NO. | DISCRIPTION | MATERIAL | FINISH , REMARKS |

Rev.13

| POS. | A | B | D | E | H |
|------|-------|-------|-------|-------|-------|
| 30 | 19.30 | 17.56 | 14.50 | 15.30 | 21.15 |
| 40 | 24.30 | 22.56 | 19.50 | 20.30 | 26.15 |

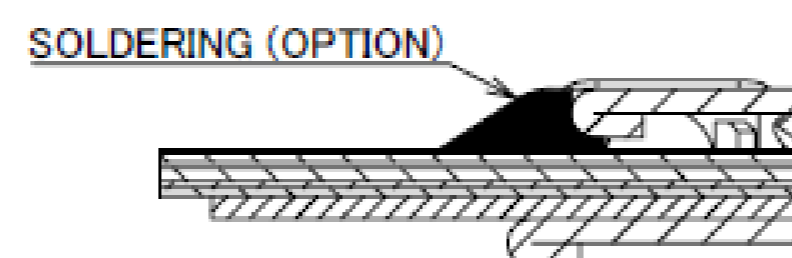
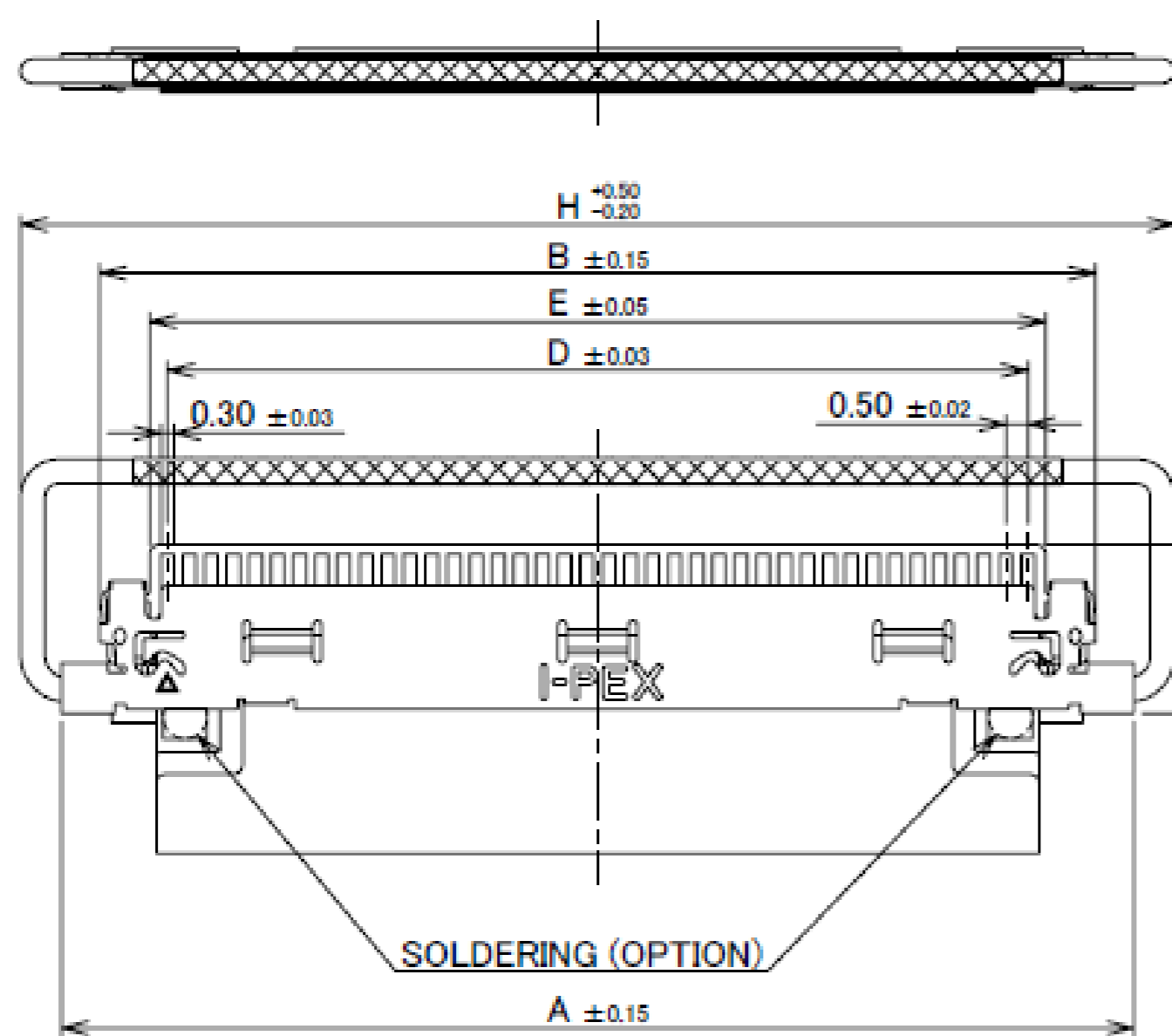
FPC ASS'Y STATE



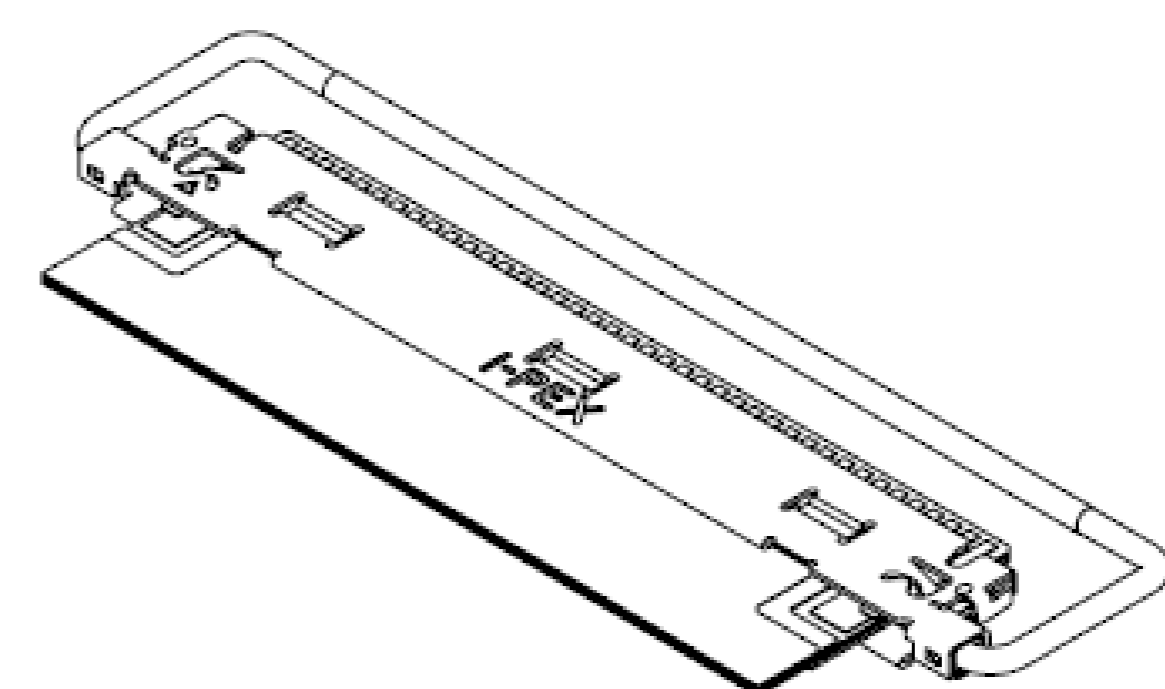
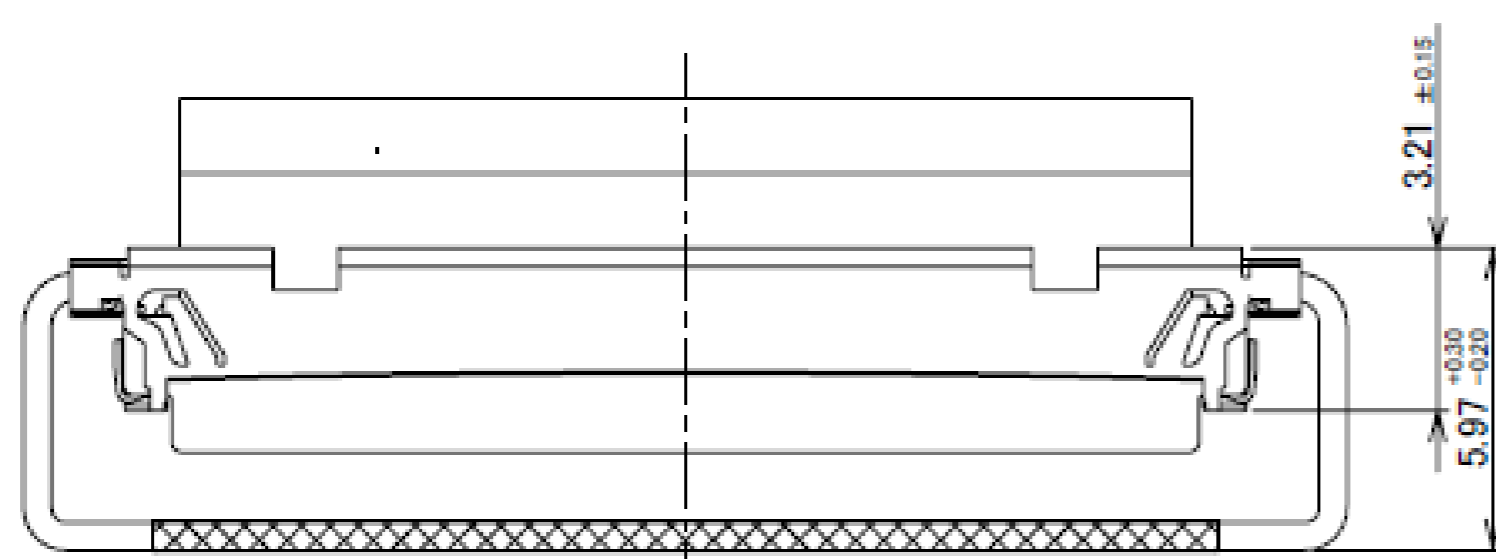
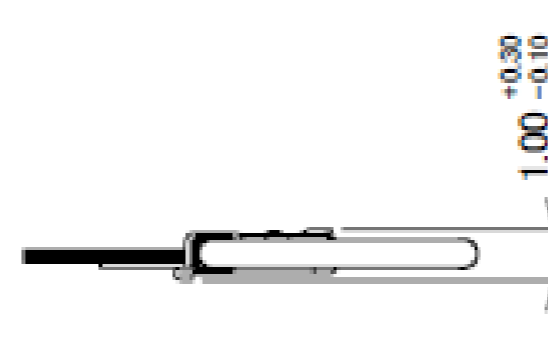
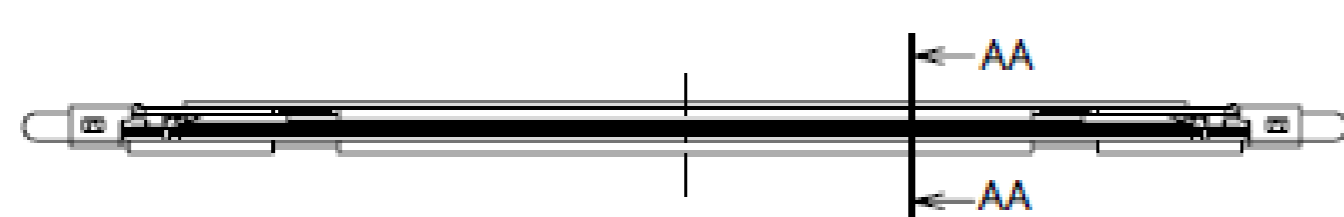
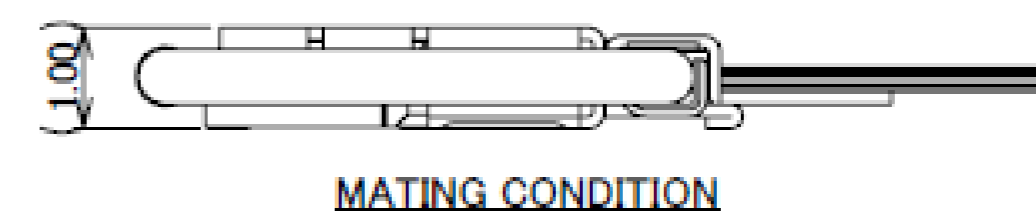
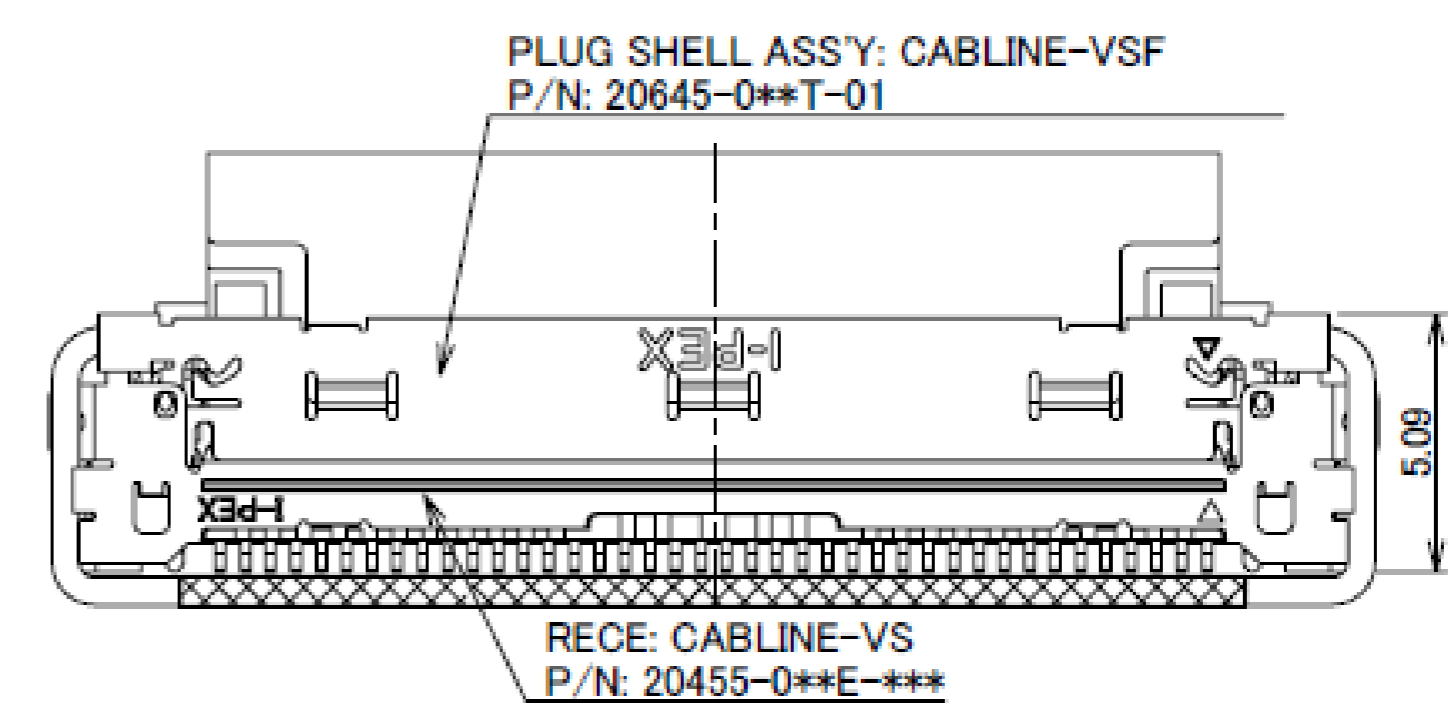
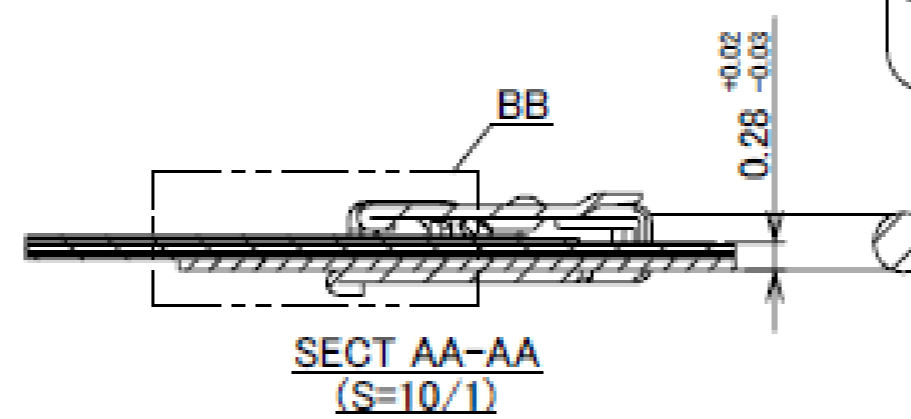
Halogen Free



RoHS Compliant



DETAIL BB
(S=20/1)

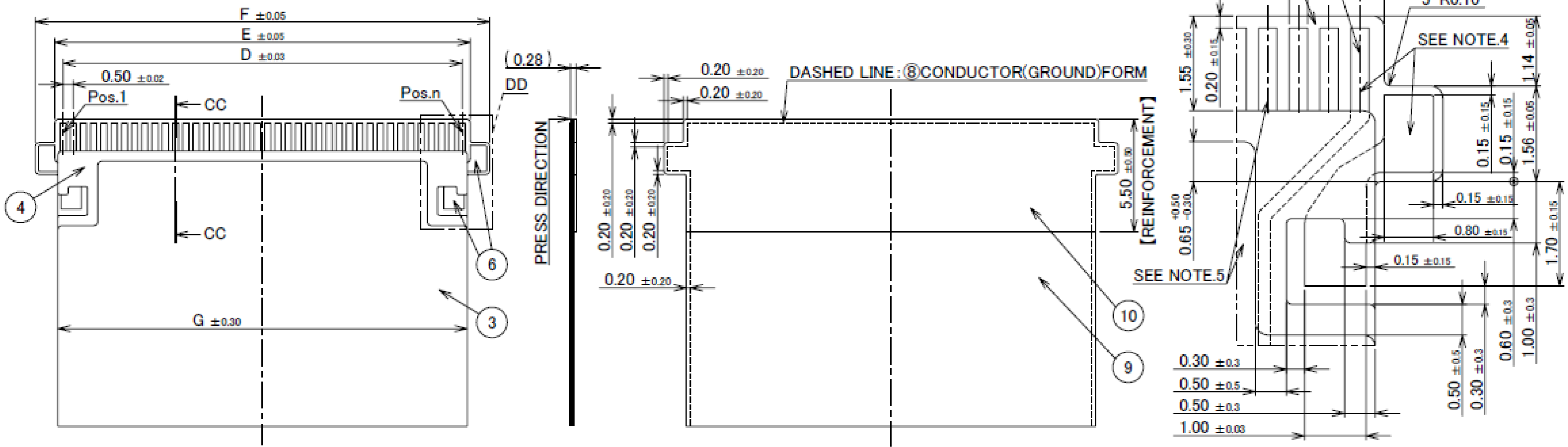


Rev.13

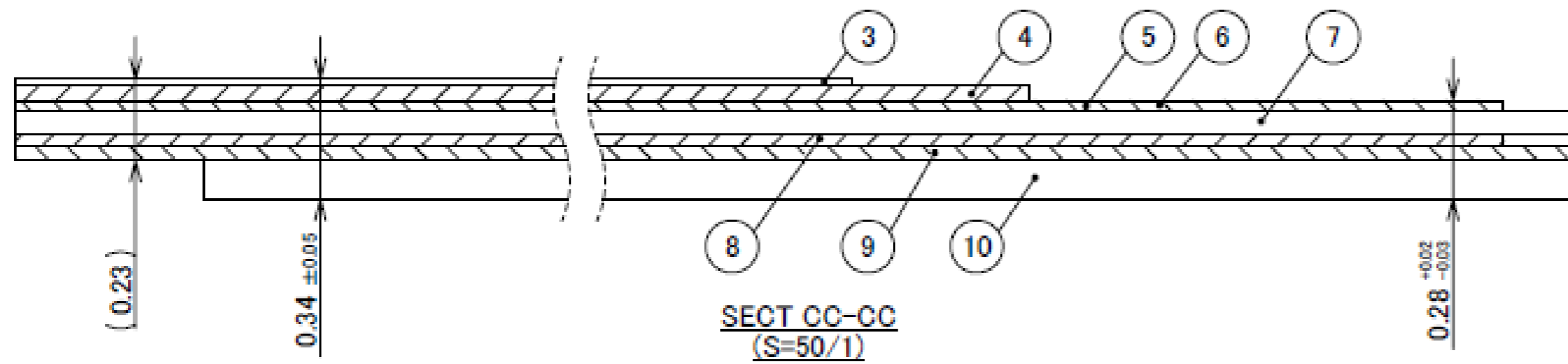
Shell Assembly

| POS. | D | E | F | G |
|------|-------|-------|-------|-------|
| 30 | 14.50 | 15.30 | 17.20 | 15.00 |
| 40 | 19.50 | 20.30 | 22.20 | 20.00 |

RECOMMENDED FPC LAYOUT 【SHIELDED TYPE】



DETAIL DD
(S=15/1)



| NO. | DESCRIPTION | MATERIAL | PLATING |
|-----|--------------------|----------|---------|
| 10 | REINFORCING TAPE | - | - |
| 9 | INSULATOR | - | - |
| 8 | CONDUCTOR (GROUND) | Cu | - |
| 7 | INSULATOR | - | - |
| 6 | CONDUCTOR (GROUND) | Cu | Ni, Au |
| 5 | CONDUCTOR (SIGNAL) | Cu | Ni, Au |
| 4 | INSULATOR | - | - |
| 3 | SHIELD FILM | - | - |

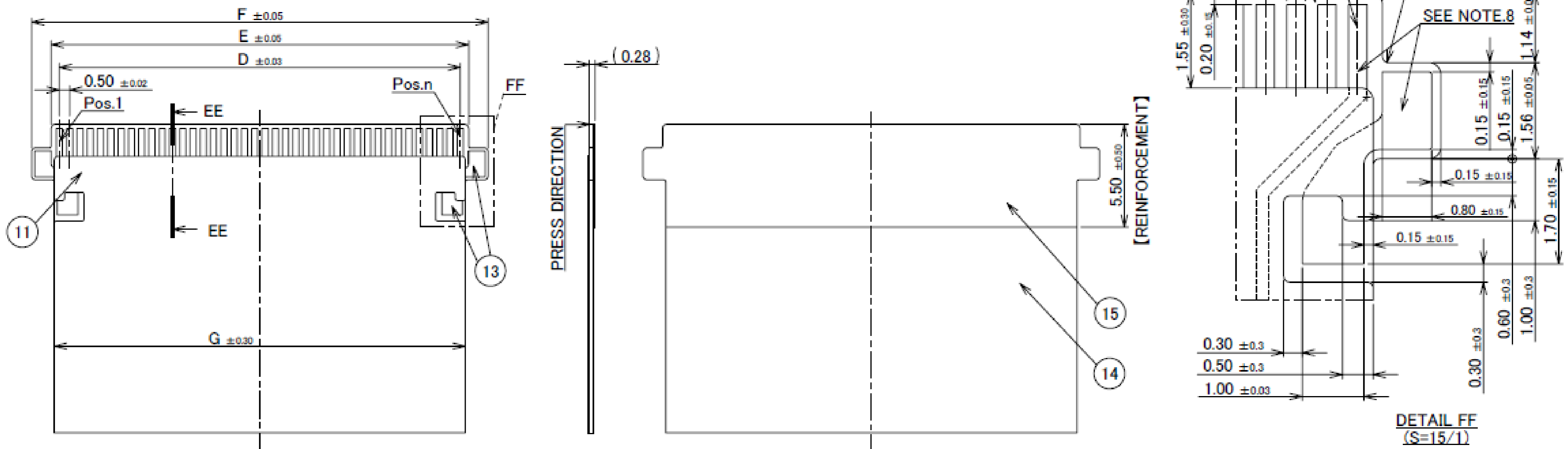
NOTES.

- ADHESIVE SHOULD USE THERMOSETTING.
- No.6: CONDUCTOR(GROUND) AND No.8: CONDUCTOR(GROUND) ARE CARRYING OUT THE ELECTRICAL CONNECTION.
- No.3: SHIELD FILM AND No.8: CONDUCTOR(GROUND) ARE CARRYING OUT THE ELECTRICAL CONNECTION.
- No.5: CONDUCTOR(SIGNAL) AND No.6,8: CONDUCTOR(GROUND) ARE NOT CONTACTING.
- No.5: CONDUCTOR(SIGNAL) AND No.3: SHIELD FILM ARE NOT CONTACTING.

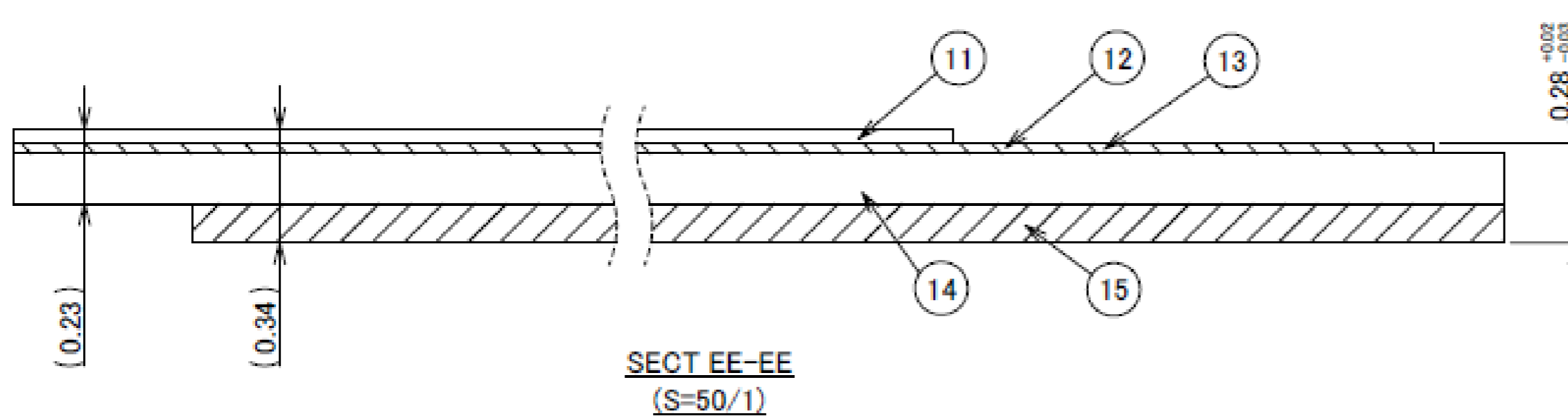
Rev.13

| POS. | D | E | F | G |
|------|-------|-------|-------|-------|
| 30 | 14.50 | 15.30 | 17.20 | 15.00 |
| 40 | 19.50 | 20.30 | 22.20 | 20.00 |

RECOMMENDED FPC LAYOUT 【NON SHIELDED TYPE】



DETAIL FF
(S=15/1)



| NO. | DESCRIPTION | MATERIAL | PLATING |
|-----|--------------------|----------|---------|
| 15 | REINFORCING TAPE | - | - |
| 14 | INSULATOR | - | - |
| 13 | CONDUCTOR (GROUND) | Cu | Ni, Au |
| 12 | CONDUCTOR (SIGNAL) | Cu | Ni, Au |
| 11 | INSULATOR | - | - |

NOTES.

- ADHESIVE SHOULD USE THERMOSETTING.
- No.12: CONDUCTOR(SIGNAL) AND No.13: CONDUCTOR(GROUND) ARE NOT CONTACTING.

Rev.13

| ITEMS | SPECIFICATION |
|---|--|
| RATING VOLTAGE | 100V AC (PER CONTACT) |
| RATING AMPERAGE (FOR SIGNAL CONTACT) | 0.5A AC/DC (PER CONTACT PIN) ※AVAILABLE UP TO 20PIN 0.3A AC/DC (PER CONTACT PIN) ※AVAILABLE FOR ALL PIN |
| OPERATING TEMPERATURE | 233~358K(-40°C~+85°C) |
| OPERATING HUMIDITY | 85% MAX.(NON-CONDENSING) |
| CONTACT RESISTANCE (FOR SIGNAL CONTACT) | INITIAL : 60mohm MAX. / AFTER TEST : \triangle 40mohm MAX. |
| GROUND SHELL RESISTANCE | INITIAL : 60mohm MAX. / AFTER TEST : \triangle 40mohm MAX. |
| INSULATION RESISTANCE | INITIAL : 1000Mohm MIN. / AFTER TEST : 500Mohm MIN. |
| DIELECTRIC WITHSTANDING VOLTAGE | AC250V 1min |
| DURABILITY | 30 CYCLES |
| MATING FORCE (INITIAL / AFTER TEST) | 30P : 24.0N MAX. / 40P : 32.0N MAX. |
| UNMATING FORCE (INITIAL / AFTER TEST) | 30P : 1.1N MIN. / 40P : 1.4N MIN. |
| PRODUCT SPECIFICATION | PRS-1878 |
| TEST REPORT | TR-14095, TR-17048 |
| PACKING STANDARD | PST-14087 |
| INSTRUCTION MANUAL | HIM-13010 |
| ASSEMBLY MANUAL | ASM-13003 |
| APPEARANCE CRITERIA No. | QLS-A*** |

Rev.13

Receptacle Assembly

| Recommended P/N | 20455-0**E-76 (30P/40P/50P) | 20455-A20E-76 (20P) | | | | | |
|-----------------|-----------------------------|---------------------|-------|-------|-------|-------|--|
| PART NO. | Pos. | A | B | C | D | U | |
| 20455-020E-#2 | 20 | 9.50 | 11.30 | 16.25 | 14.47 | 10.20 | |
| 20455-030E-## | 30 | 14.50 | 16.30 | 21.25 | 19.47 | 15.20 | |
| 20455-040E-## | 40 | 19.50 | 21.30 | 26.25 | 24.47 | 20.20 | |
| 20455-050E-## | 50 | 24.50 | 26.30 | 31.25 | 29.47 | 25.20 | |

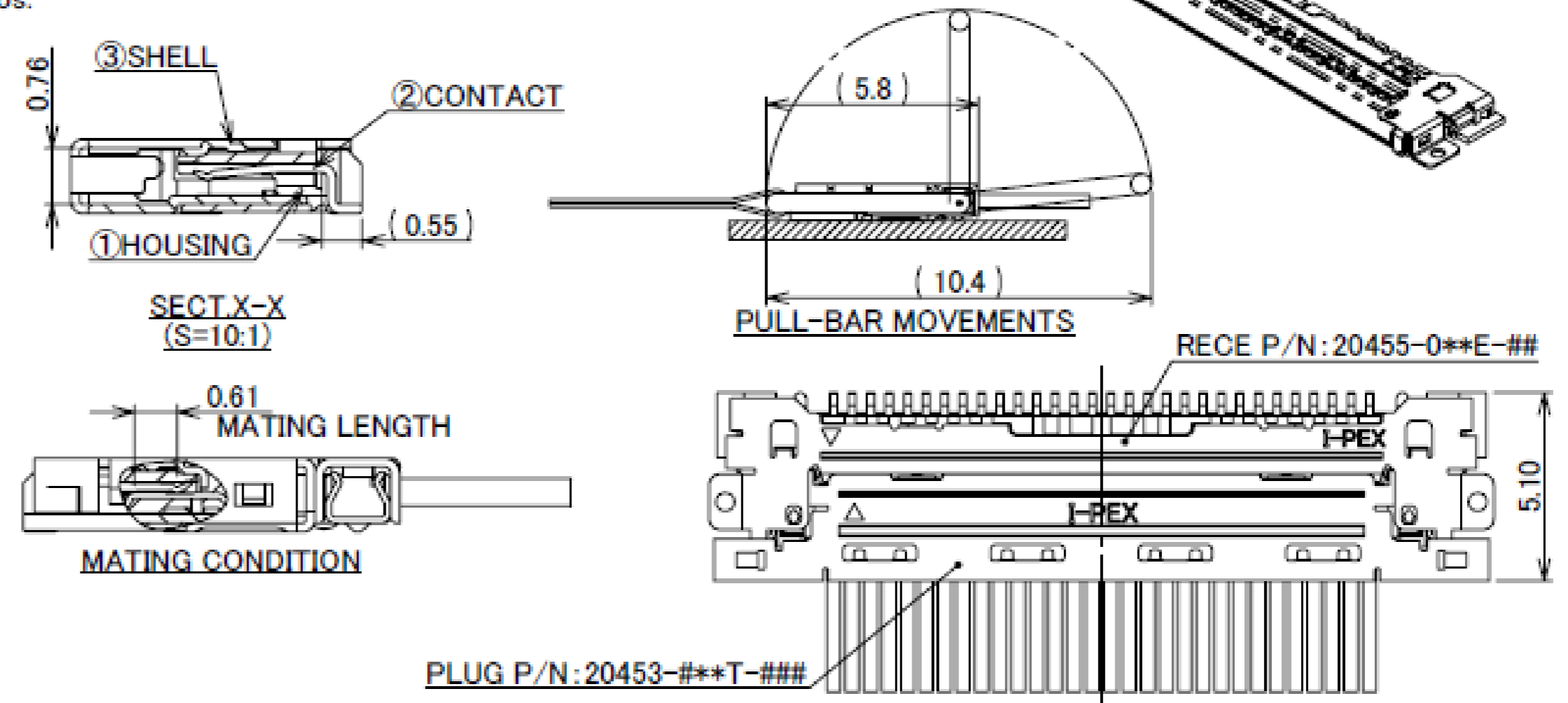
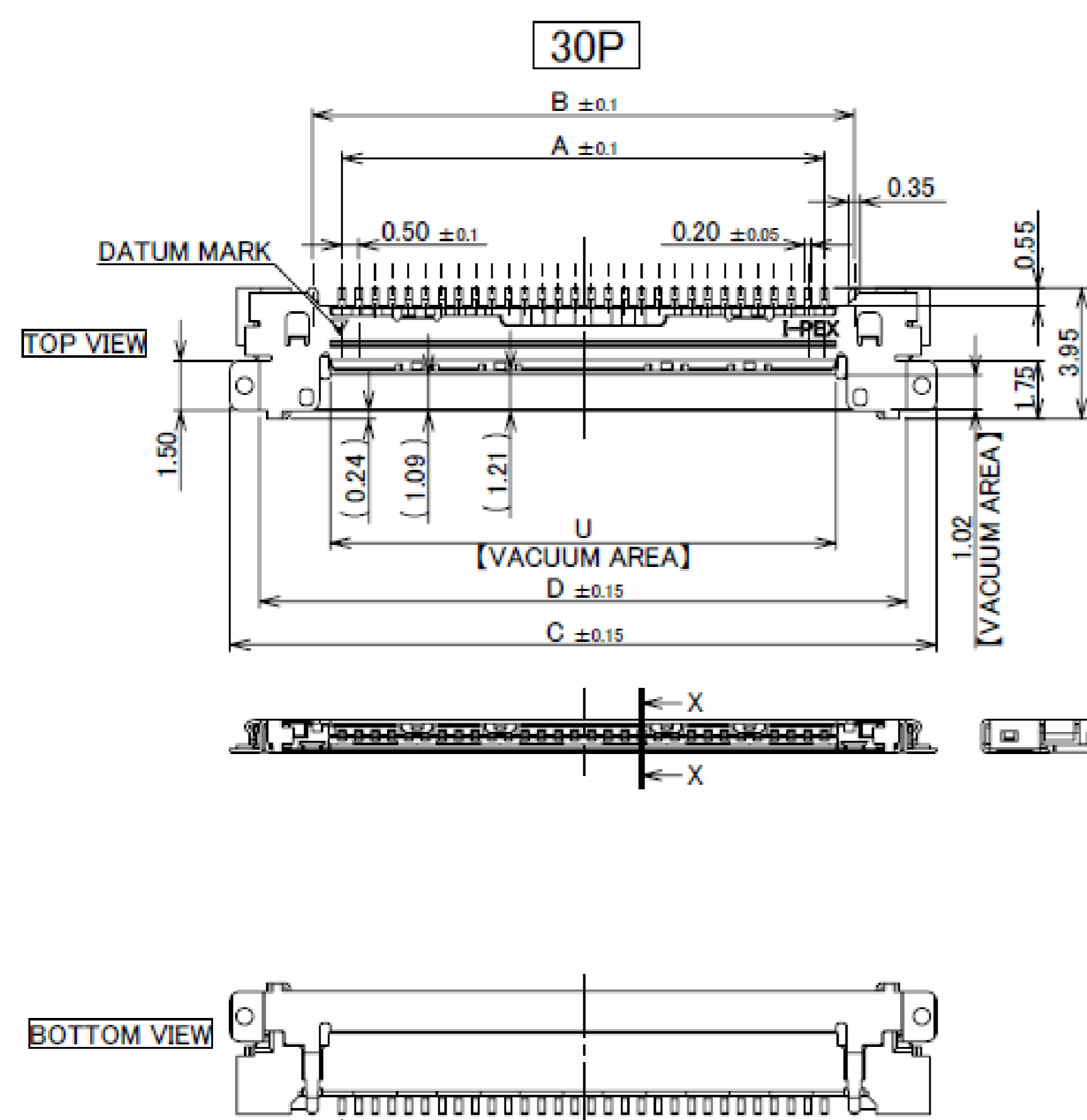


TABLE.1

| PART NO. | DATUM MARK | CONTACT FINISH | SHELL FINISH |
|---------------|------------|---|--|
| 20455-0**E-02 | WITH | CONTACT AREA Au 0.1 μ m MIN. OVER Ni 1.00 μ m MIN. SOLDERING AREA Au 0.05 μ m MIN. OVER Ni 1.00 μ m MIN. | Au 0.02 μ m MIN. OVER Ni 1.00 μ m MIN. |
| 20455-0**E-66 | WITH | CONTACT AREA Au 0.1 μ m MIN. OVER Ni 1.00 μ m MIN. SOLDERING AREA Au 0.05 μ m MIN. OVER Ni 1.00 μ m MIN. | Au 0.01 μ m MIN. OVER Ni 1.00 μ m MIN. |
| 20455-0**E-76 | WITHOUT | CONTACT AREA Au 0.1 μ m MIN. OVER Ni 1.00 μ m MIN. SOLDERING AREA Au 0.05 μ m MIN. OVER Ni 1.00 μ m MIN. | |

| NO. | DISCRIPTION | MATERIAL | FINISH , REMARKS |
|-----|-------------|-----------------|-------------------|
| 3 | SHELL | PHOSPHOR BRONZE | SEE ABOVE TABLE.1 |
| 2 | CONTACT | PHOSPHOR BRONZE | SEE ABOVE TABLE.1 |
| 1 | HOUSING | LCP | UL94V-0, BLACK |

Rev.31

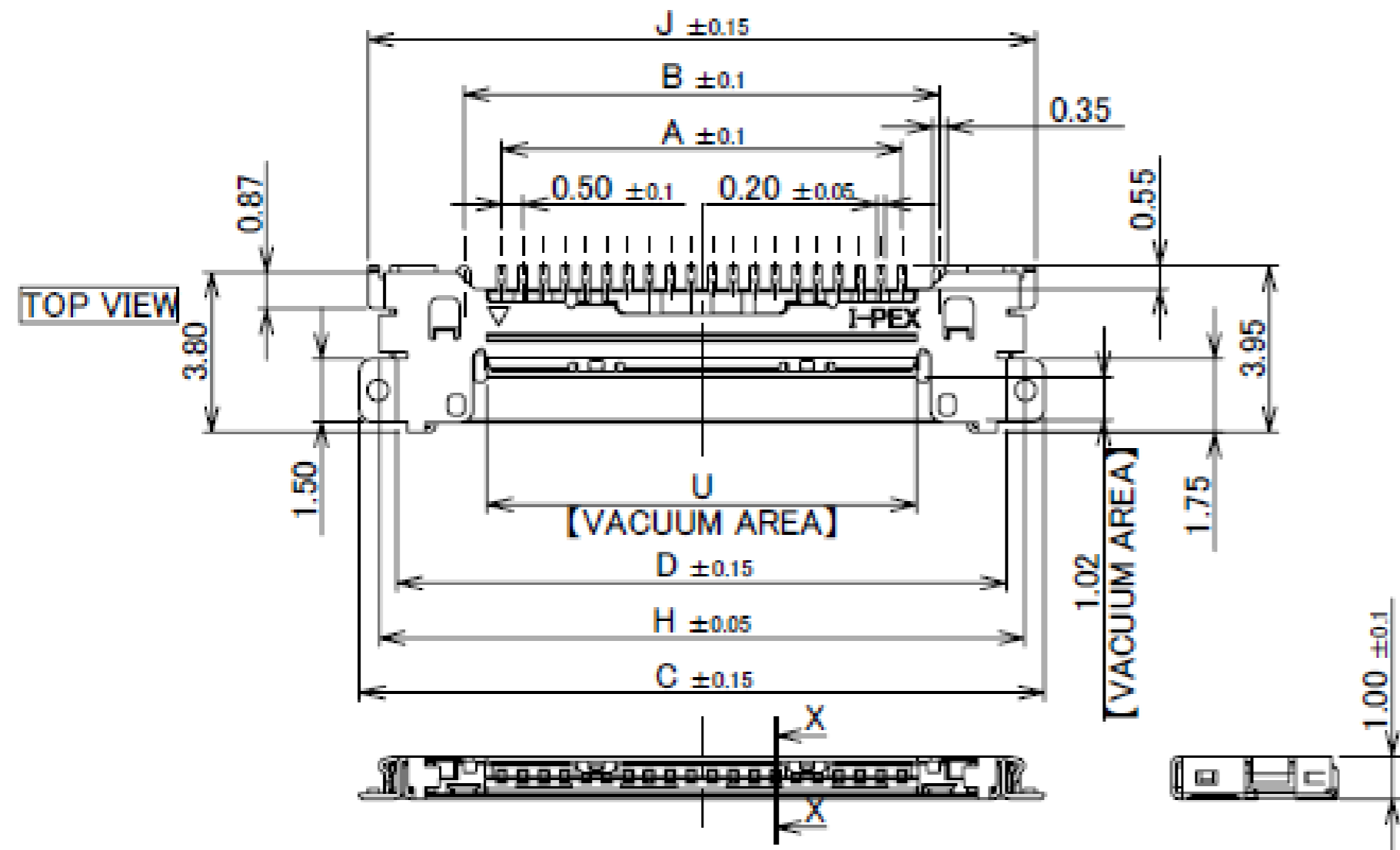
Receptacle Assembly

| Recommended P/N | 20455-0**E-76 (30P/40P/50P) | | | | | | | | 20455-A20E-76 (20P) | |
|-----------------|-----------------------------|------|-------|-------|-------|-------|-------|-------|---------------------|--|
| PART NO. | Pos. | A | B | C | D | H | J | U | | |
| 20455-A20E-## | 20 | 9.50 | 11.30 | 16.25 | 14.47 | 15.32 | 15.84 | 10.20 | | |

P/N:20455-A20E-##
A: TYPE-A
SEE TABLE.2



TYPE-A



BOTTOM VIEW

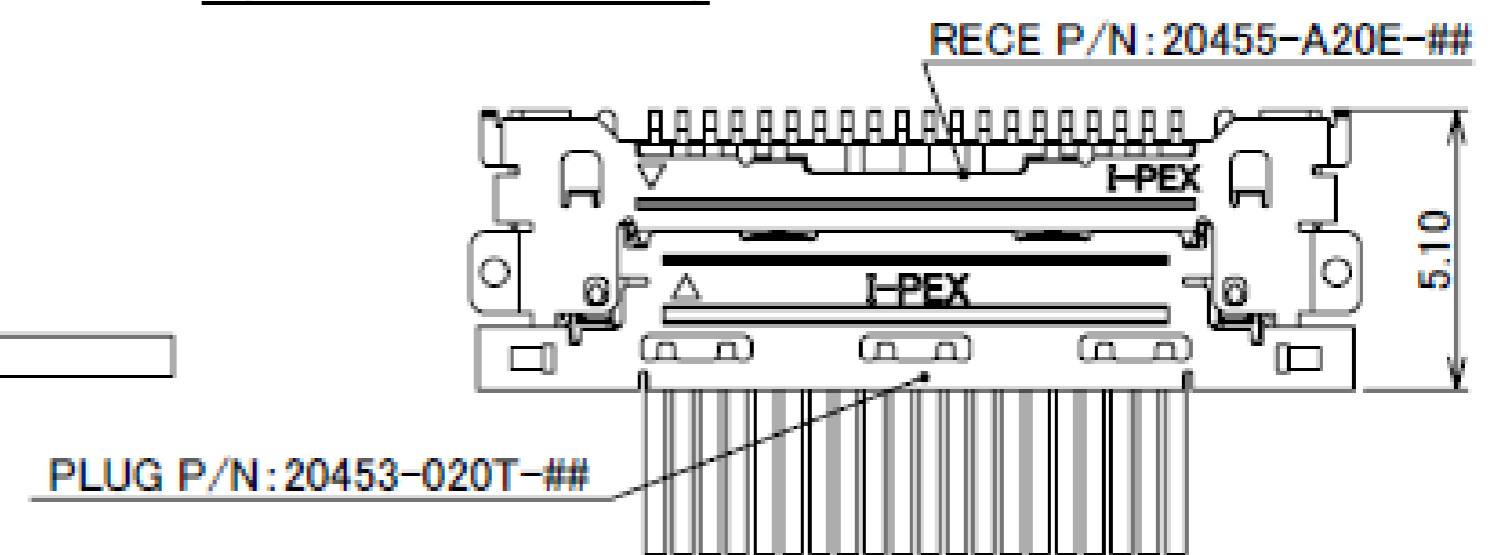
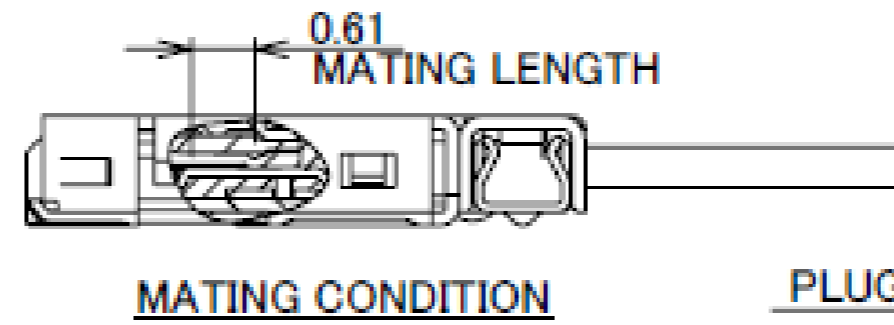
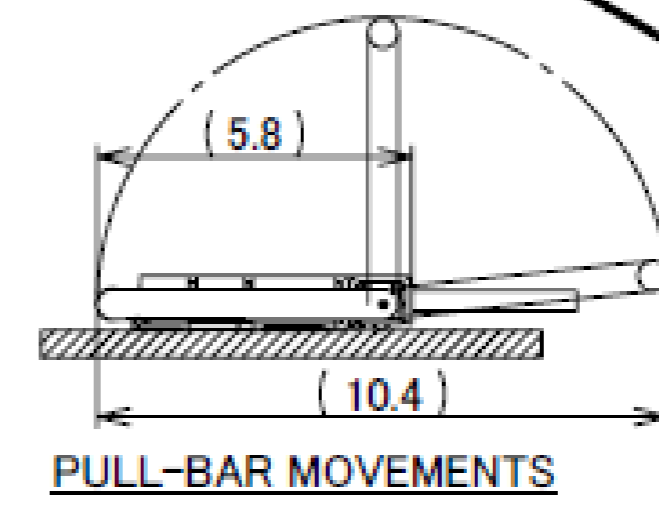
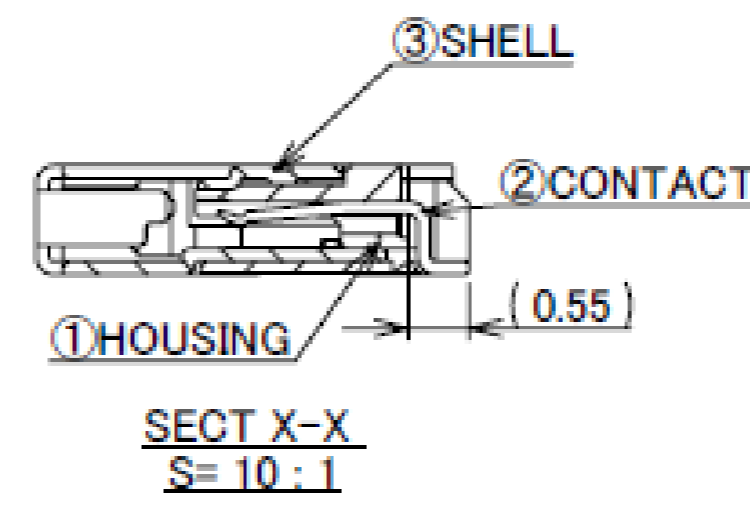
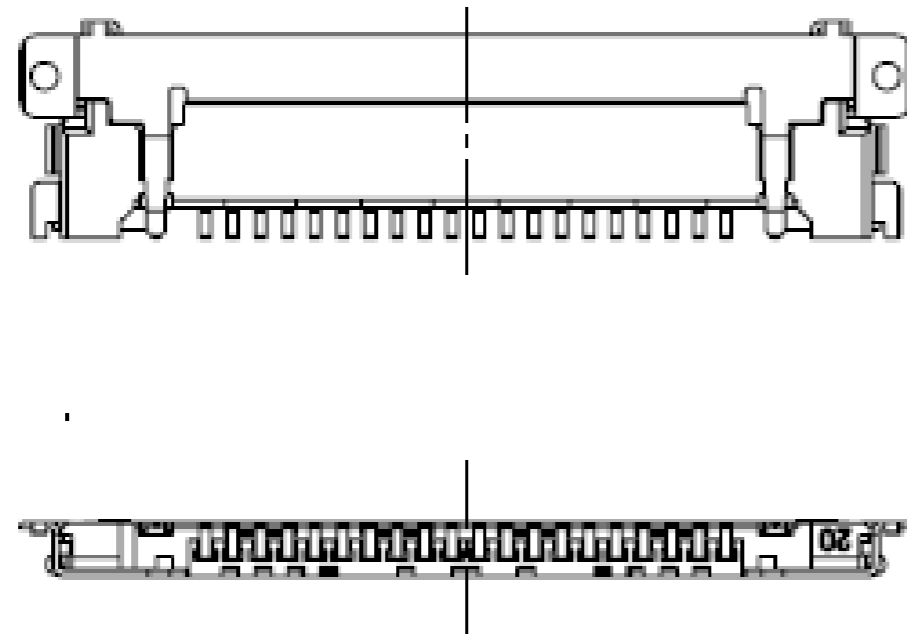


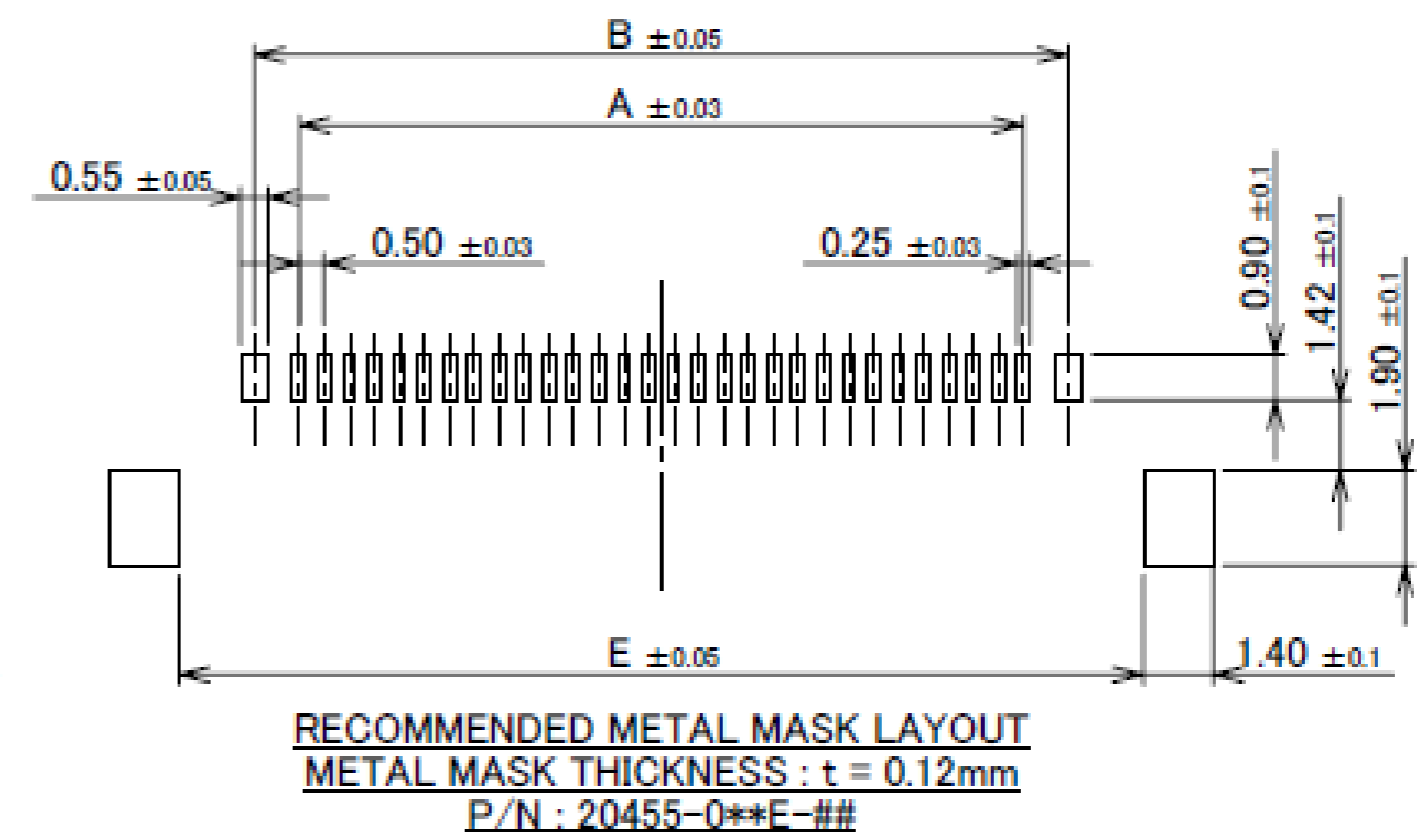
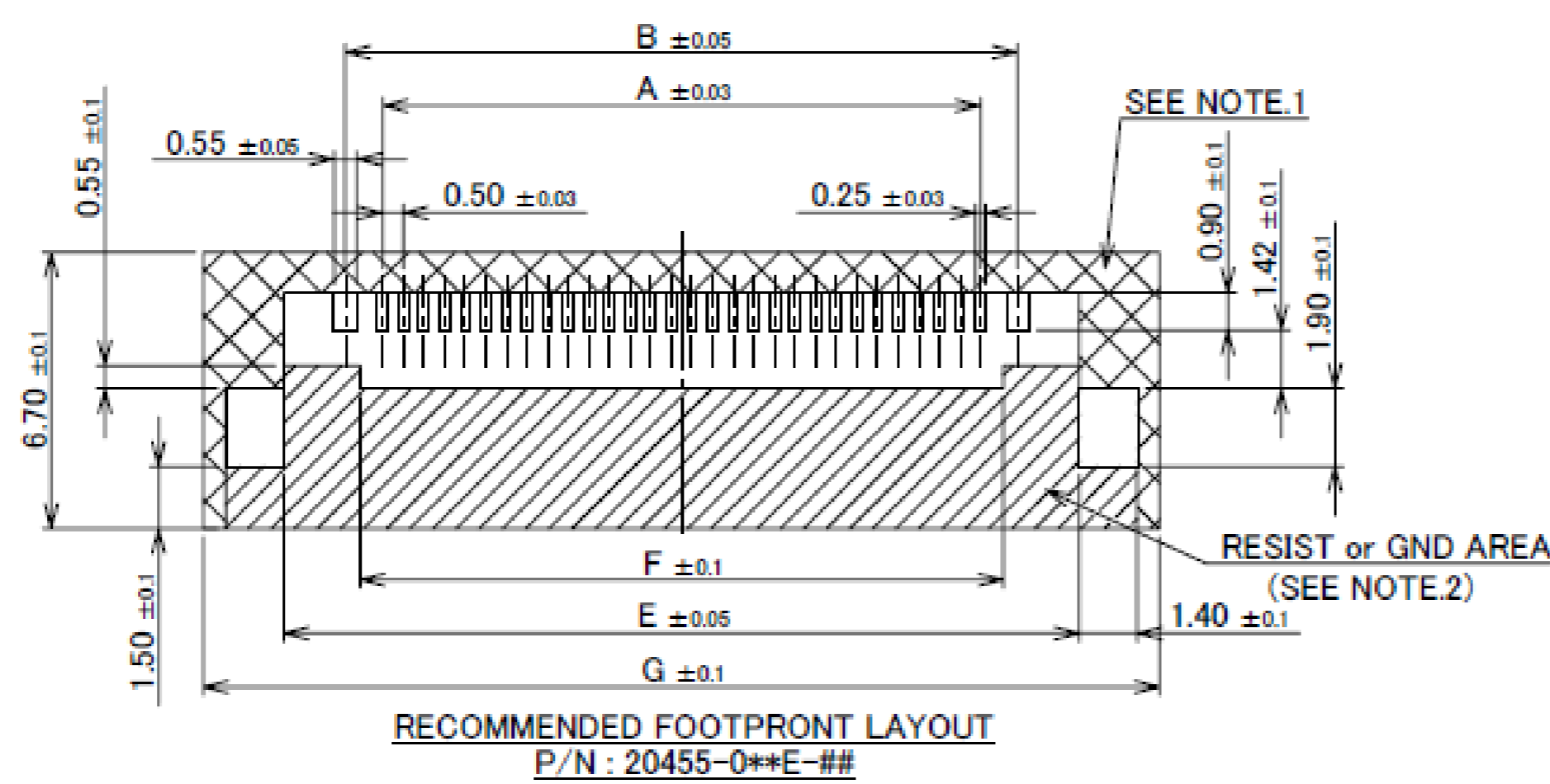
TABLE.2

| PART NO. | DATUM MARK | CONTACT FINISH | SHELL FINISH |
|---------------|------------|---|--------------------------------------|
| 20455-A20E-02 | WITH | CONTACT AREA Au 0.1 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA Au 0.05 μm MIN. OVER Ni 1.00 μm MIN. | Au 0.02 μm MIN. OVER Ni 1.00 μm MIN. |
| 20455-A20E-12 | WITHOUT | CONTACT AREA Au 0.1 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA Au 0.05 μm MIN. OVER Ni 1.00 μm MIN. | Au 0.01 μm MIN. OVER Ni 1.00 μm MIN. |
| 20455-A20E-66 | WITH | CONTACT AREA Au 0.1 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA Au 0.05 μm MIN. OVER Ni 1.00 μm MIN. | Au 0.01 μm MIN. OVER Ni 1.00 μm MIN. |
| 20455-A20E-76 | WITHOUT | CONTACT AREA Au 0.1 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA Au 0.05 μm MIN. OVER Ni 1.00 μm MIN. | Au 0.01 μm MIN. OVER Ni 1.00 μm MIN. |

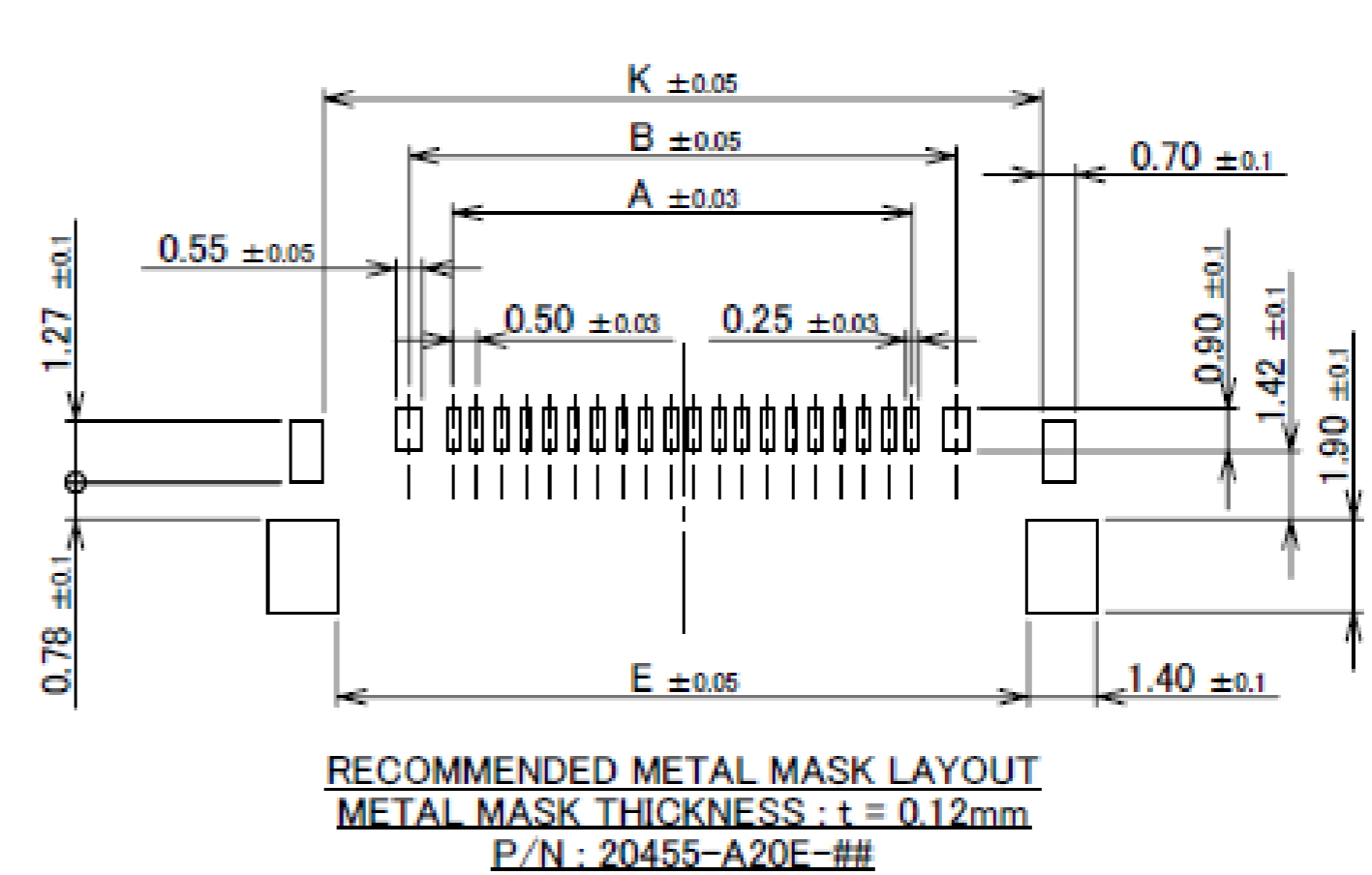
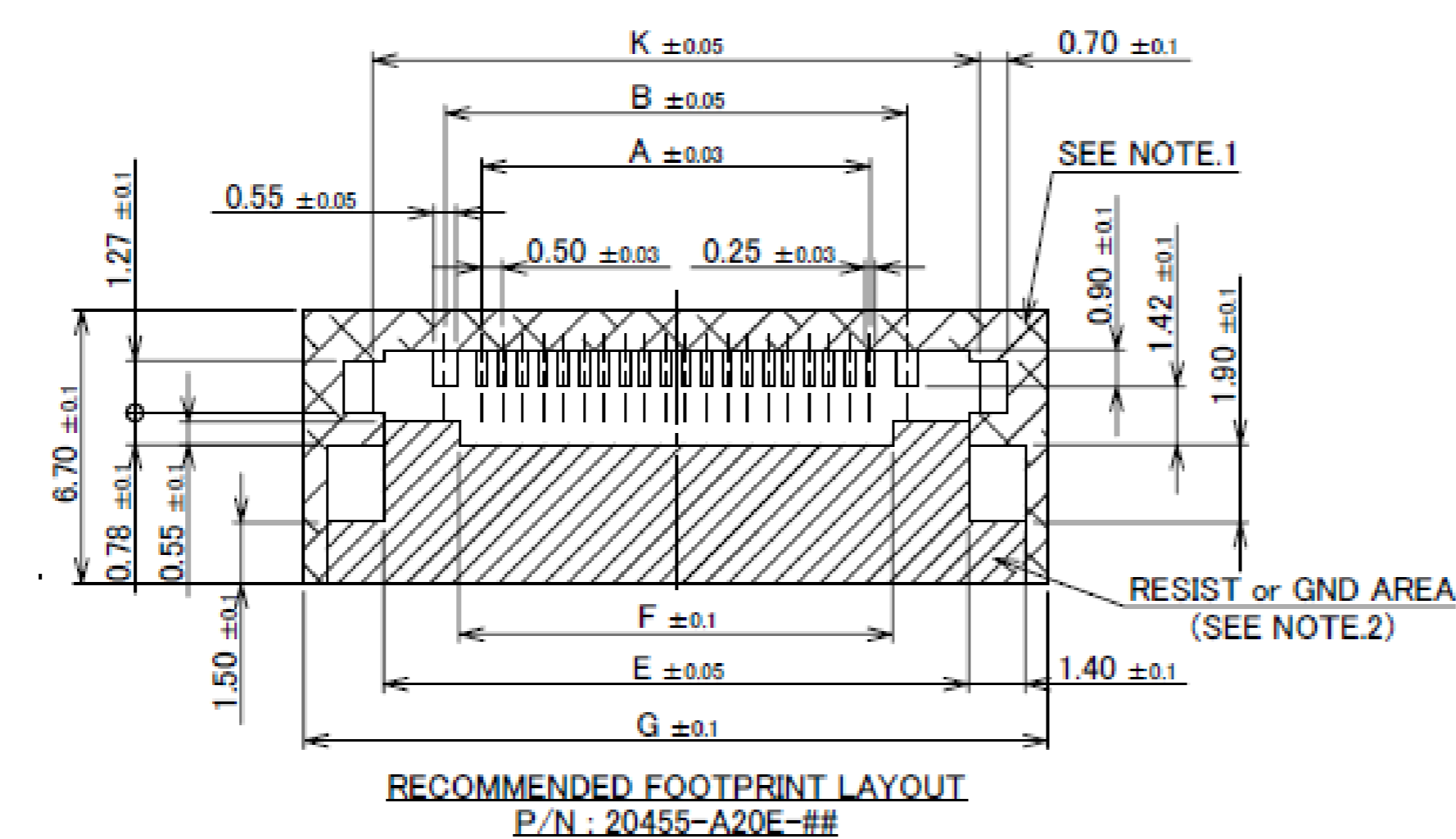
| NO. | DISCRIPTION | MATERIAL | FINISH, REMARKS |
|-----|-------------|-----------------|-------------------|
| 3 | SHELL | PHOSPHOR BRONZE | SEE ABOVE TABLE.1 |
| 2 | CONTACT | PHOSPHOR BRONZE | SEE ABOVE TABLE.1 |
| 1 | HOUSING | LCP | UL94V-0, BLACK |

Rev.31

| PART NO. | Pos. | A | B | E | F | G | H | J | K |
|---------------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 20455-#20E-## | 20 | 9.50 | 11.30 | 14.30 | 10.60 | 18.20 | 15.32 | 15.84 | 14.84 |
| 20455-030E-## | 30 | 14.50 | 16.30 | 19.30 | 15.60 | 23.20 | - | - | - |
| 20455-040E-## | 40 | 19.50 | 21.30 | 24.30 | 20.60 | 28.20 | - | - | - |
| 20455-050E-## | 50 | 24.50 | 26.30 | 29.30 | 25.60 | 33.20 | - | - | - |



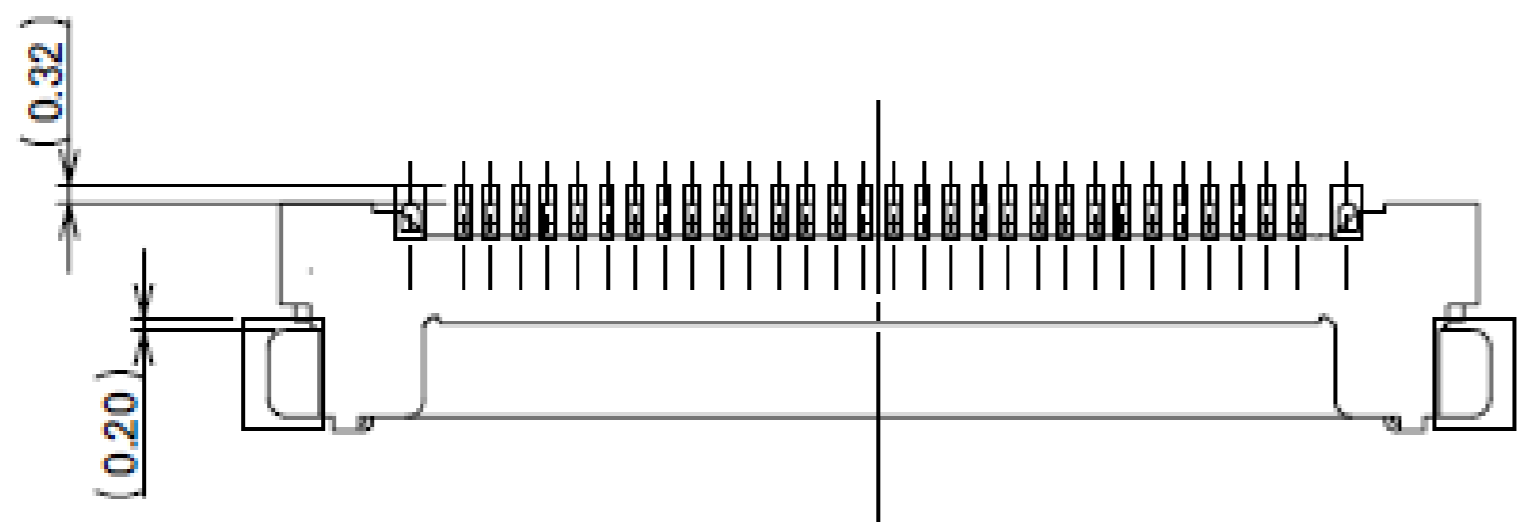
TYPE-A



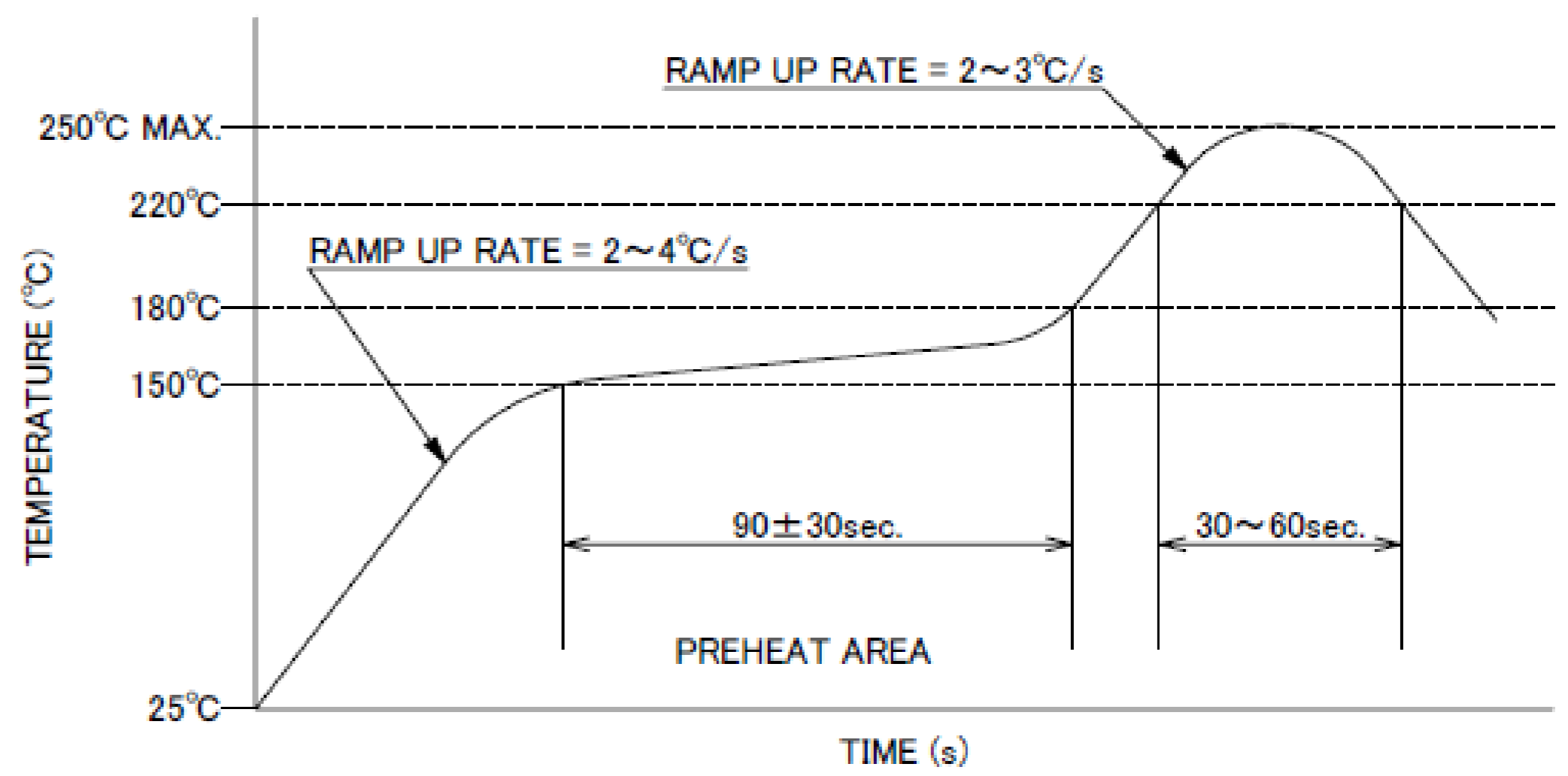
NOTES.
1. IN CASE OF PLUG WITH PULL-BAR, DO NOT MOUNT ANOTHER COMPONENT IN THIS AREA.
2. SOLDER RESIST MUST BE APPLIED TO THIS AREA.

Rev.31

Receptacle Assembly

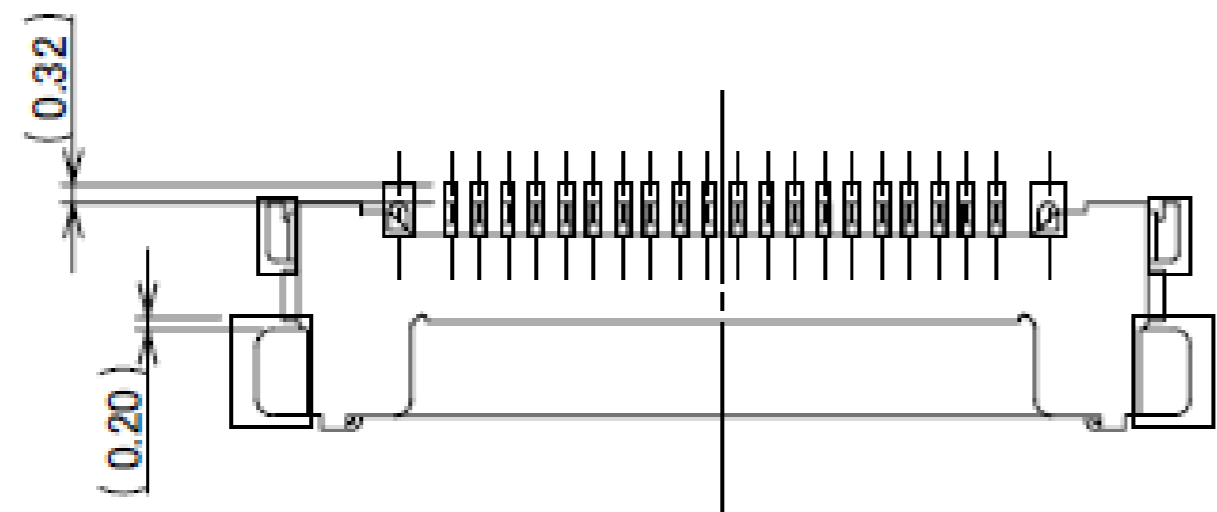


CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN
P/N : 20455-0**E-##



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

TYPE-A




CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN
P/N : 20455-A20E-##

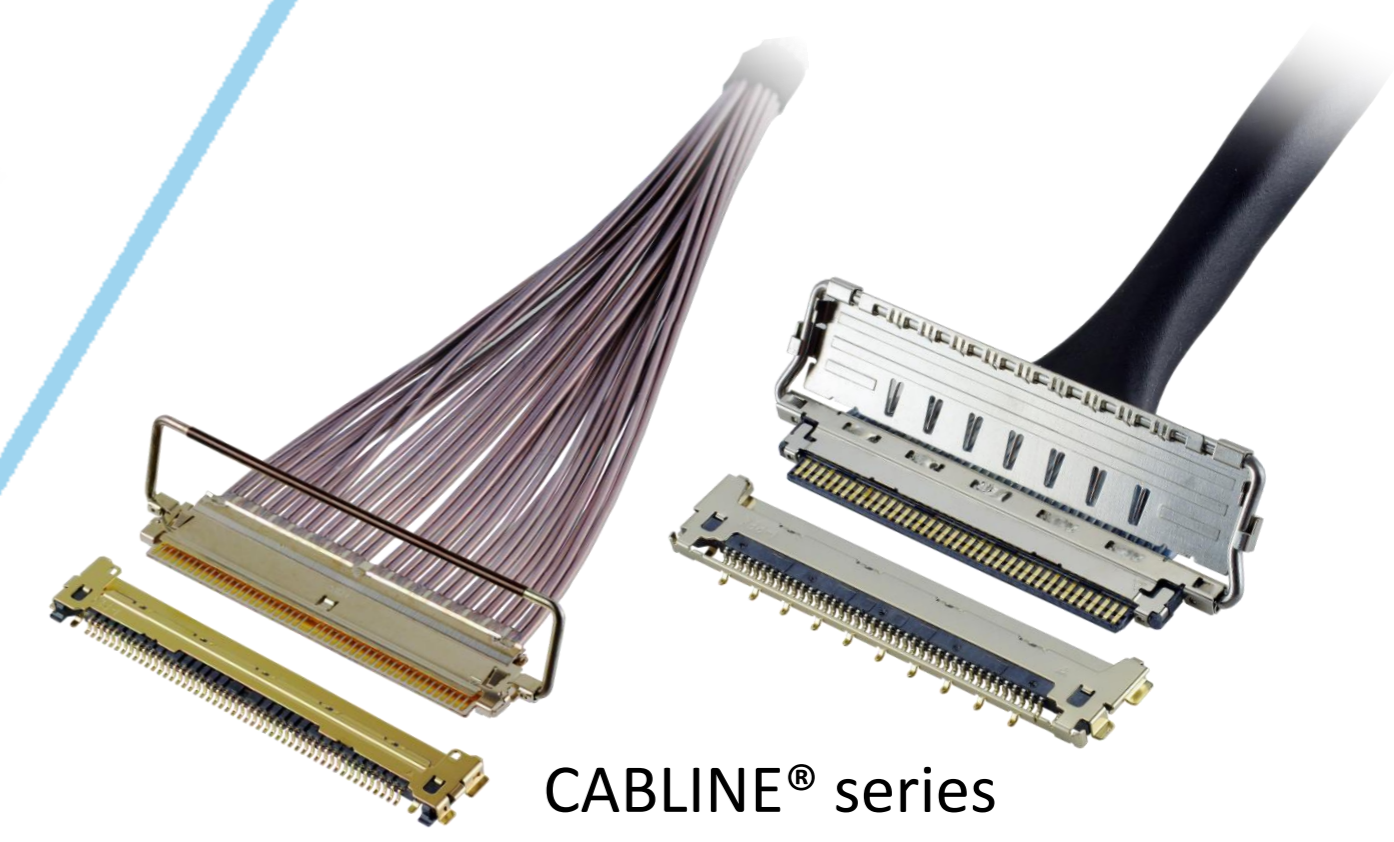
Custom Connectors Available

 RF Connector

MHF® series



 CABLINE® series
Micro-coaxial/Twinax/
Discrete Wire Connector



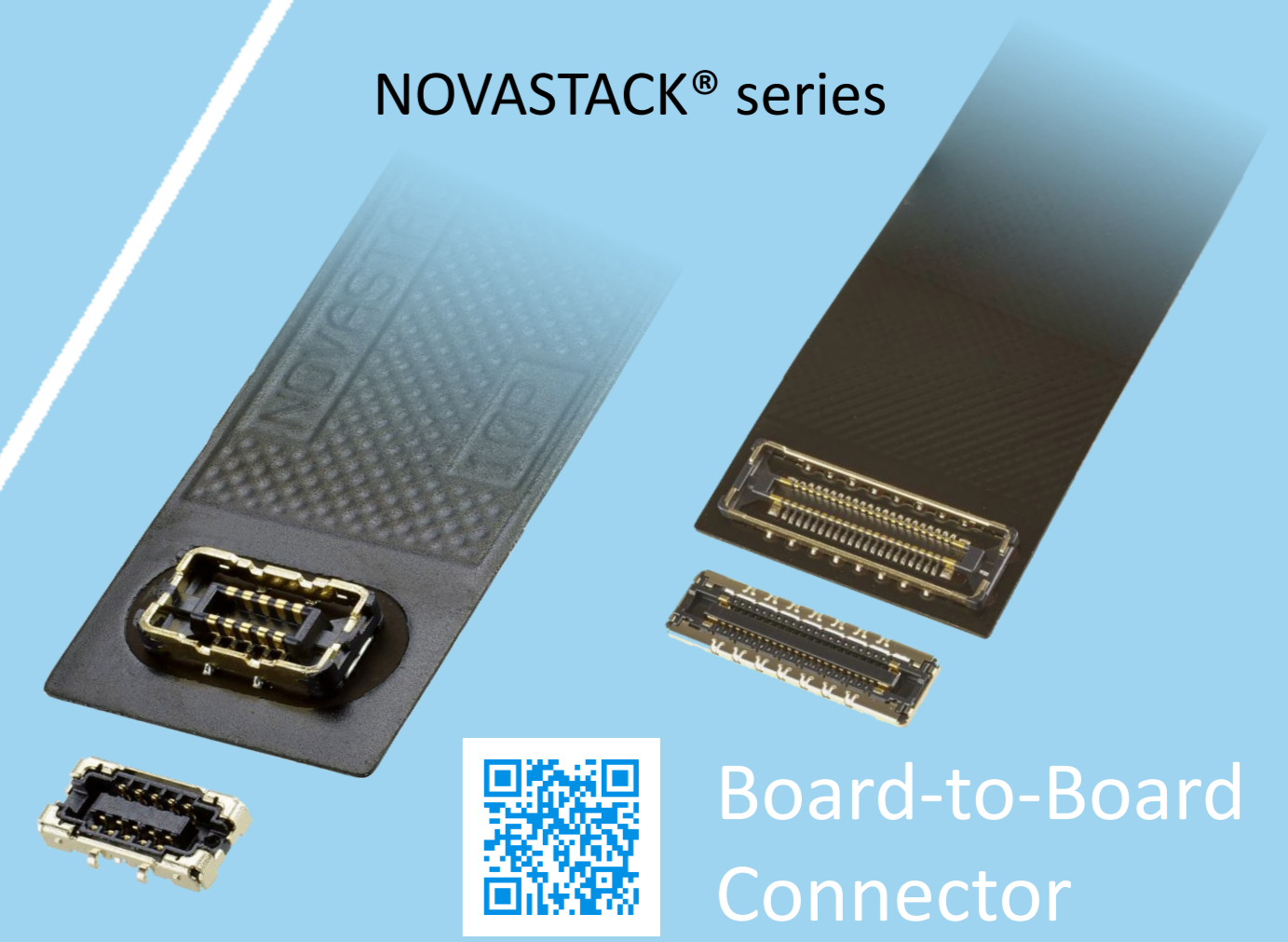
 Optical Module

LIGHTPASS® series



NOVASTACK® series

 Board-to-Board Connector



 Power Connector/
Terminal

AP series

ISH® series



MINIFLEX® series

EVAFLEX® series



 FPC FCC Connector

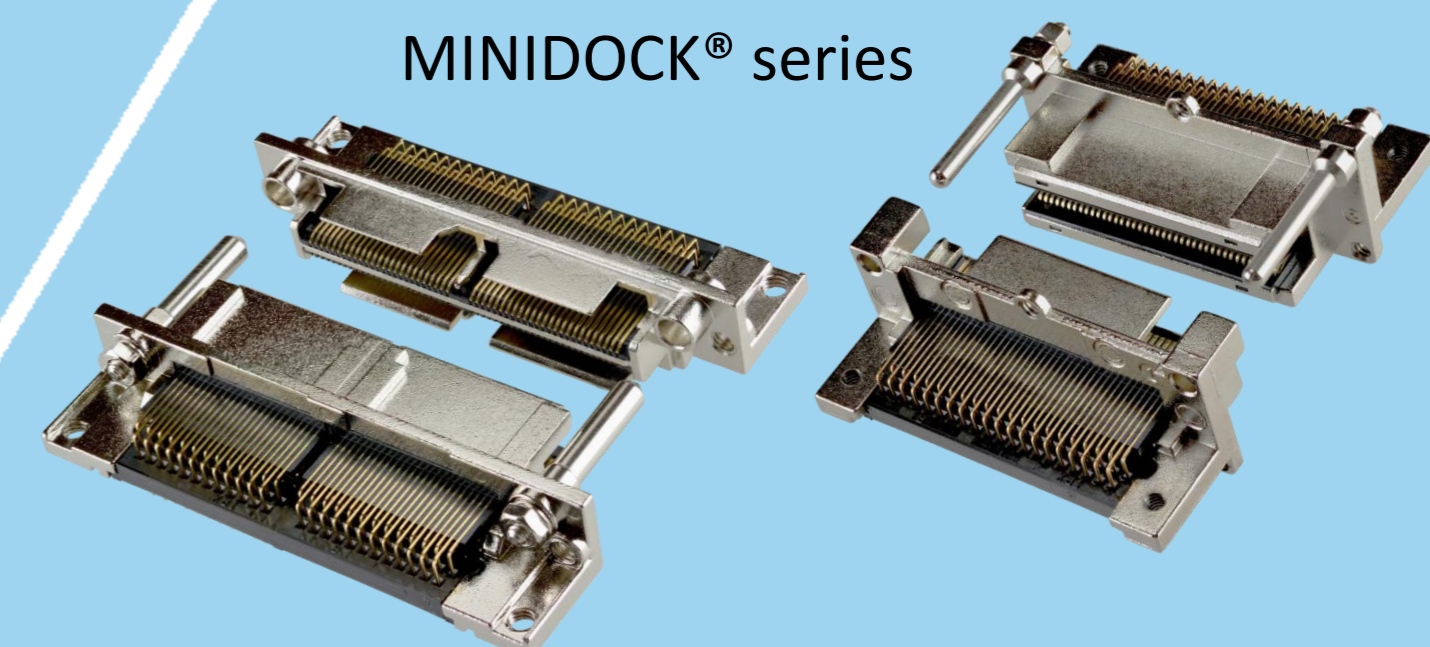


Inquiry



MINIDOCK® series

 I/O Connector



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Contact your sales representative or more detailed information.

www.i-pex.com



I-PEX

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