

CABLIN[®]-VS II

Fully-shielded with mechanical lock, Suitable for high-data-rate transfer (20 Gbps/lane), 5 mm pitch, Horizontal mating type micro-coaxial connector

Product Specifications:

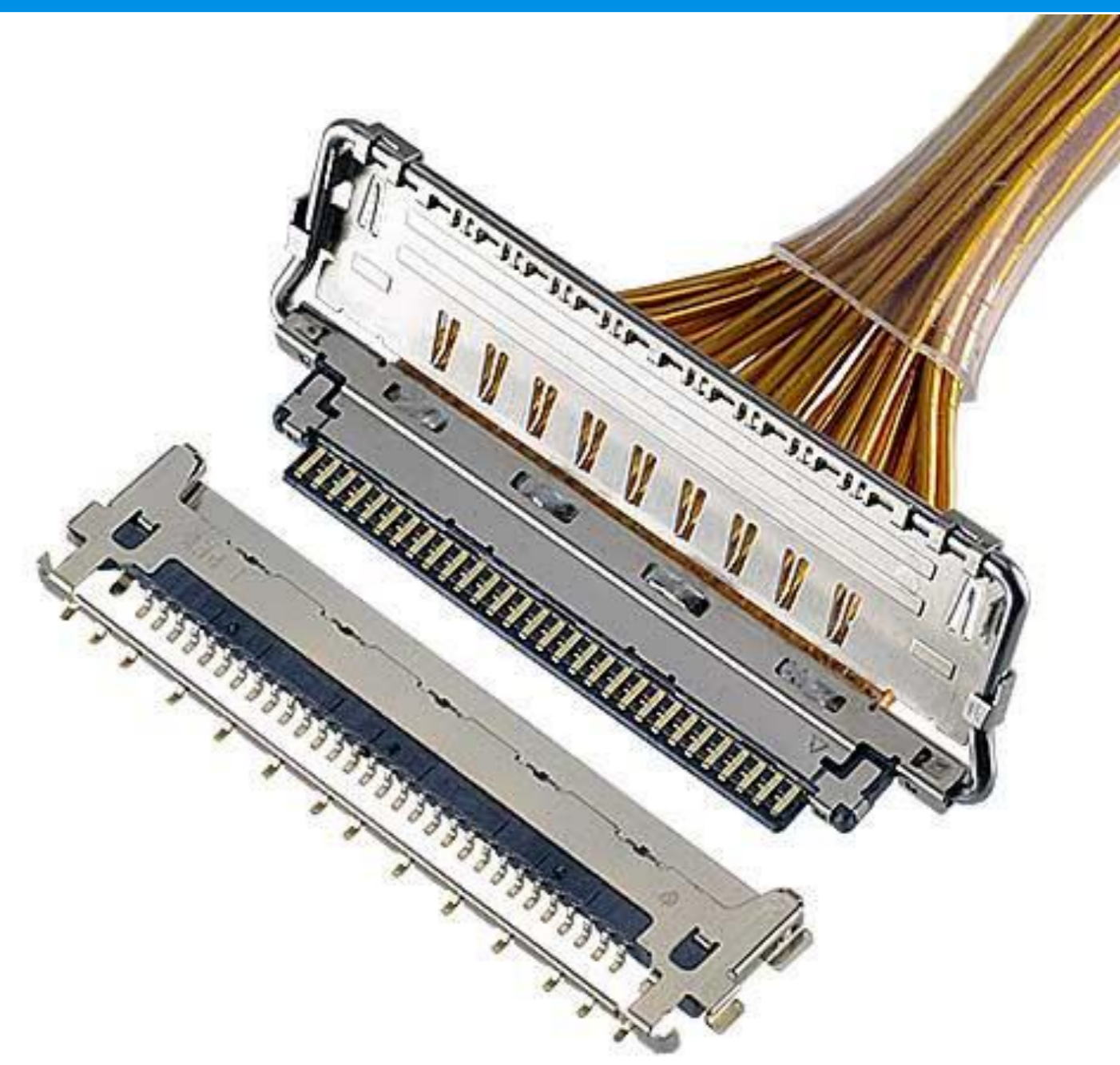
| | | |
|--------------------|------------|-----------------------------|
| Mating type | Horizontal | |
| Board Pitch (mm) | 0.5 | |
| Wiping Length (mm) | 0.54 | |
| Mated size (mm) | Height | 1.2 max. with cover |
| | Width | Formula: $6.85 + (0.5 * p)$ |
| | Depth | 6.70 |
| Pin Counts | Range | Up to 55 |
| | Available | 20, 30, 40 |

Applicable Cable Size:

| | |
|--------------------------------|--|
| Maximum O.D. (mm) | 0.5 |
| Micro-Coaxial for Signal (AWG) | 45 ohm: #36 or smaller 50 ohm: #38 or smaller |
| Twinax (AWG) | #40 |
| Discrete (AWG) | #32 or smaller |

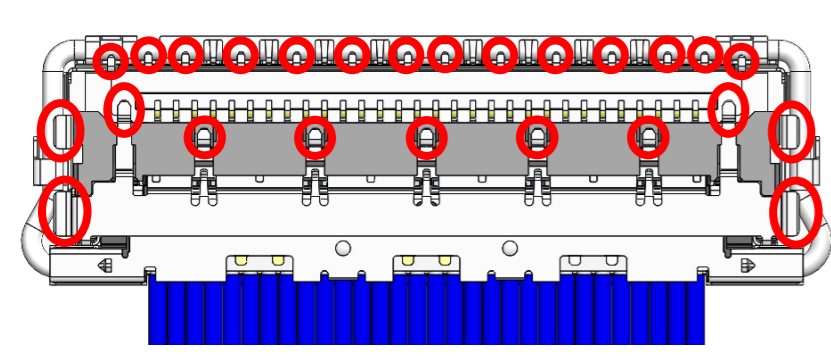
Applicable Standards (Reference Only):

USB4 Gen3/Thunderbolt 4(20 Gbps/lane), PCIe Gen 4 (16 GT/s), USB 3.1 Gen 2 (10 Gbps), eDP HBR 3 (8.1 Gbps)

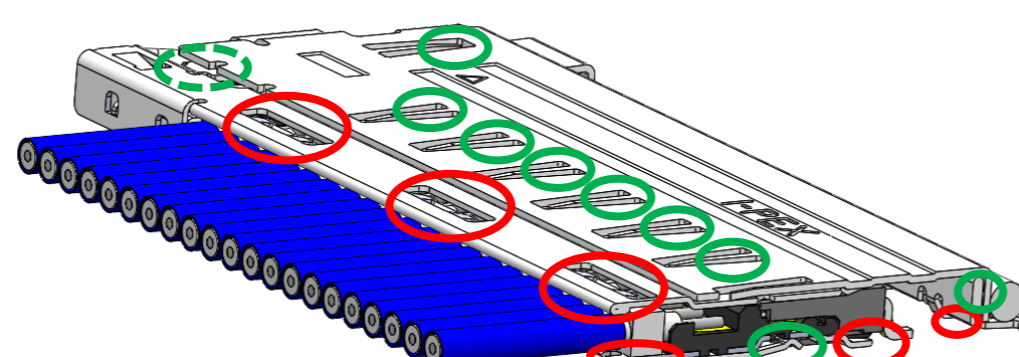


* Please inquire for pin counts not listed or outside of the pin count range.

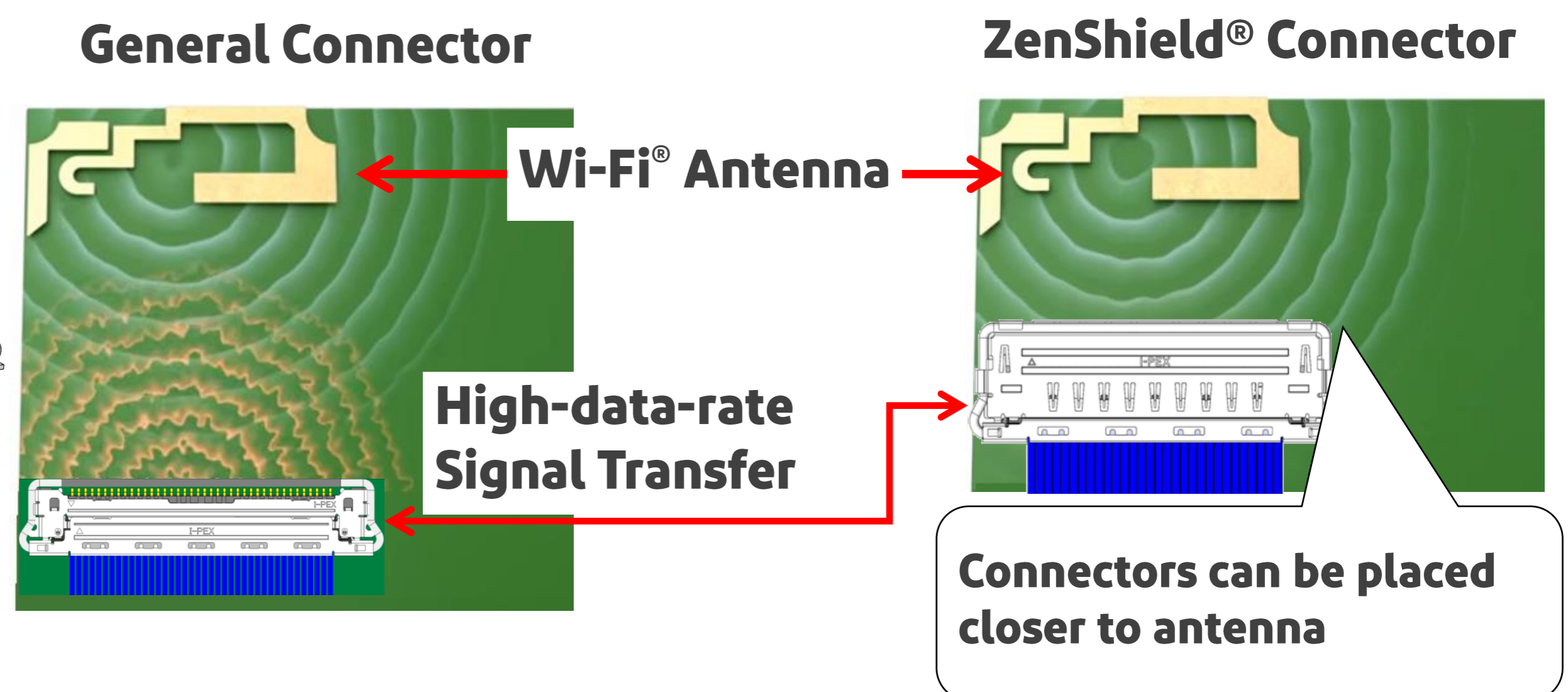
ZenShield[®] fully-shielded with multi-point grounds to prevent EMI leakage



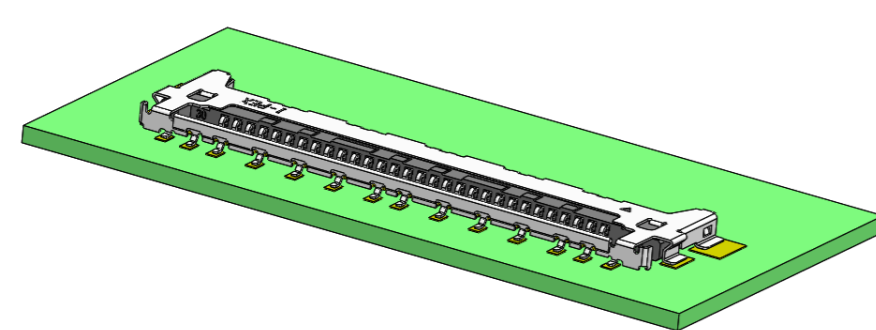
View From Back



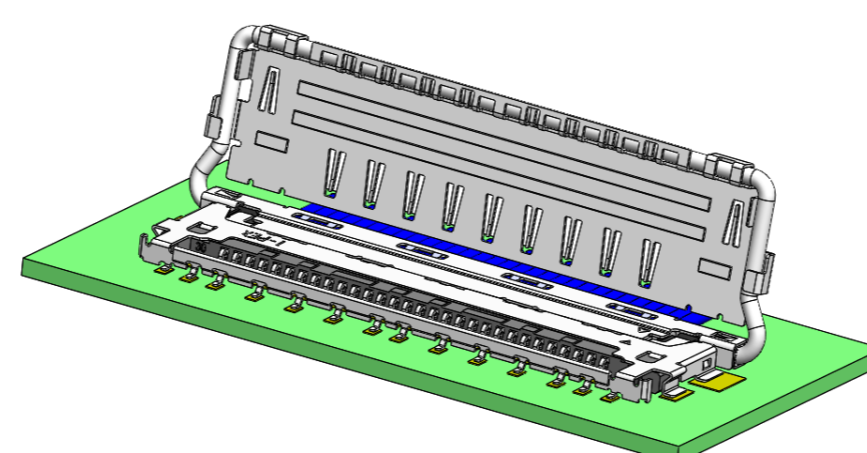
- Soldered contacts
- Mechanical contacts



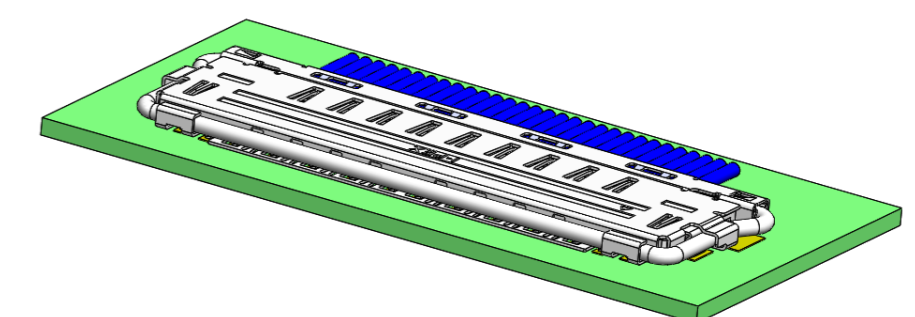
Mechanical locking cover prevents incomplete mating and back-out/un-mating



Mate

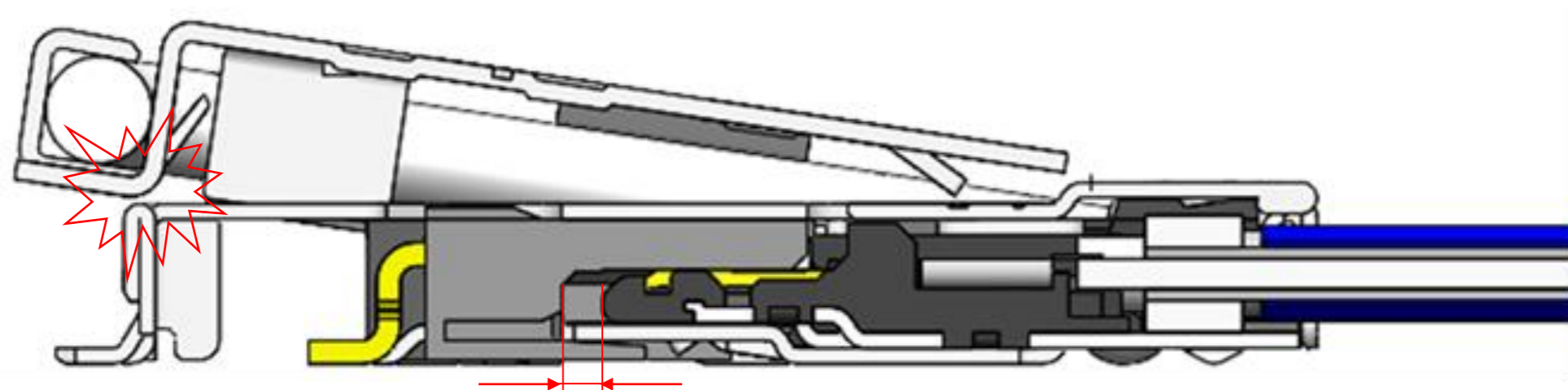


Locked

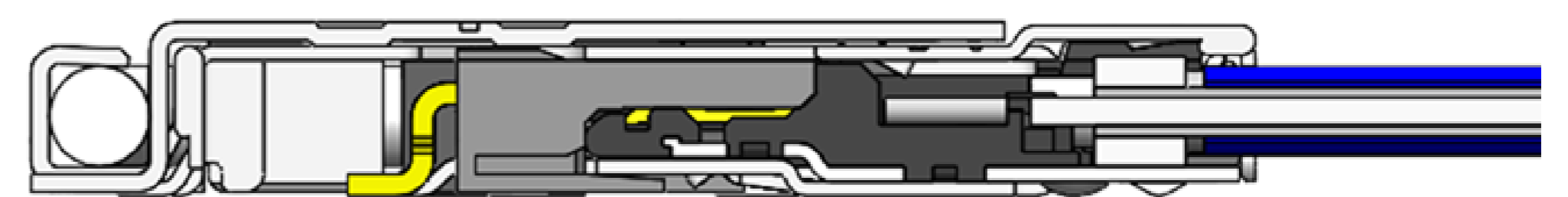


Unable to lock

can only be locked when mating is complete



incomplete mating



complete mating

High-data-rate transfer, ideal for USB4 Gen3/Thunderbolt 4(20 Gbps/lane) applications

USB4 Gen3/Thunderbolt 4 (20 Gbps/lane)

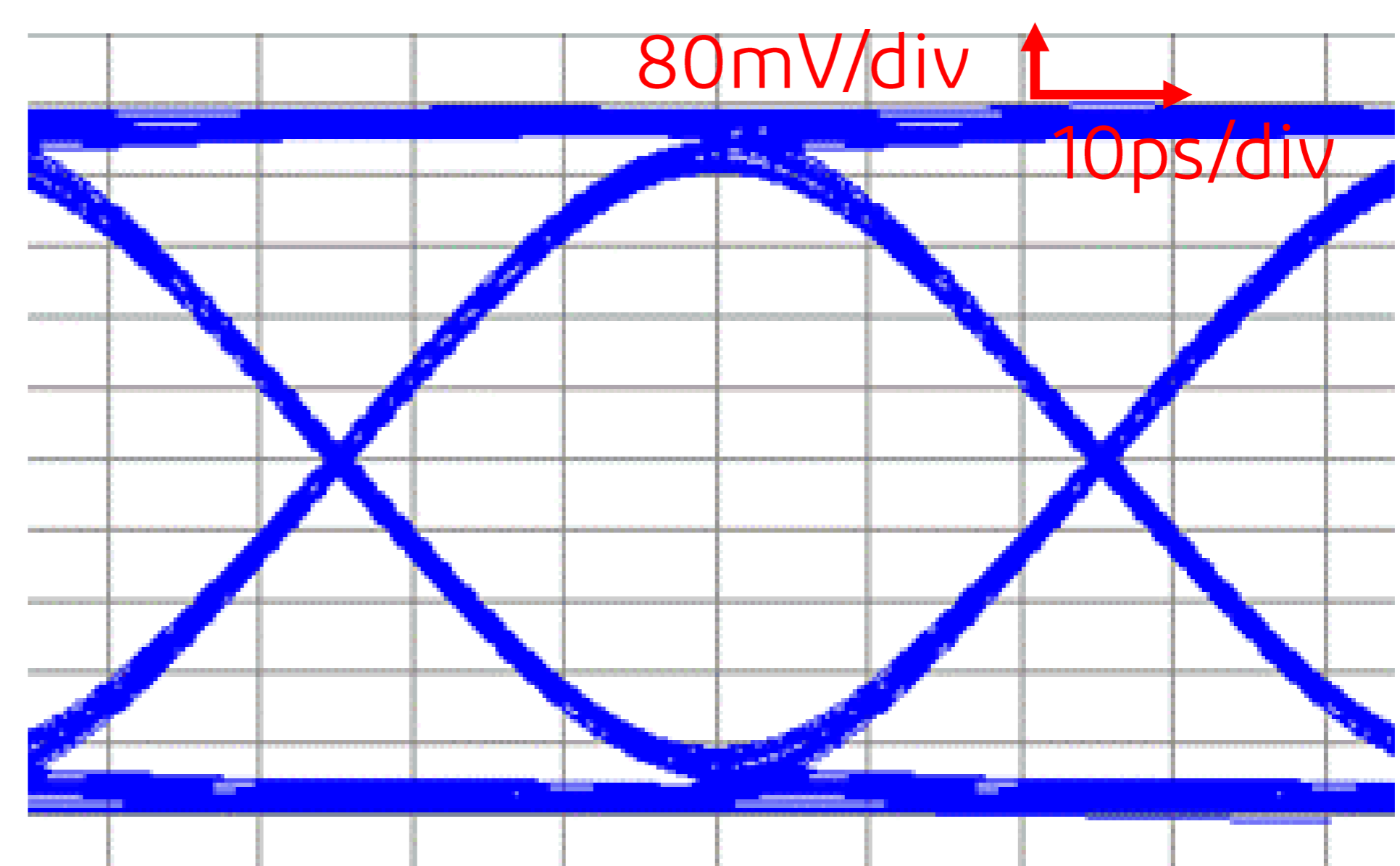
Eye pattern (Differential)

Bit rate : 20 Gbps

Rise time : 30 ps (10-90 %)

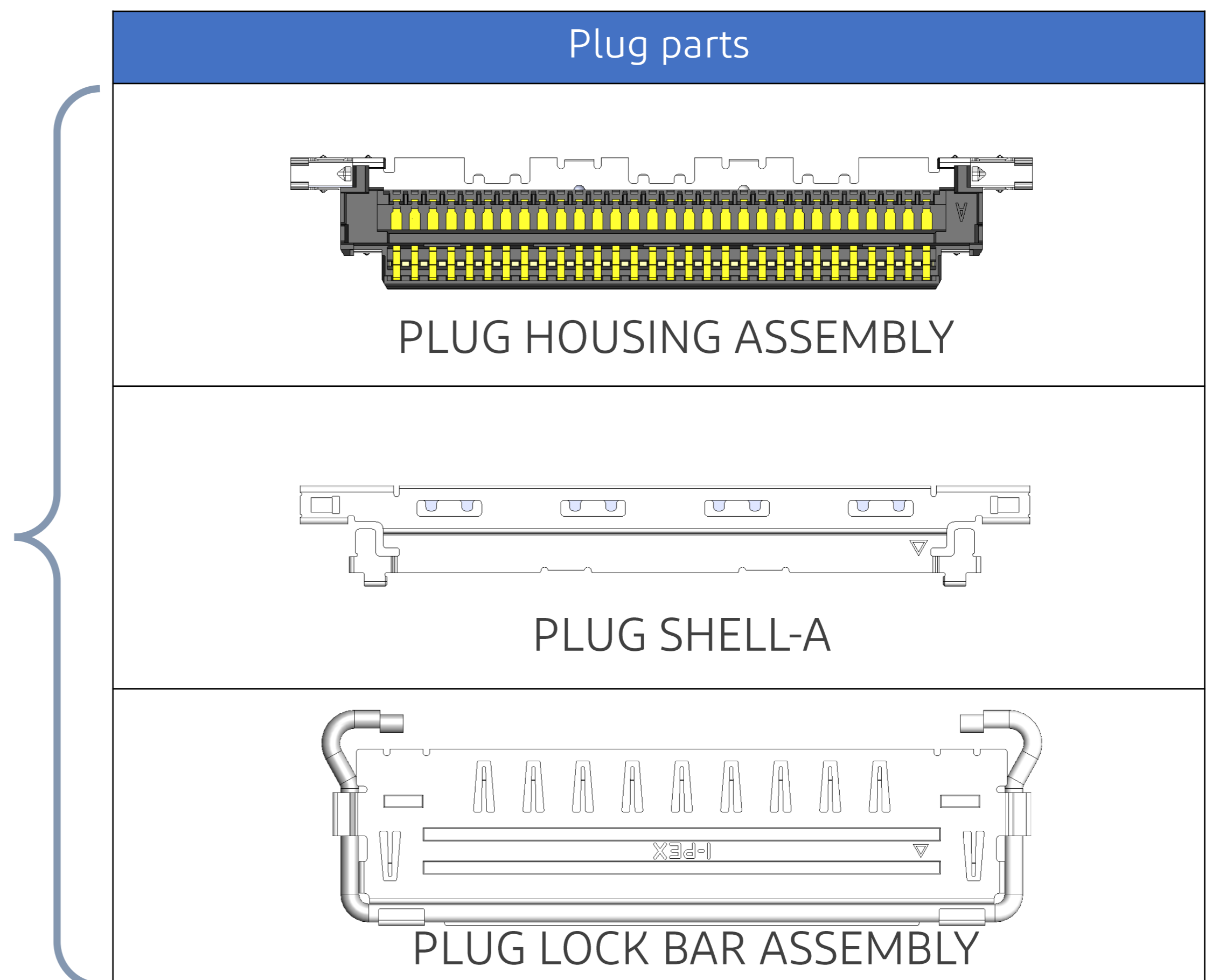
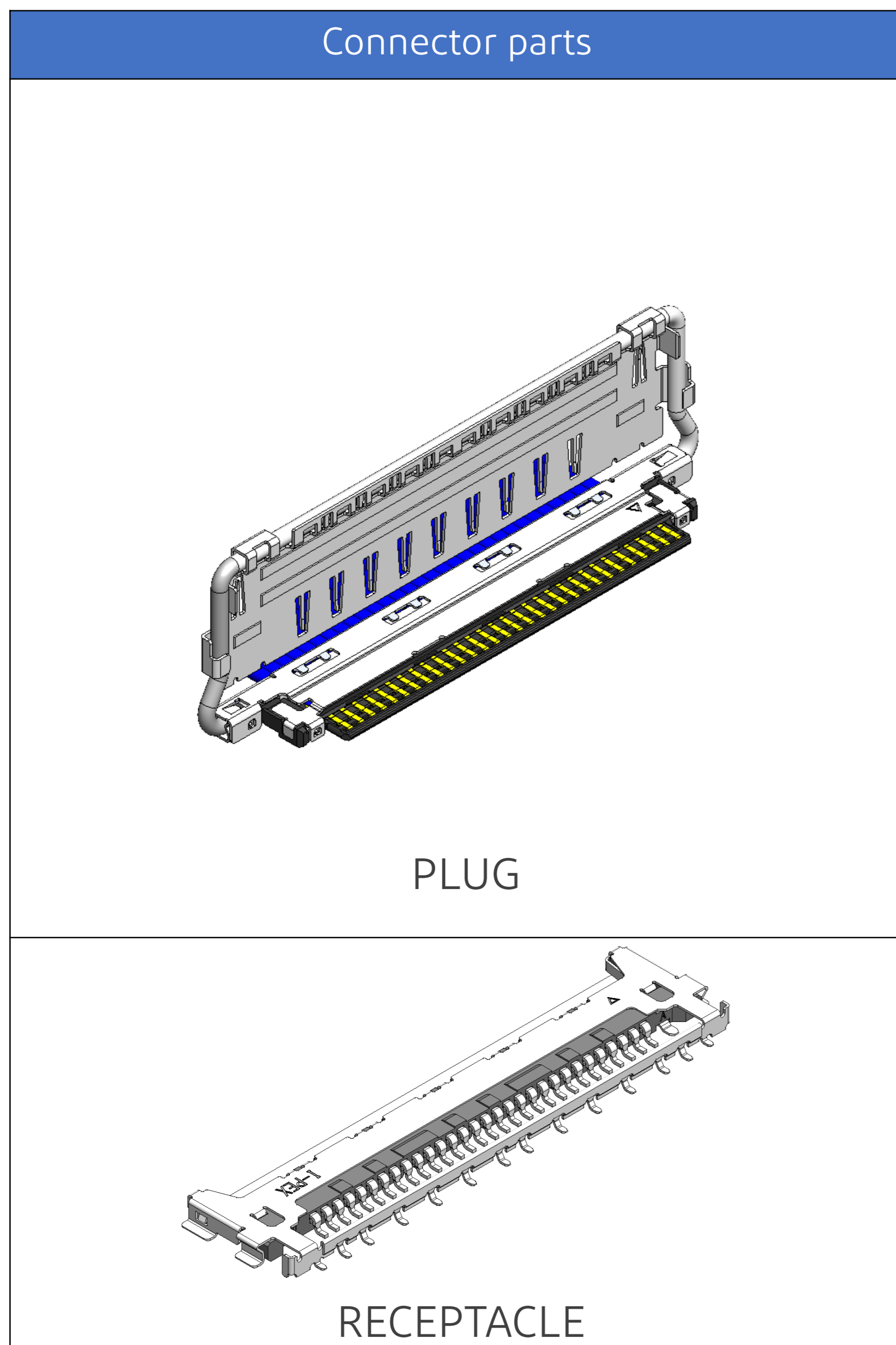
Input voltage : 800 mVp-p

*Please contact I-PEX for more test details.



Component Parts Details

Component Parts



Plug for Cable Assembly

| Recommended P/N | | 20846-0**T-01 | | | | |
|-----------------|------|---------------|-------|-------|-------|-------|
| PART NO. | Pos. | A | B | C | D | E |
| 20846-020T-0# | 20 | 15.30 | 9.50 | 10.30 | 12.56 | 16.85 |
| 20846-030T-0# | 30 | 20.30 | 14.50 | 15.30 | 17.56 | 21.85 |
| 20846-040T-0# | 40 | 25.40 | 19.50 | 20.30 | 22.56 | 26.85 |

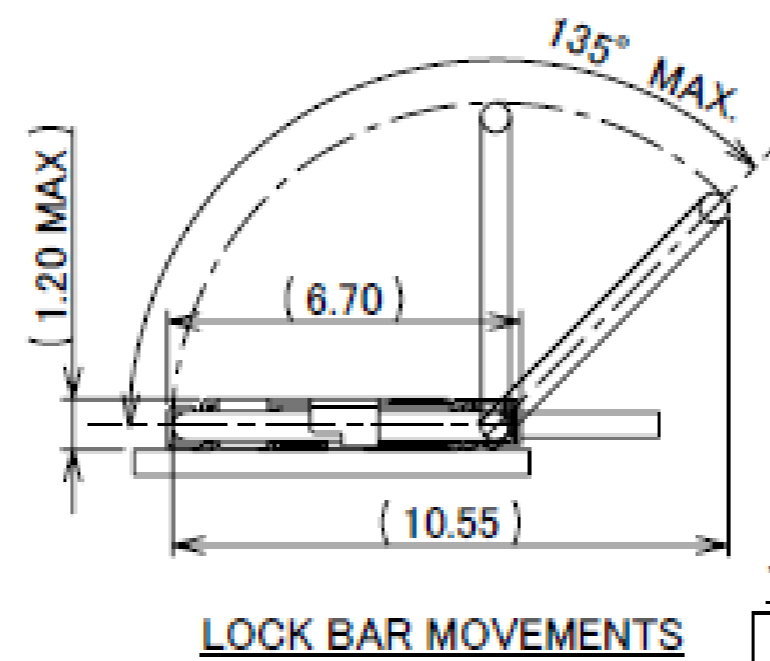
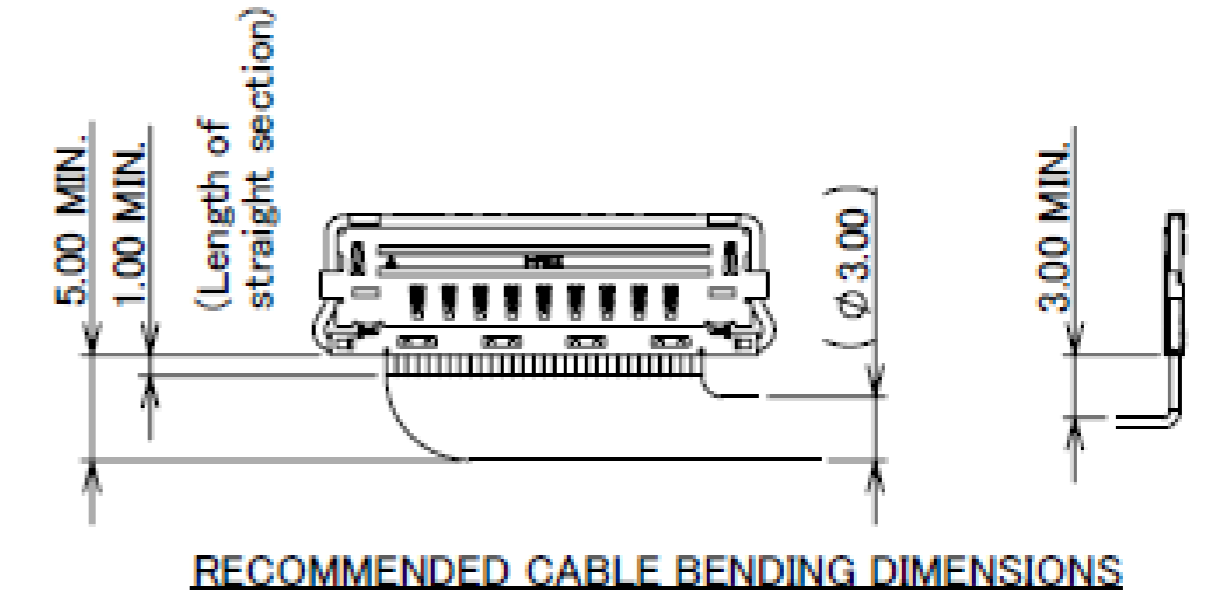
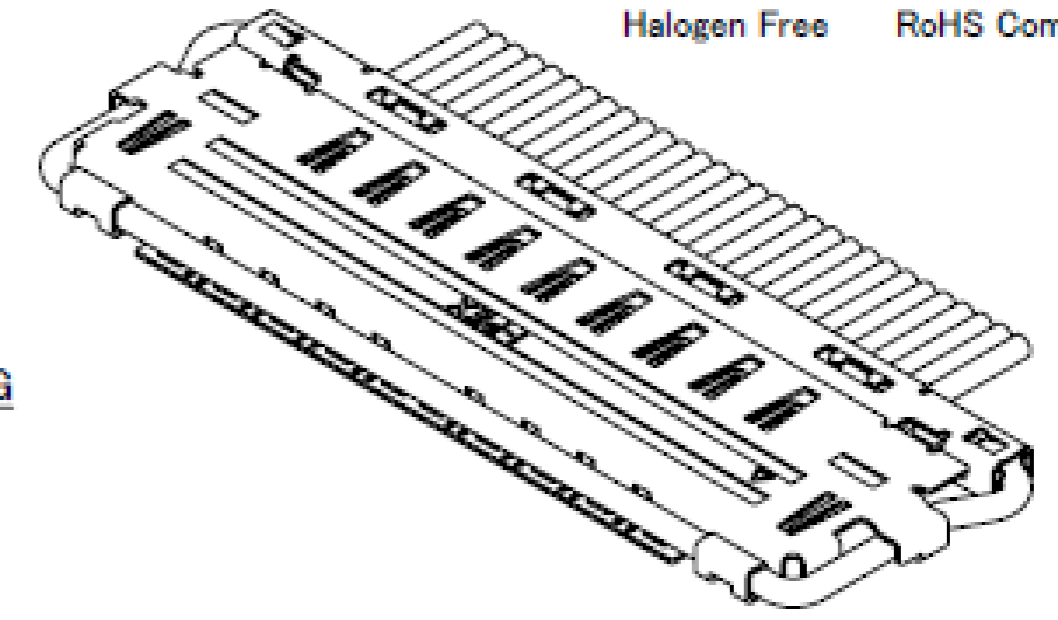
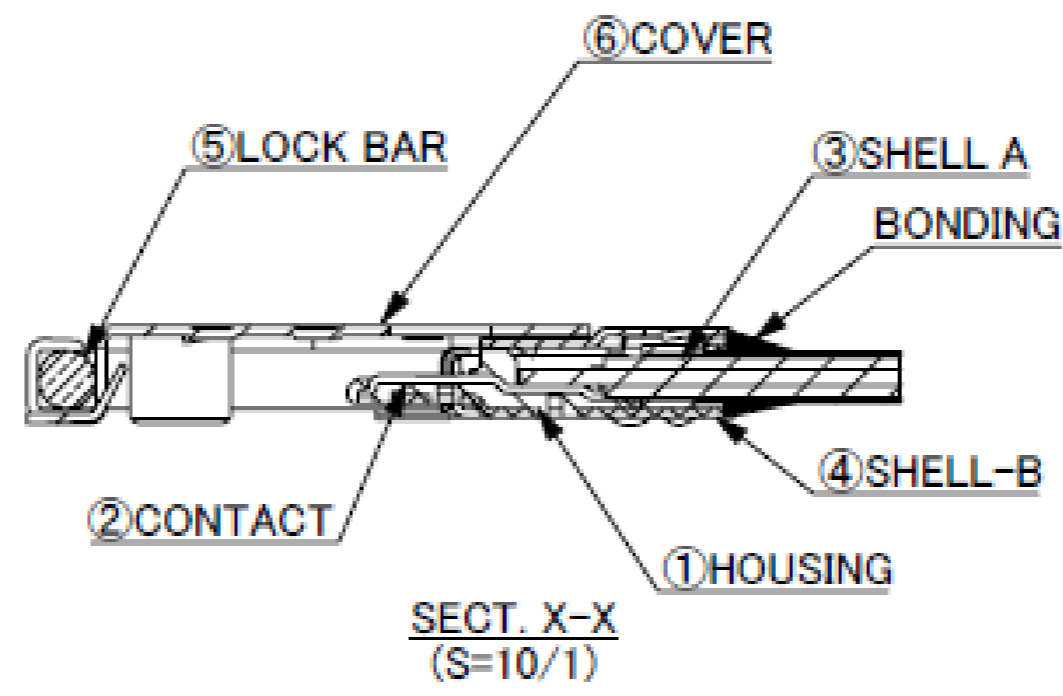
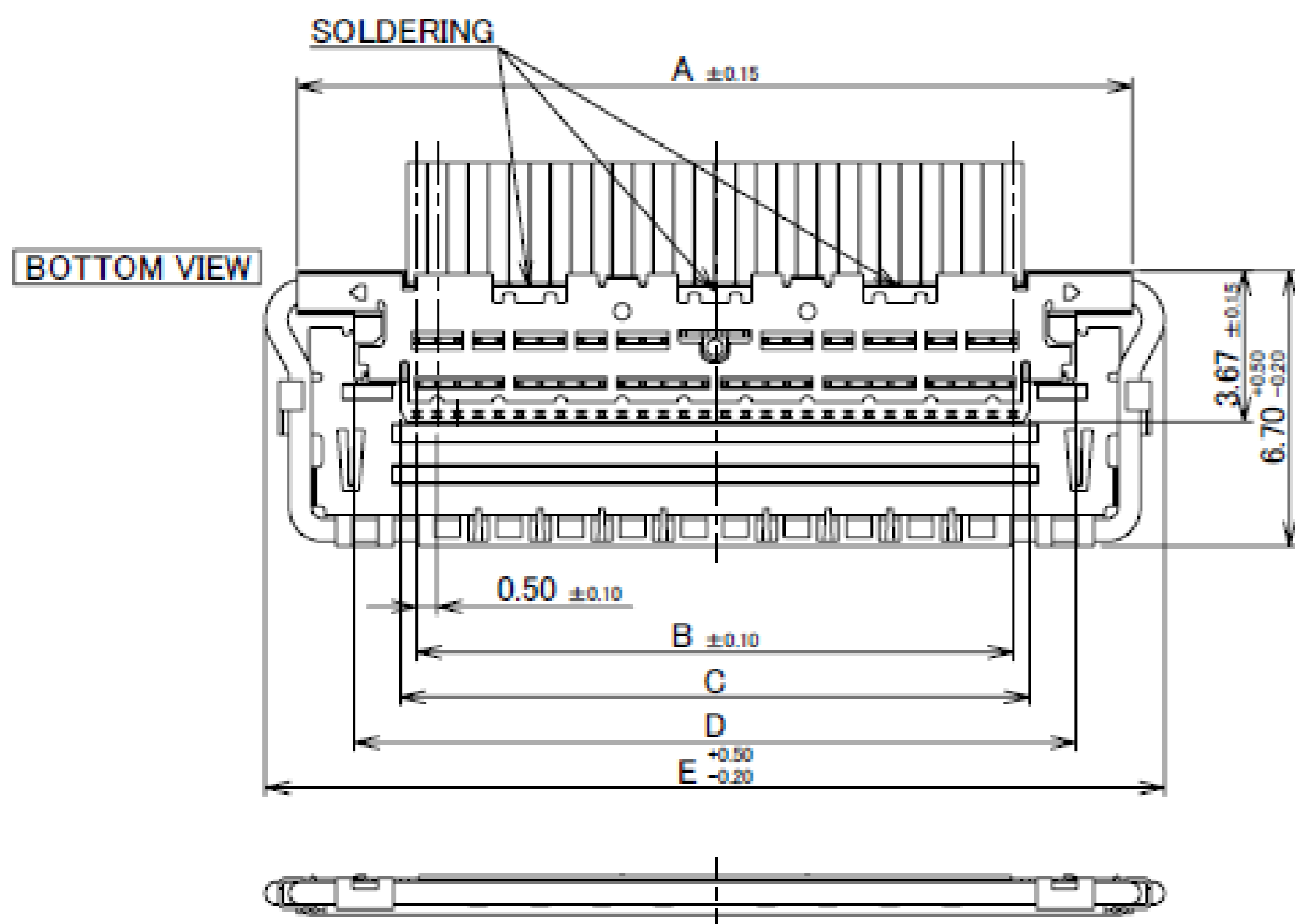
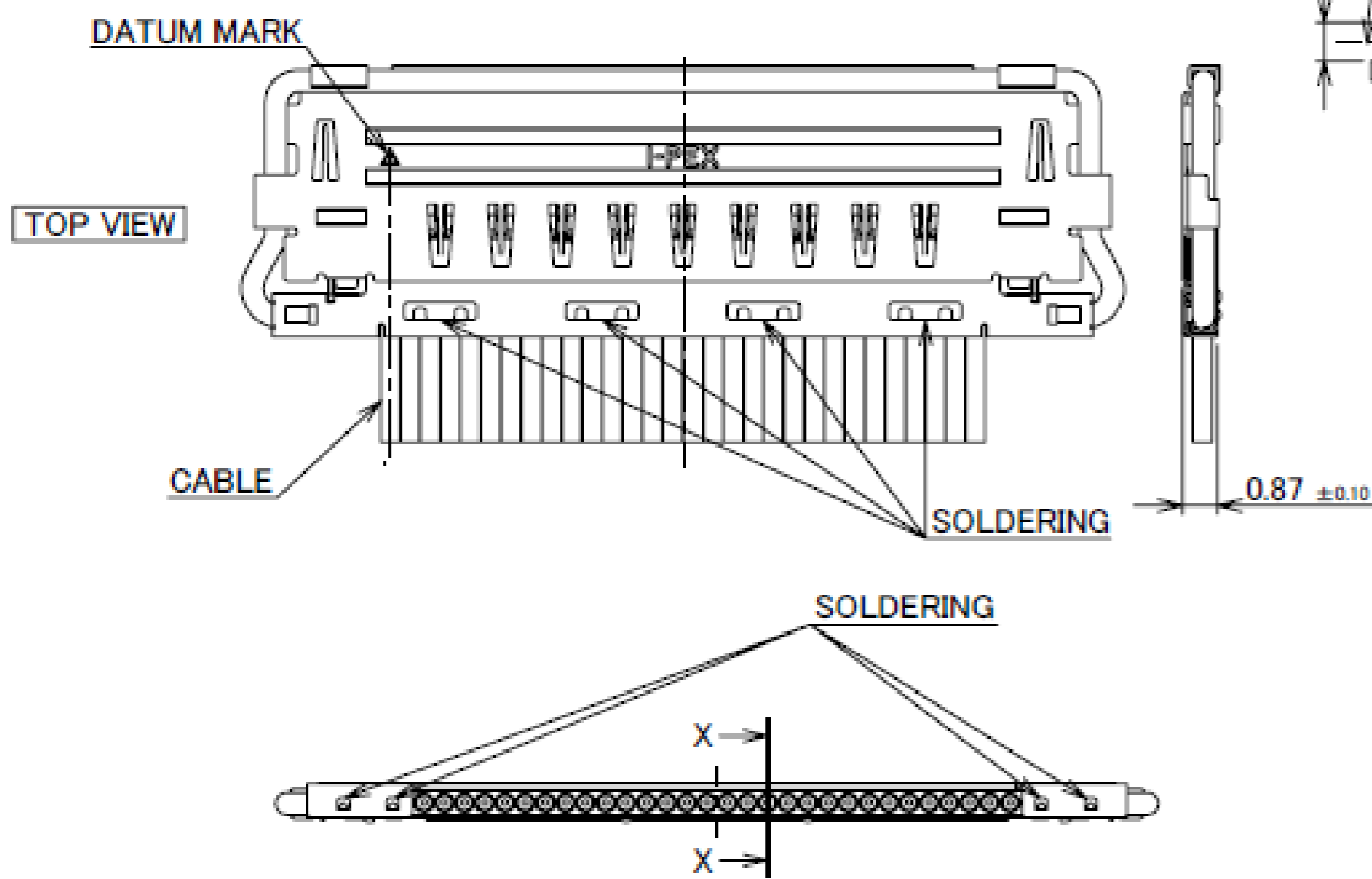


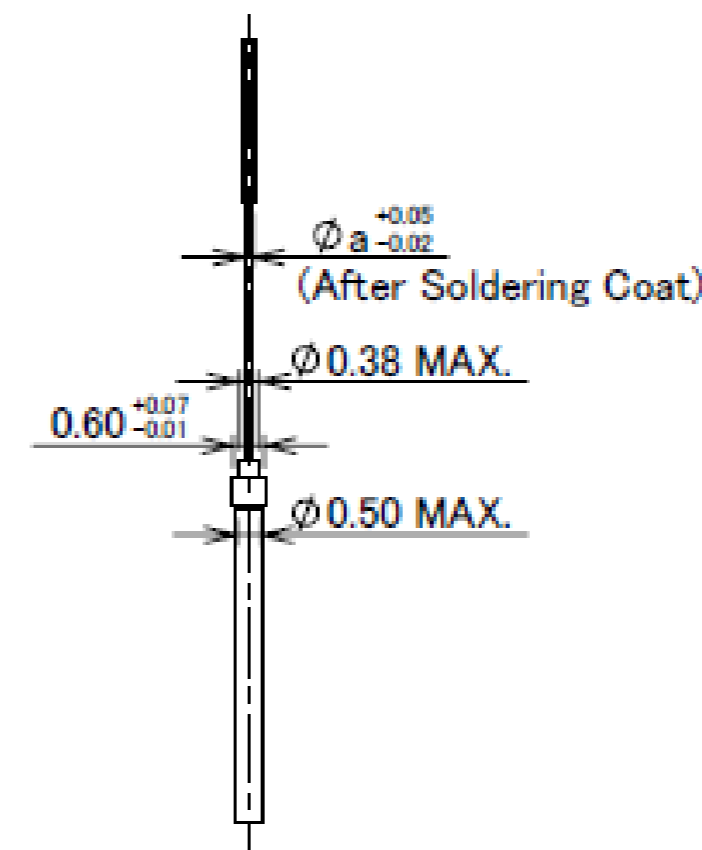
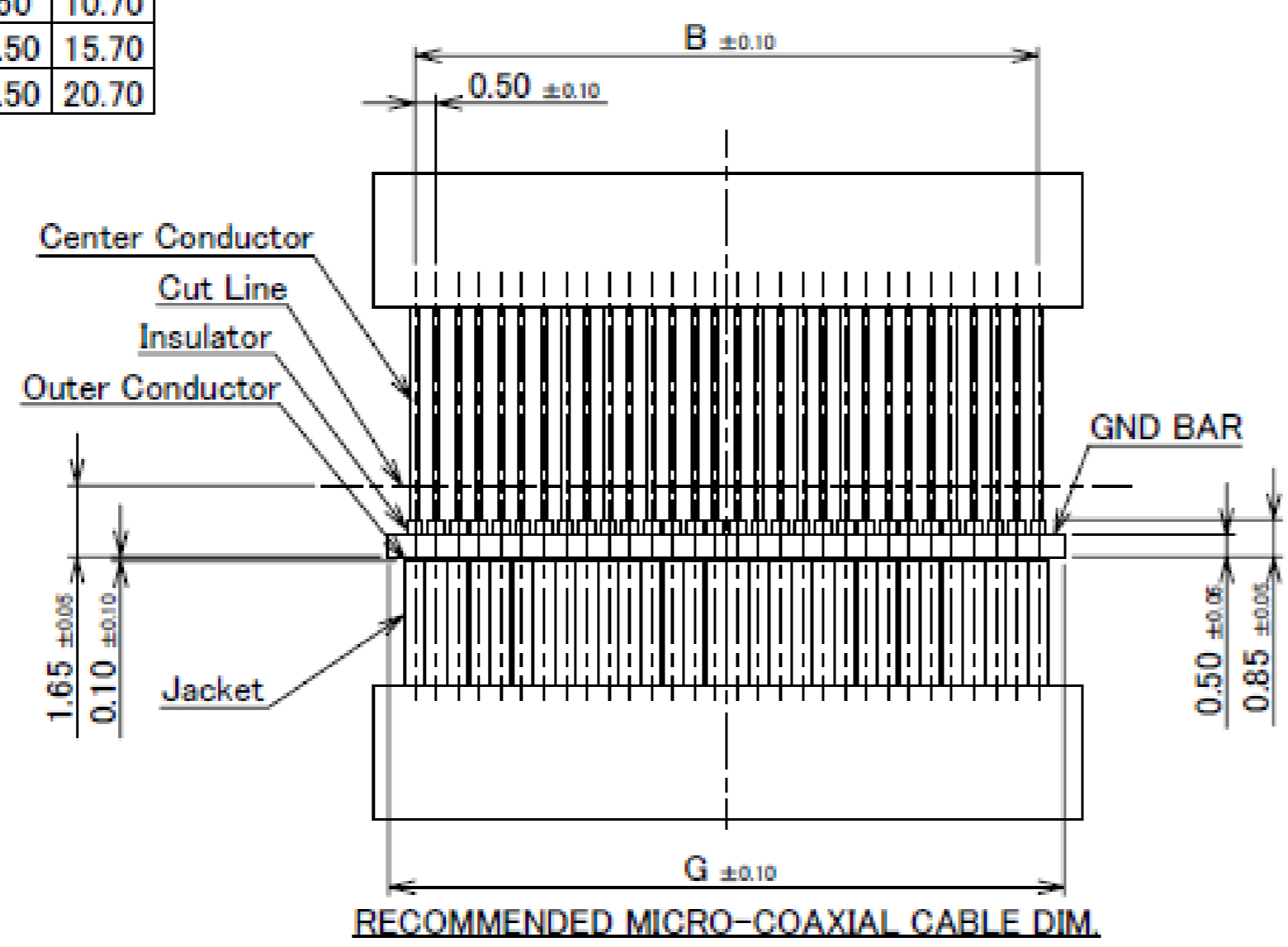
TABLE 1

| PART NO. | CONTACT FINISH |
|---------------|--|
| 20846-0**T-01 | CONTACT & SOLDERING AREA : Au 0.03 μ m MIN. OVER Ni 1.00 μ m MIN. |
| 20846-0**T-02 | CONTACT AREA : Au 0.38 μ m MIN. OVER Ni 1.27 μ m MIN. SOLDERING AREA : Au 0.03 μ m MIN. OVER Ni 1.00 μ m MIN. |

| NO. | DISCRIPTION | MATERIAL | FINISH, REMARKS |
|-----|-------------|-----------------|---|
| 6 | COVER | PHOSPHOR BRONZE | ALL OVER Ni 1.00 μ m MIN. |
| 5 | LOCK BAR | SUS | - |
| 4 | SHELL-B | PHOSPHOR BRONZE | PARTIAL Au 0.003 μ m MIN. OVER Ni 1.00 μ m MIN. |
| 3 | SHELL-A | PHOSPHOR BRONZE | PARTIAL Au 0.003 μ m MIN. OVER Ni 1.00 μ m MIN. |
| 2 | CONTACT | PHOSPHOR BRONZE | SEE TABLE 1 |
| 1 | HOUSING | LCP | UL94V-0, BLACK |

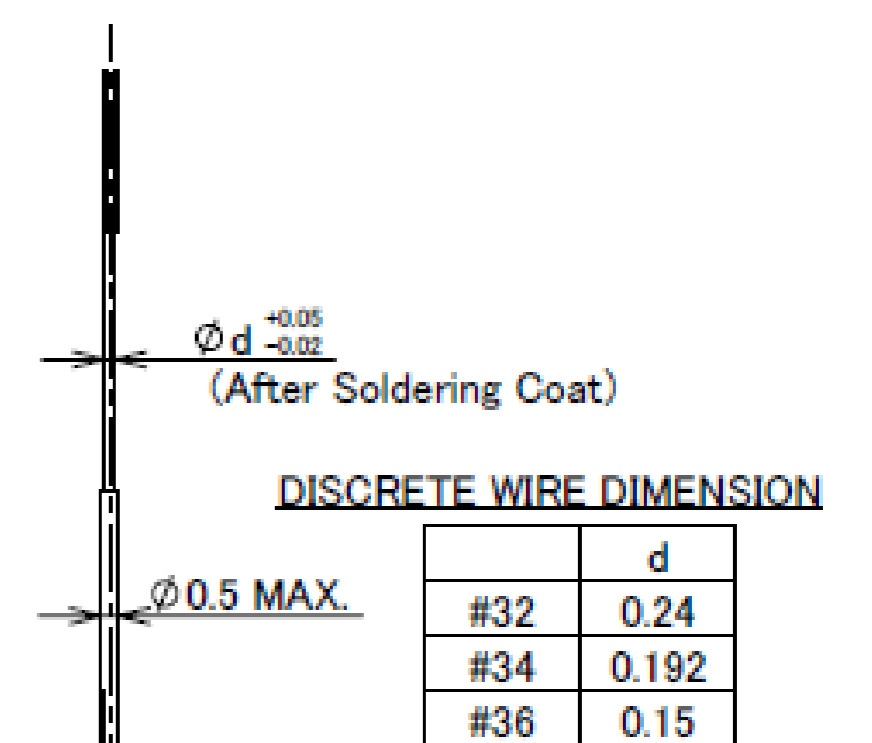
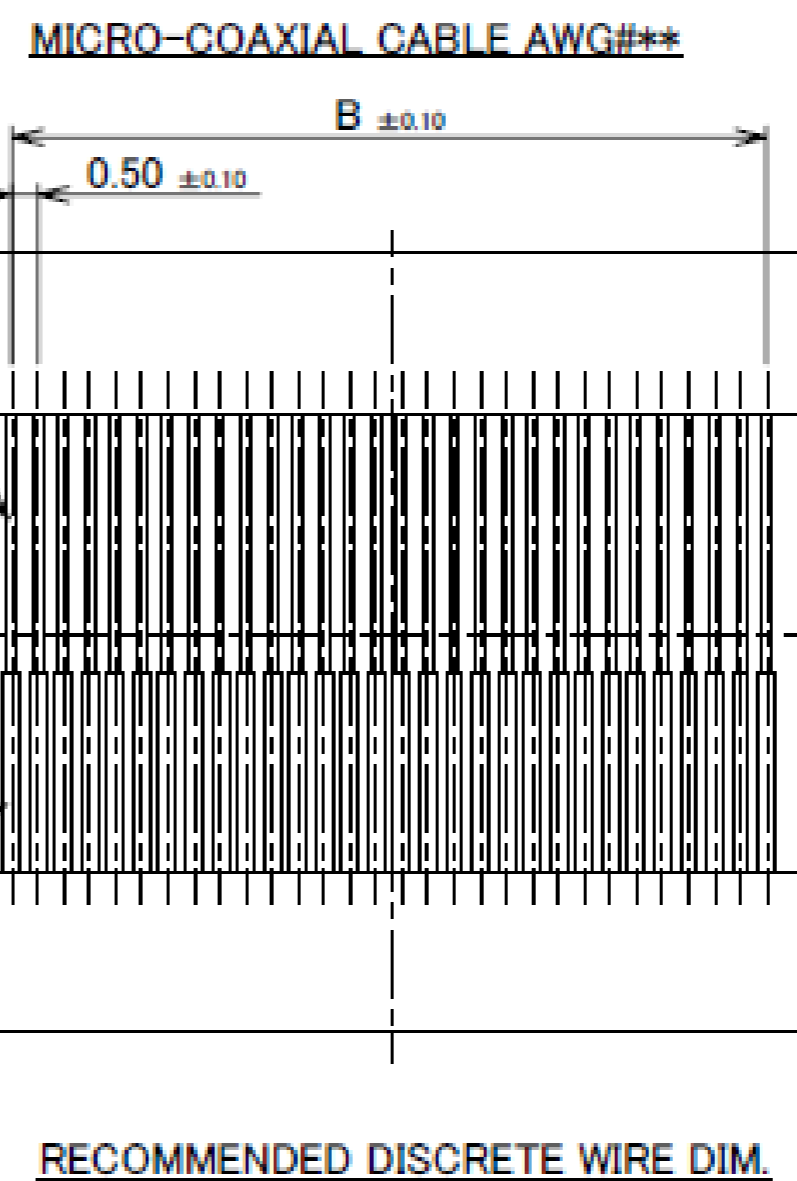
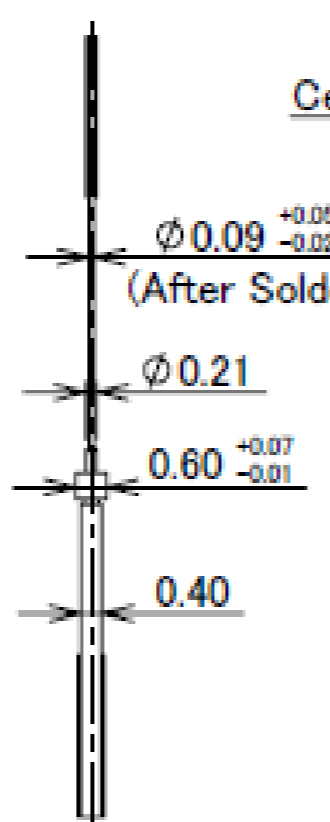
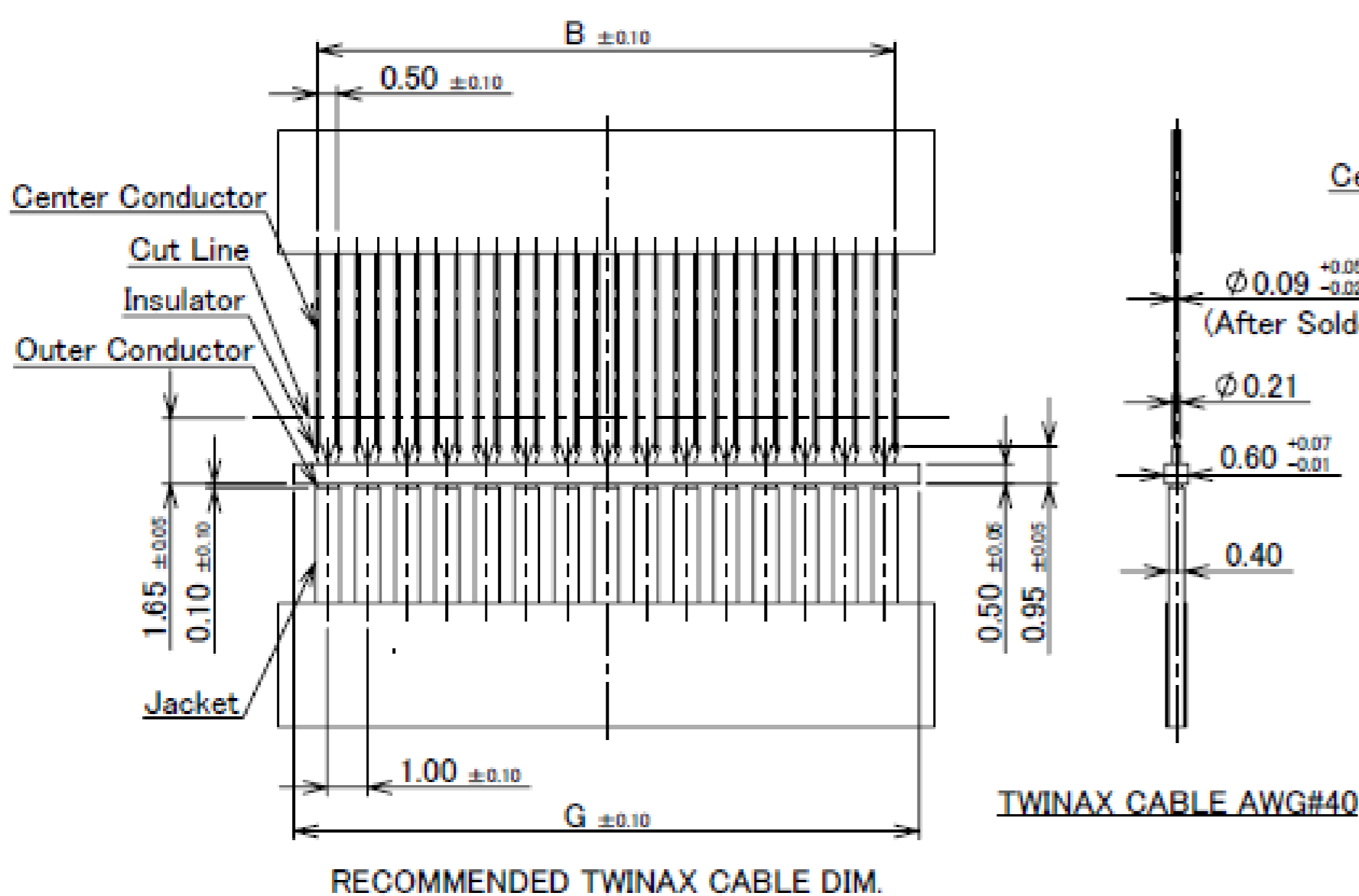


| PART NO. | Pos. | B | G |
|---------------|------|-------|-------|
| 20846-020T-0# | 20 | 9.50 | 10.70 |
| 20846-030T-0# | 30 | 14.50 | 15.70 |
| 20846-040T-0# | 40 | 19.50 | 20.70 |



MICRO-COAXIAL CABLE DIMENSION

| AWG# | a |
|------|-------|
| #36 | 0.15 |
| #38 | 0.12 |
| #40 | 0.09 |
| #42 | 0.075 |
| #44 | 0.063 |



DISCRETE WIRE DIMENSION

| AWG# | d |
|------|-------|
| #32 | 0.24 |
| #34 | 0.192 |
| #36 | 0.15 |

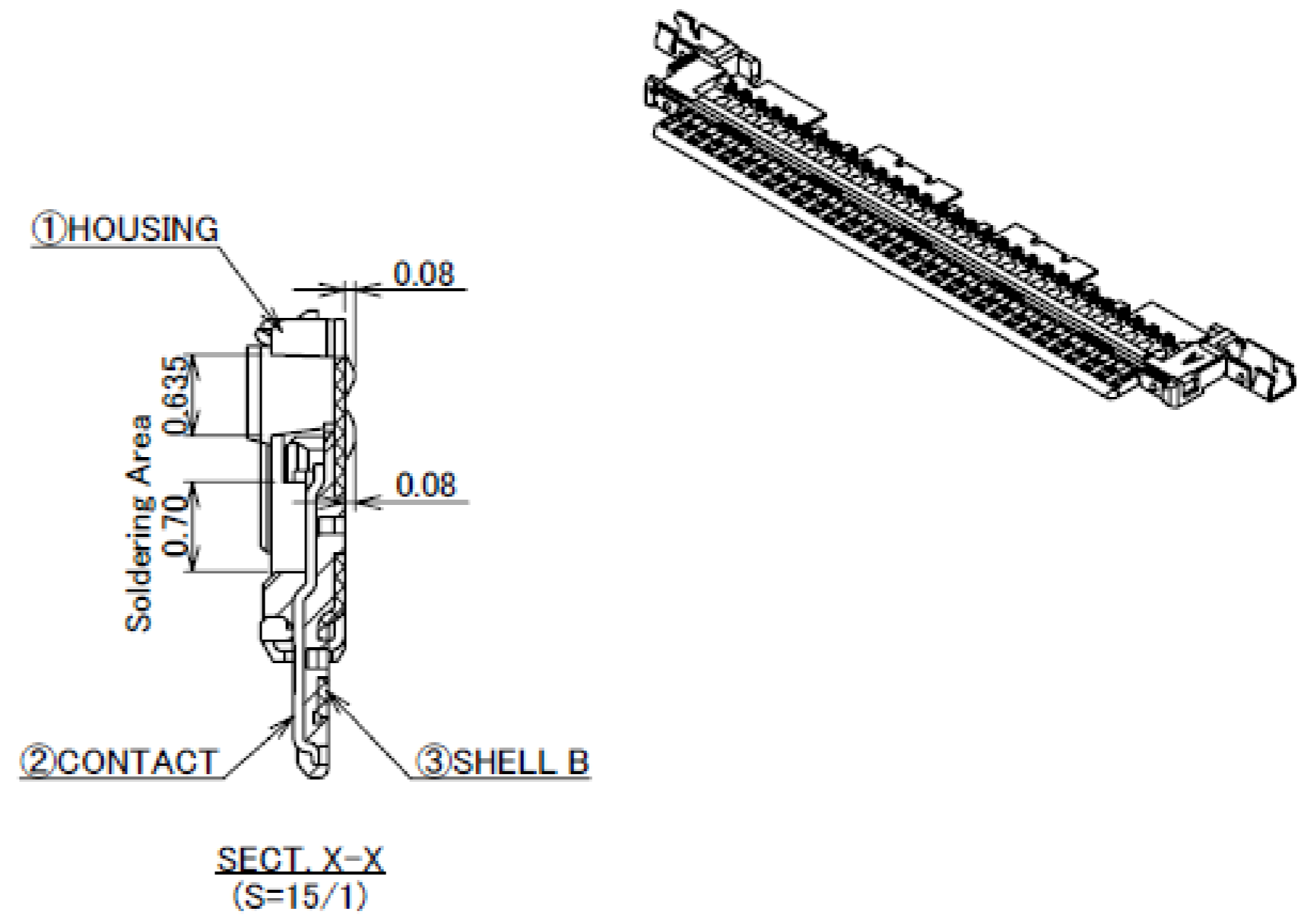
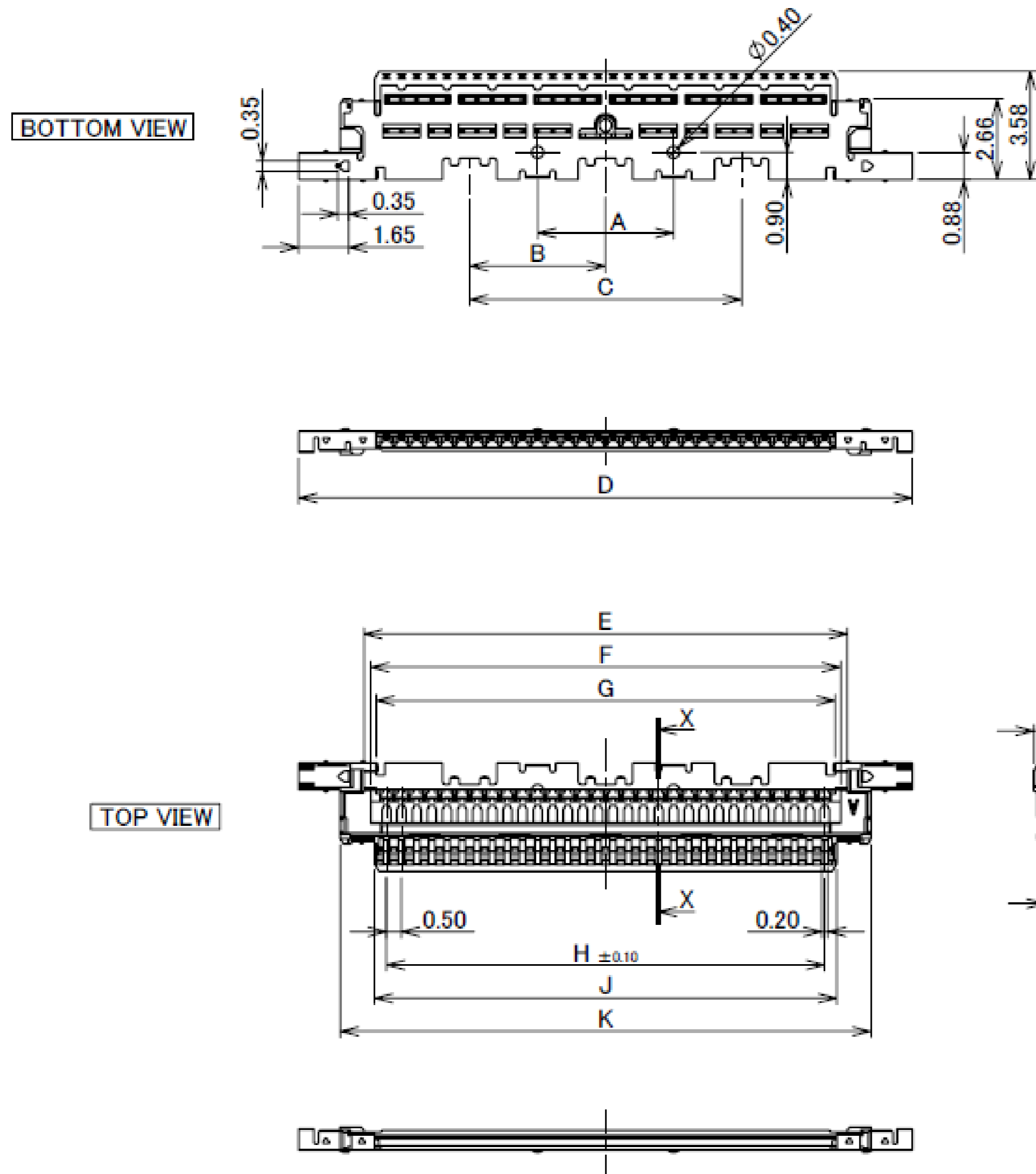
Rev.11

Rev.11

Plug Housing Assembly

Recommended P/N 20847-0**T-01

| PART NO. | Pos. | A | B | C | D | E | F | G | H | J | K |
|---------------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 20847-020T-0# | 20 | - | - | 5.00 | 15.30 | 11.00 | 10.55 | 10.20 | 9.50 | 10.30 | 12.56 |
| 20847-030T-0# | 30 | 4.50 | 4.50 | 9.00 | 20.30 | 16.00 | 15.55 | 15.20 | 14.50 | 15.30 | 17.56 |
| 20847-040T-0# | 40 | 9.00 | 4.50 | 13.50 | 25.40 | 21.00 | 20.55 | 20.20 | 19.50 | 20.30 | 22.56 |



NOTES.

- THIS PART IS ASSEMBLED WITH SHELL A(P/N 3427-0**1) AND LOCK BAR ASSY(P/N 20848-0**T-01) AFTER SOLDERING THE CABLE, AND SHALL BE ASSIGNED AS P/N 20846-0**T-0#

TABLE 1

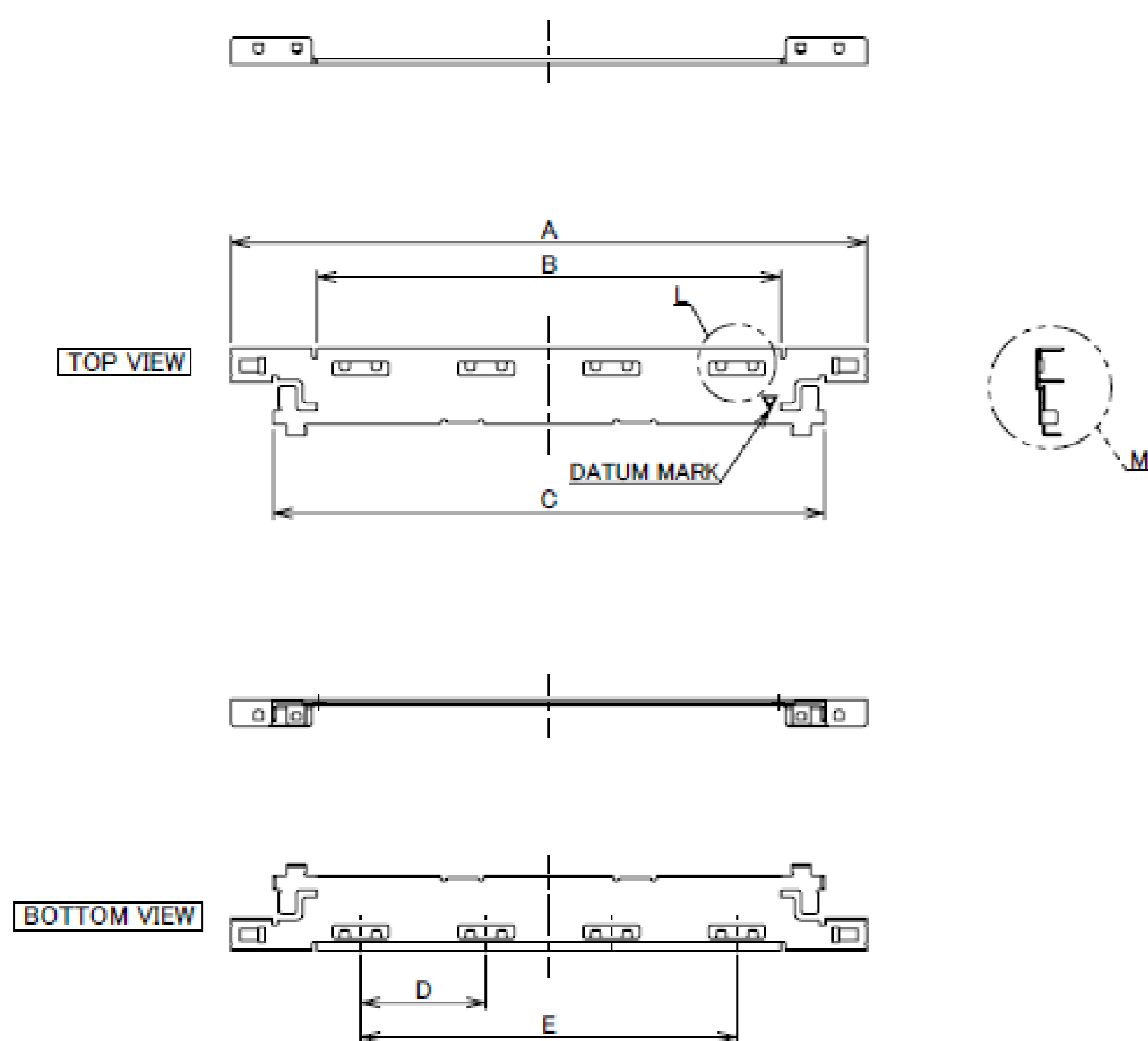
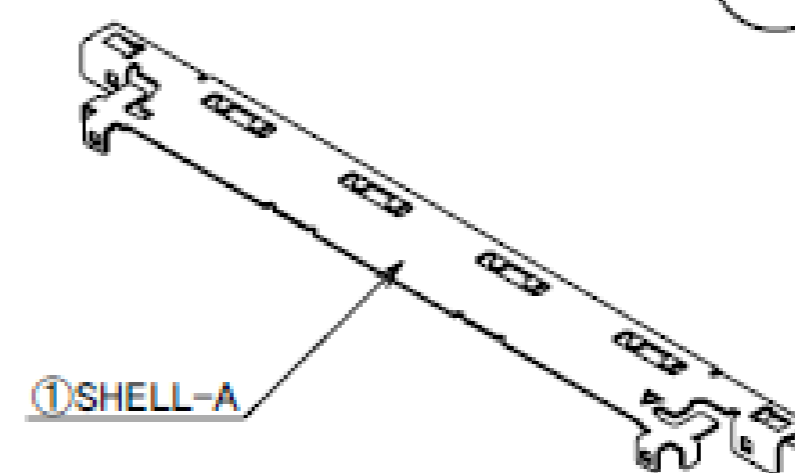
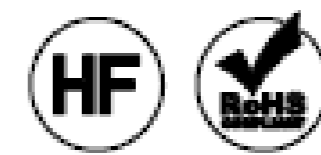
| PART NO. | CONTACT FINISH |
|---------------|--|
| 20847-0**T-01 | CONTACT & SOLDERING AREA : Au 0.03 μ m MIN. OVER Ni 1.00 μ m MIN. |
| 20847-0**T-02 | CONTACT AREA : Au 0.38 μ m MIN. OVER Ni 1.27 μ m MIN. SOLDERING AREA : Au 0.03 μ m MIN. OVER Ni 1.00 μ m MIN. |

Rev.6

Plug Shell-A

Recommended P/N 3427-0**1

| PART No. | Pos. | A | B | C | D | E |
|-----------|------|-------|-------|-------|------|-------|
| 3427-0201 | 20 | 15.30 | 9.78 | 12.56 | 3.00 | 6.00 |
| 3427-0301 | 30 | 20.30 | 14.78 | 17.56 | 4.00 | 12.00 |
| 3427-0401 | 40 | 25.40 | 19.88 | 22.56 | 4.00 | 16.00 |



VIEW M
(S=20/1)

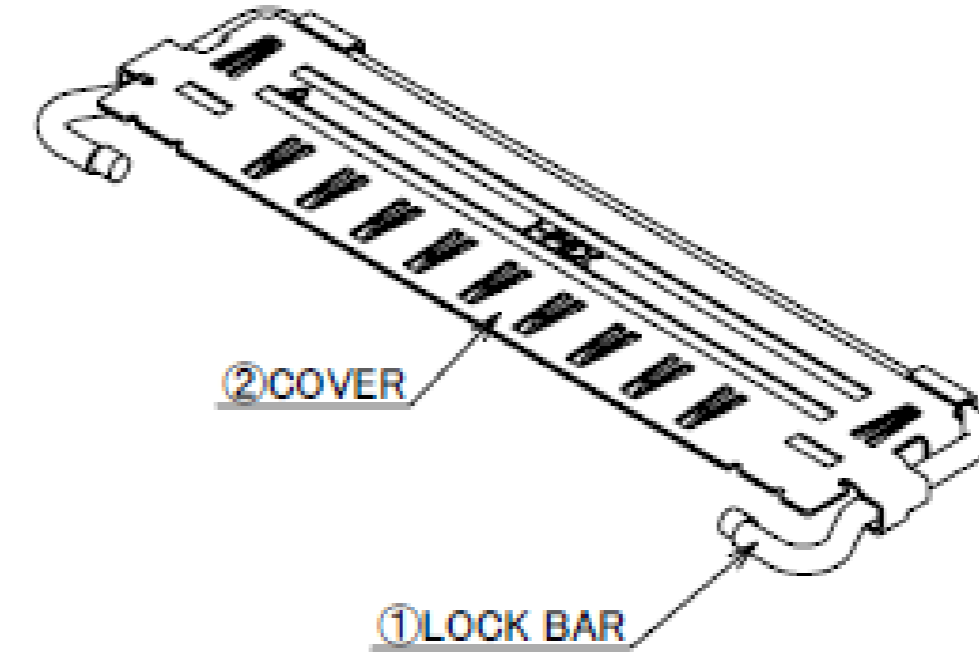
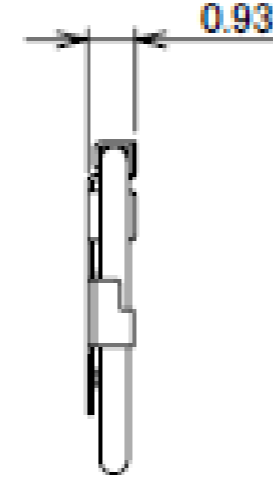
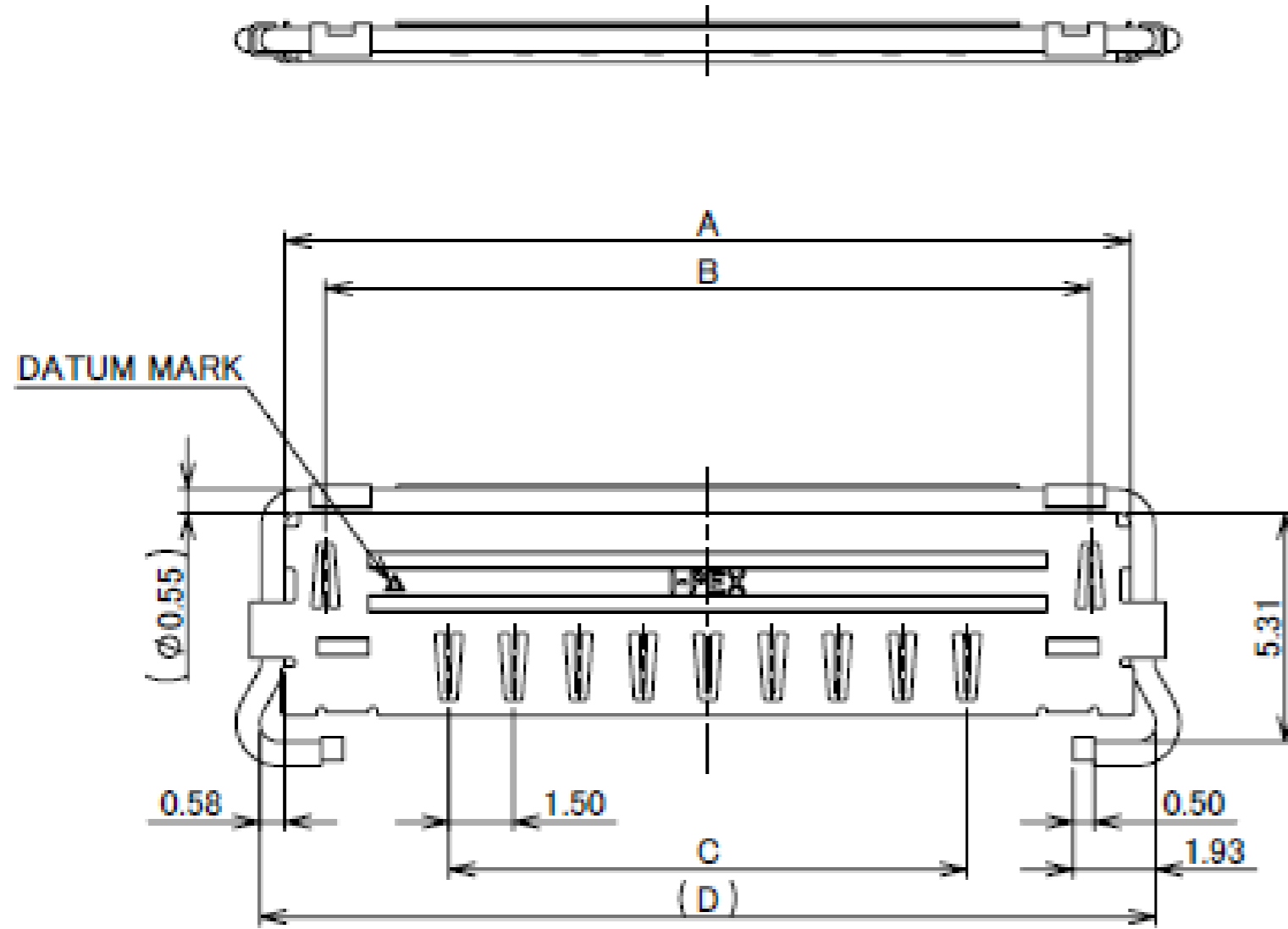
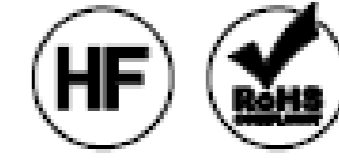
| NO. | DISCRIPTION | MATERIAL | FINISH , REMARKS |
|-----|-------------|-----------------|---|
| 1 | SHELL-A | PHOSPHOR BRONZE | PARTIAL Au 0.003 μ m MIN. OVER Ni 1.00 μ m MIN. |

Rev.3

Plug Lock Bar Assembly

| Recommended P/N | | 20848-0**T-01 | | | | |
|-----------------|------|---------------|-------|-------|-------|-------|
| PART NO. | Pos. | A | B | C | D | E |
| 20848-020T-01 | 20 | 14.59 | 12.70 | 7.50 | 15.75 | 7.00 |
| 20848-030T-01 | 30 | 19.59 | 17.70 | 12.00 | 20.75 | 12.00 |
| 20848-040T-01 | 40 | 24.59 | 22.70 | 18.00 | 25.75 | 17.00 |

20848-0**T-01
POS.



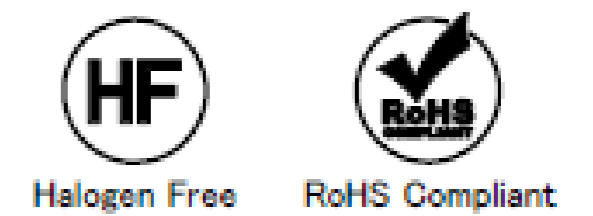
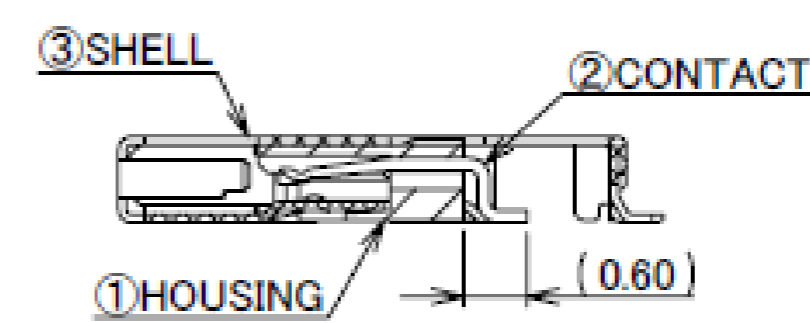
| NO. | DISCRIPTION | MATERIAL | FINISH , REMARKS |
|-----|-------------|-----------------|--------------------------|
| 2 | COVER | PHOSPHOR BRONZE | ALL OVER Ni 1.00 μm MIN. |
| 1 | LOCK BAR | SUS φ0.55 | - |

Rev.6

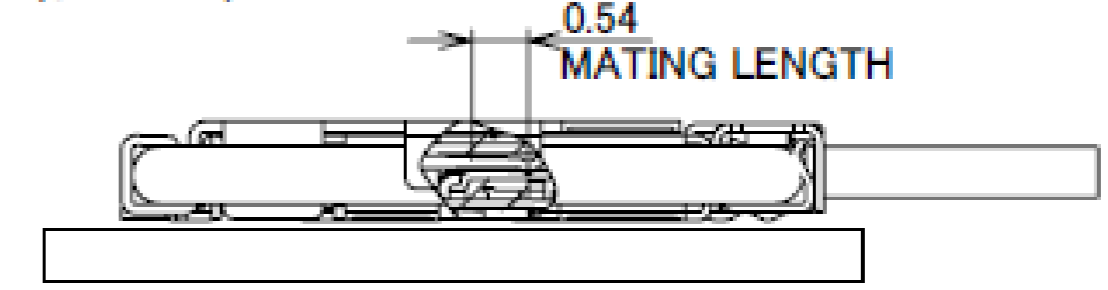
Receptacle Assembly

| Recommended P/N | | 20849-0**E-01 | | | | |
|-----------------|------|---------------|-------|-------|-------|-------|
| PART NO. | Pos. | A | B | C | D | E |
| 20849-020E-0# | 20 | 11.30 | 9.50 | 14.33 | 15.10 | 11.91 |
| 20849-030E-0# | 30 | 16.30 | 14.50 | 19.33 | 20.10 | 16.91 |
| 20849-040E-0# | 40 | 21.30 | 19.50 | 24.33 | 25.10 | 21.91 |

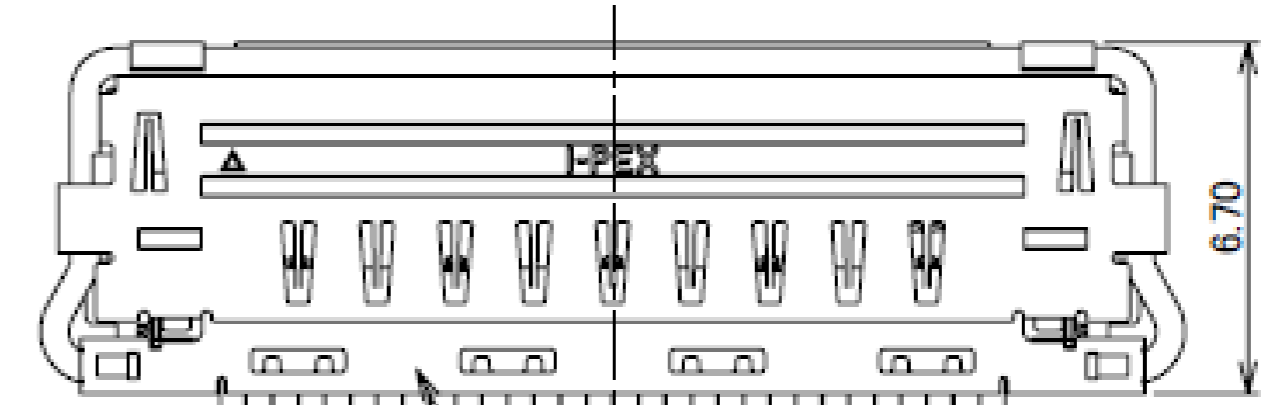
P/N : 20849-0**E-0#
SEE TABLE 1
POS.



SECT. W-W
(S = 10 : 1)



MATING CONDITION
(S = 10 : 1)



MATING CONDITION

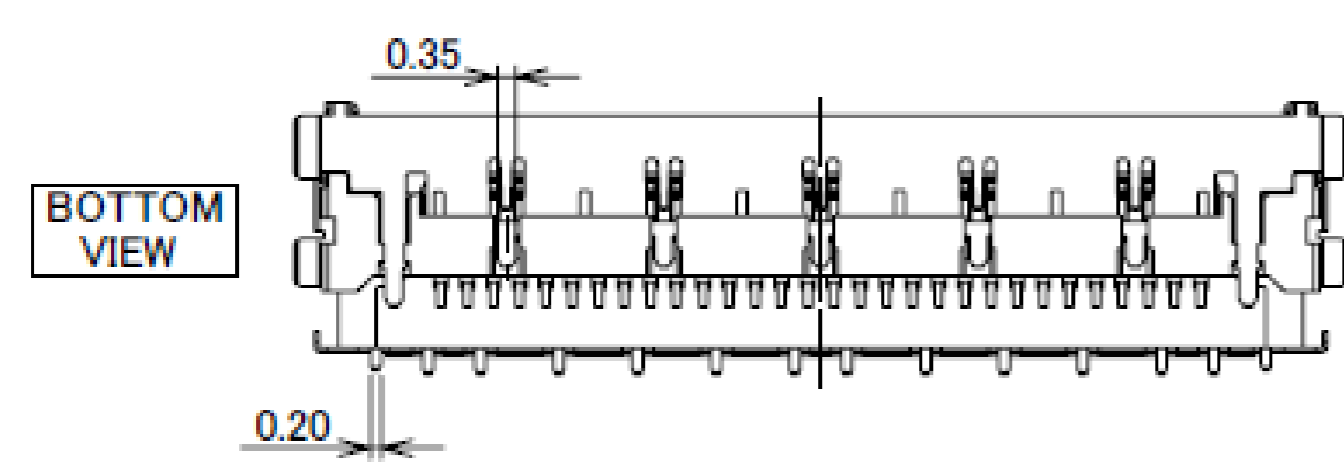
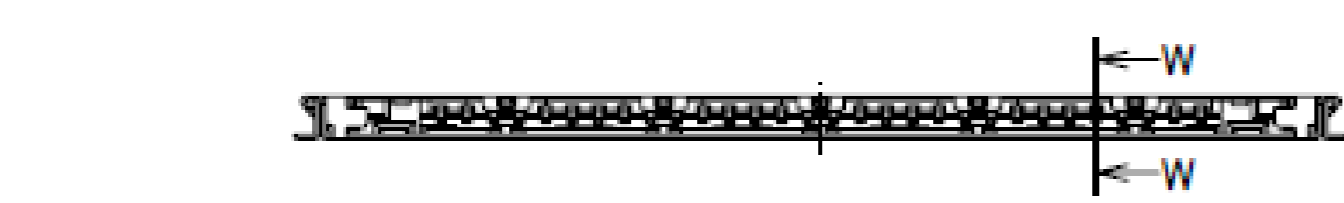
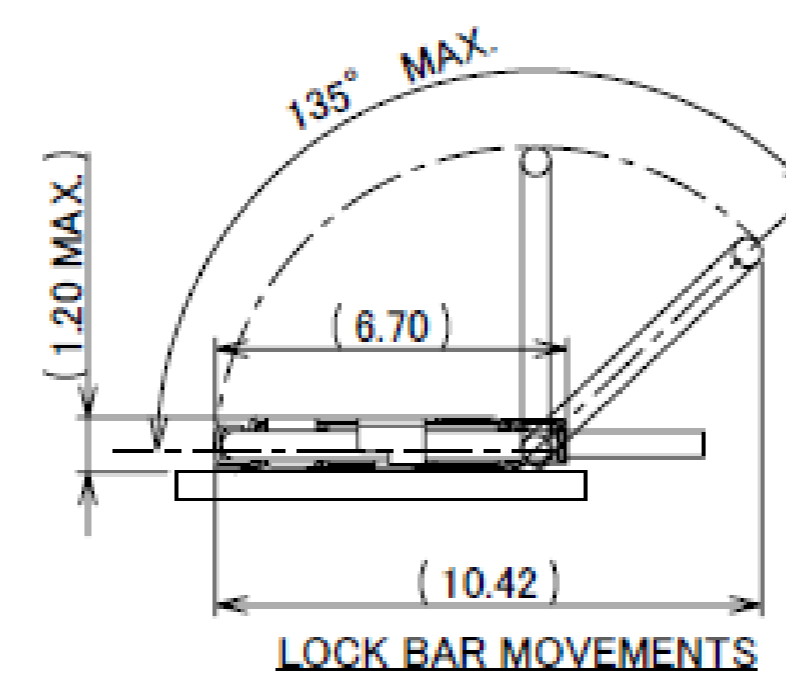
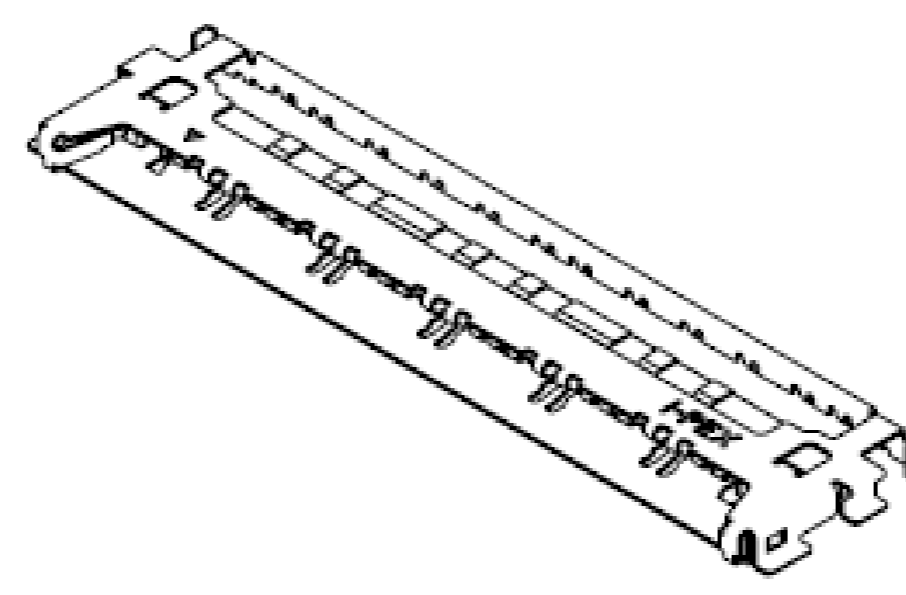
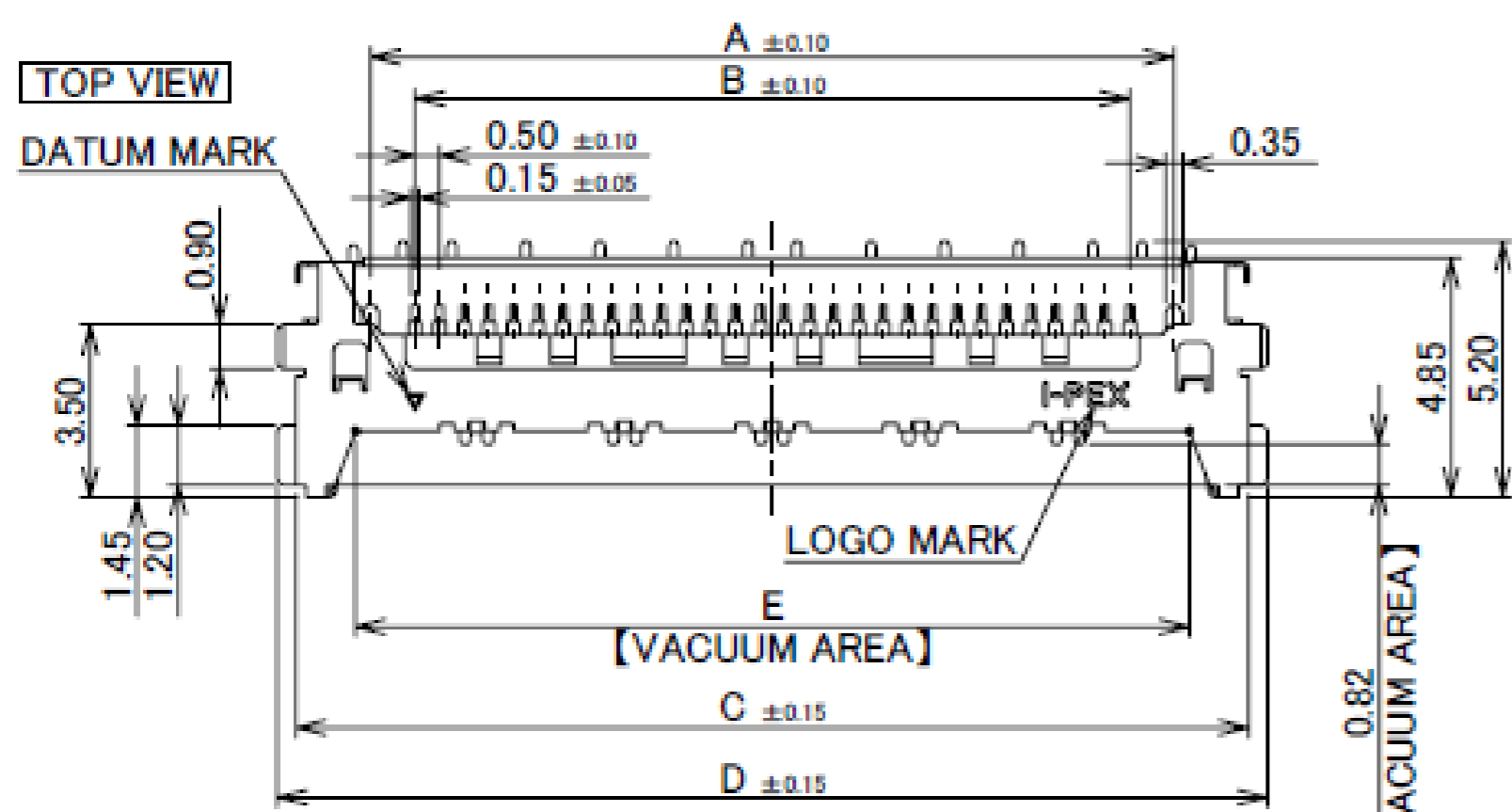


TABLE.1

| PART NO. | CONTACT FINISH | SHELL FINISH |
|---------------|--|--|
| 20849-0**E-01 | CONTACT & SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN. | ALL OVER Ni 1.00 μm MIN. SOLDERING AREA : Au 0.02 μm MIN. |
| 20849-0**E-02 | CONTACT AREA : Au 0.38 μm MIN. OVER Ni 1.27 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN. | |

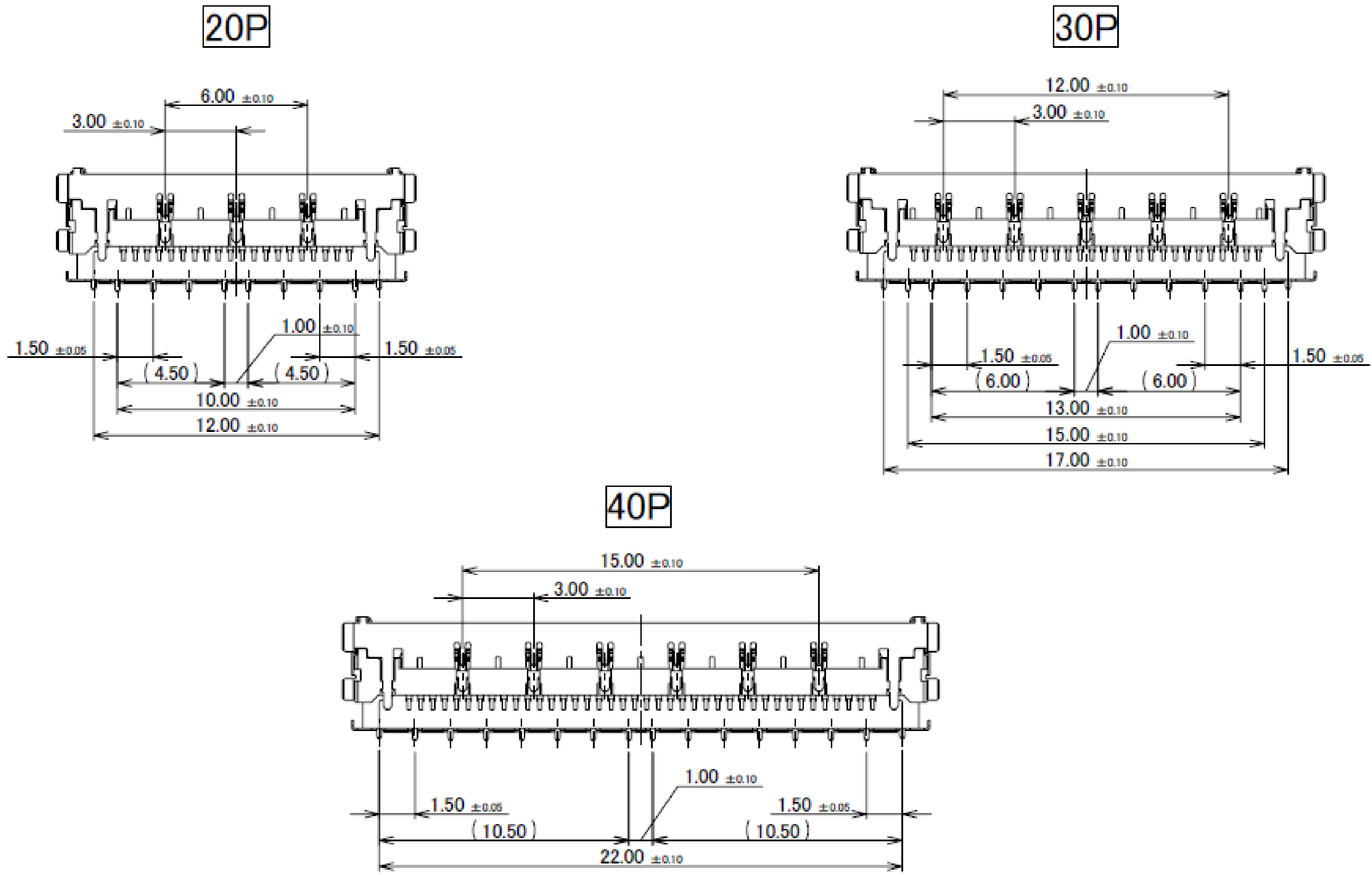
| NO. | DISCRIPTION | MATERIAL | FINISH , REMARKS |
|-----|-------------|-----------------|------------------|
| 3 | SHELL | PHOSPHOR BRONZE | SEE TABLE 1 |
| 2 | CONTACT | PHOSPHOR BRONZE | SEE TABLE 1 |
| 1 | HOUSING | LCP | UL94V-0, BLACK |

Rev.10

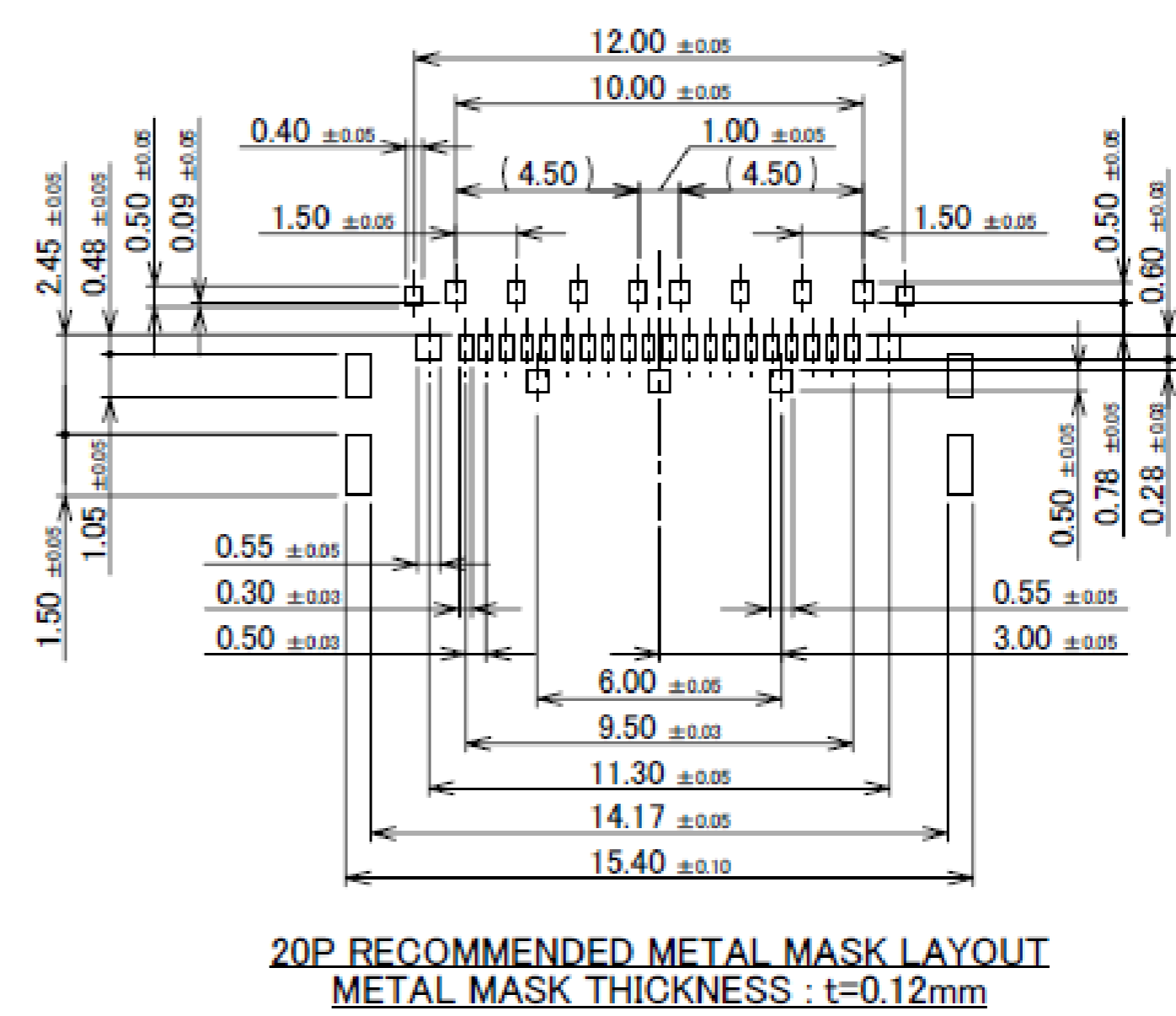
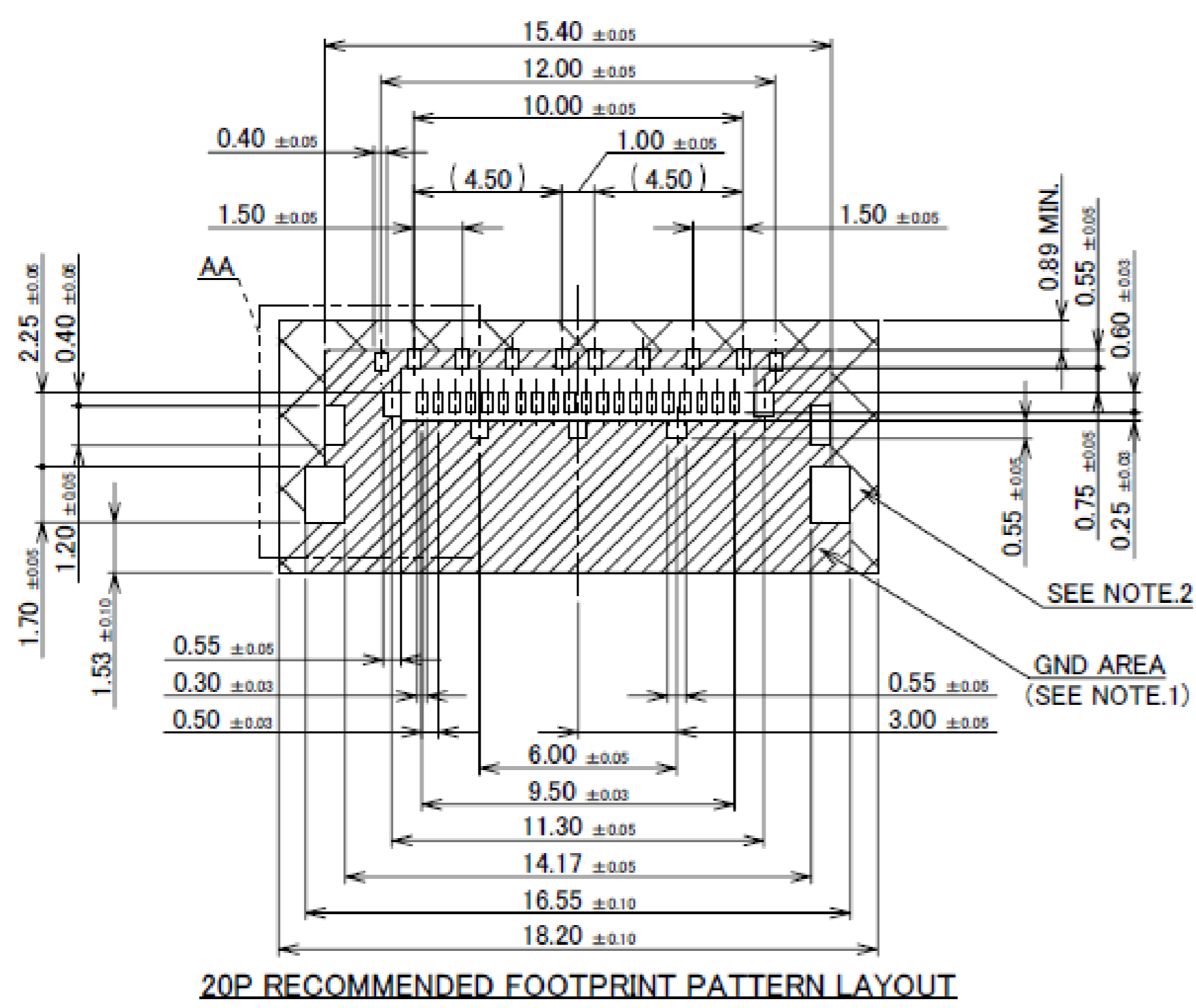
Receptacle Assembly

| PART NO. | Pos. |
|---------------|------|
| 20849-020E-0# | 20 |
| 20849-030E-0# | 30 |
| 20849-040E-0# | 40 |

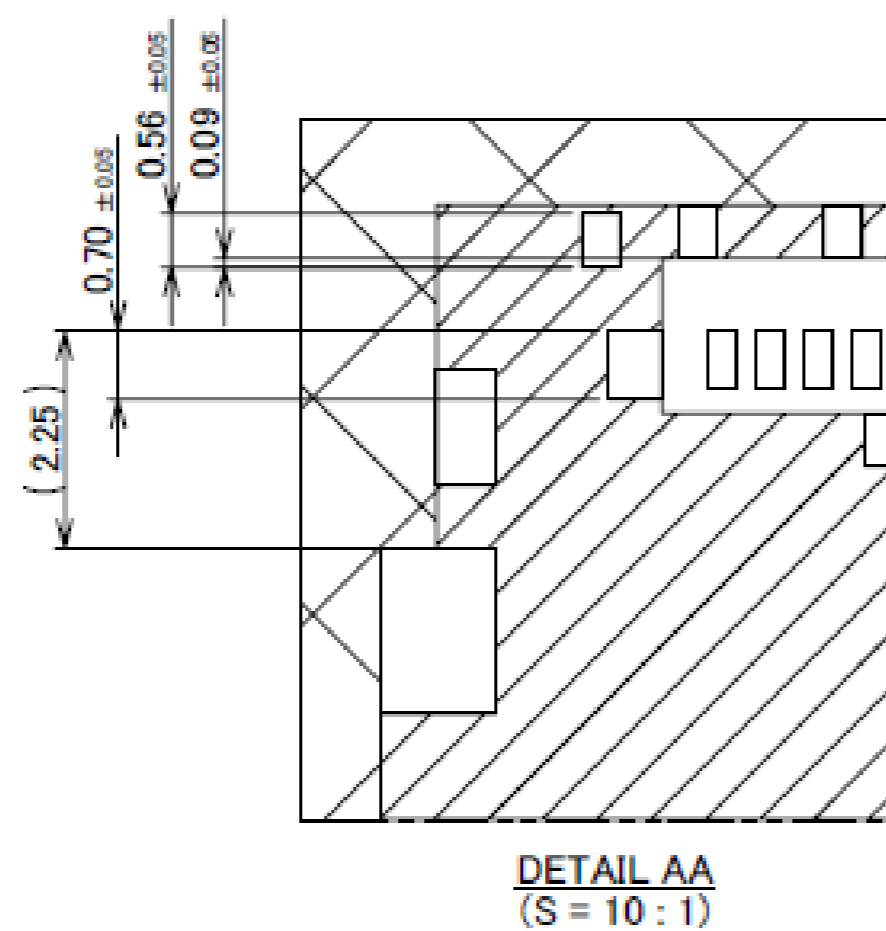
BOTTOM VIEW



Rev.10

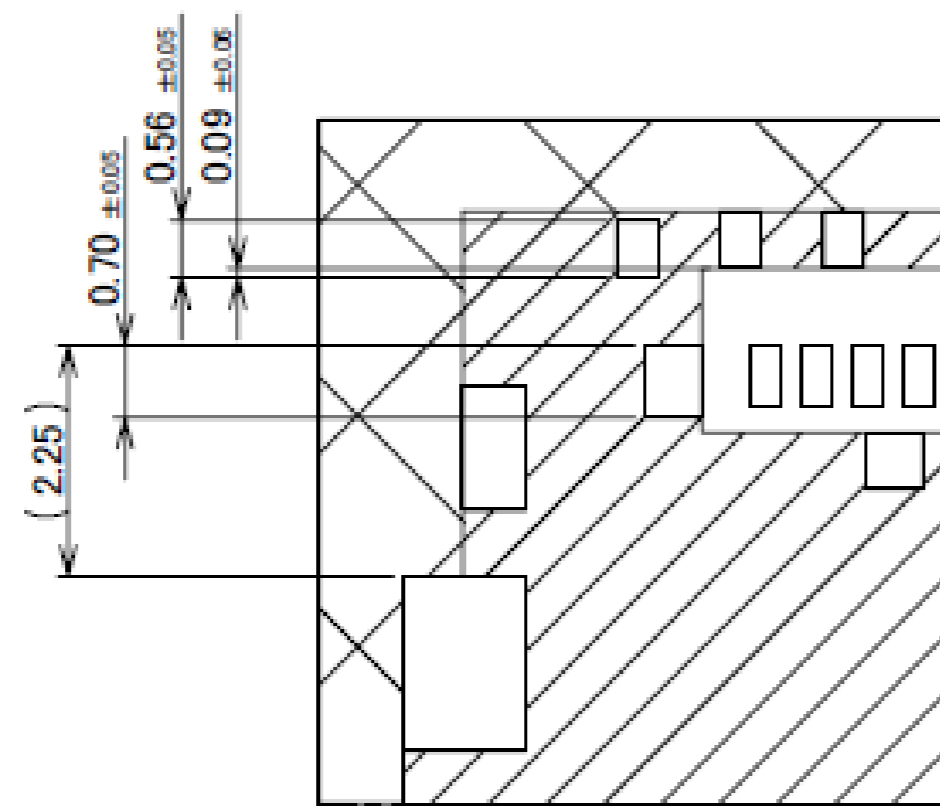
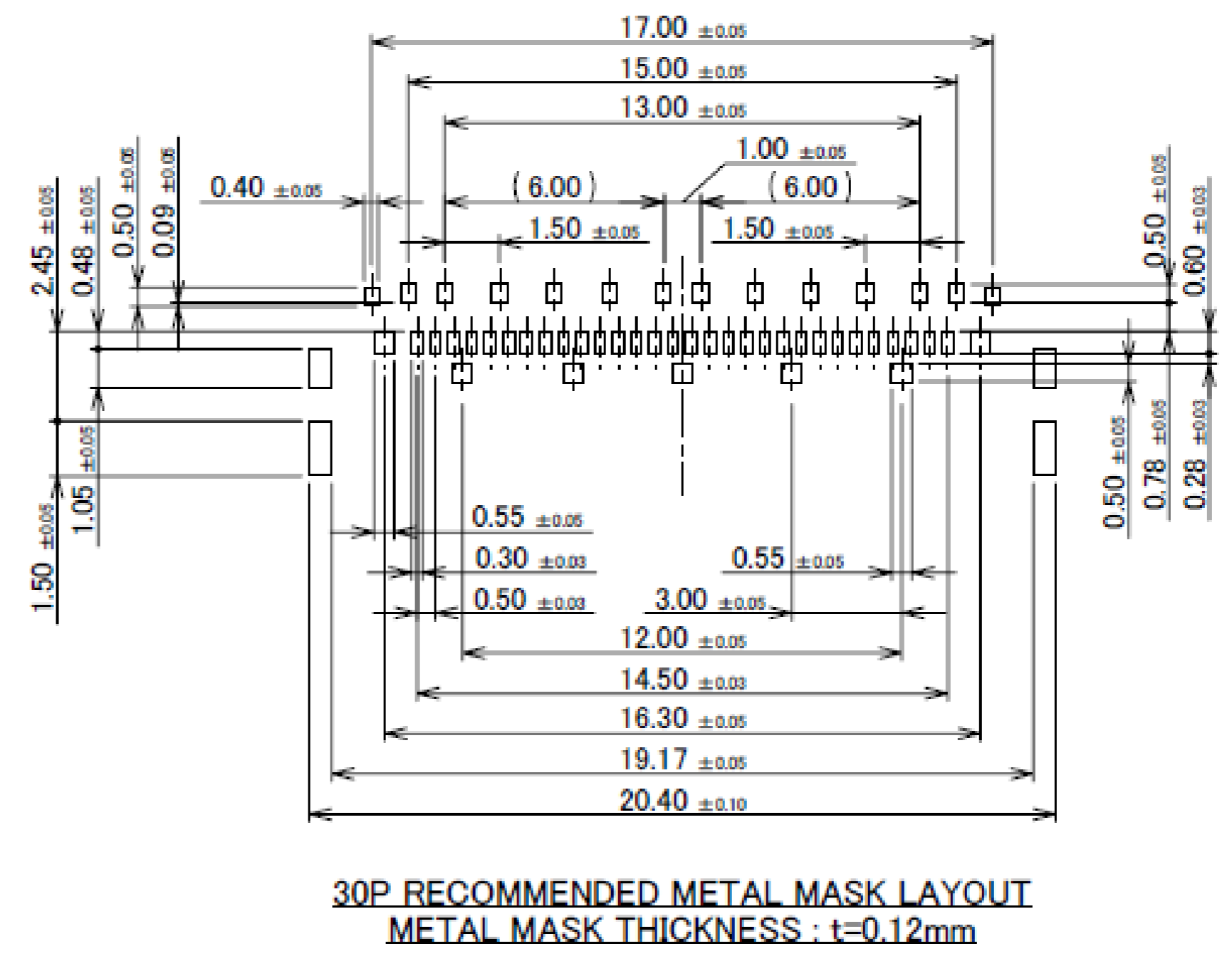
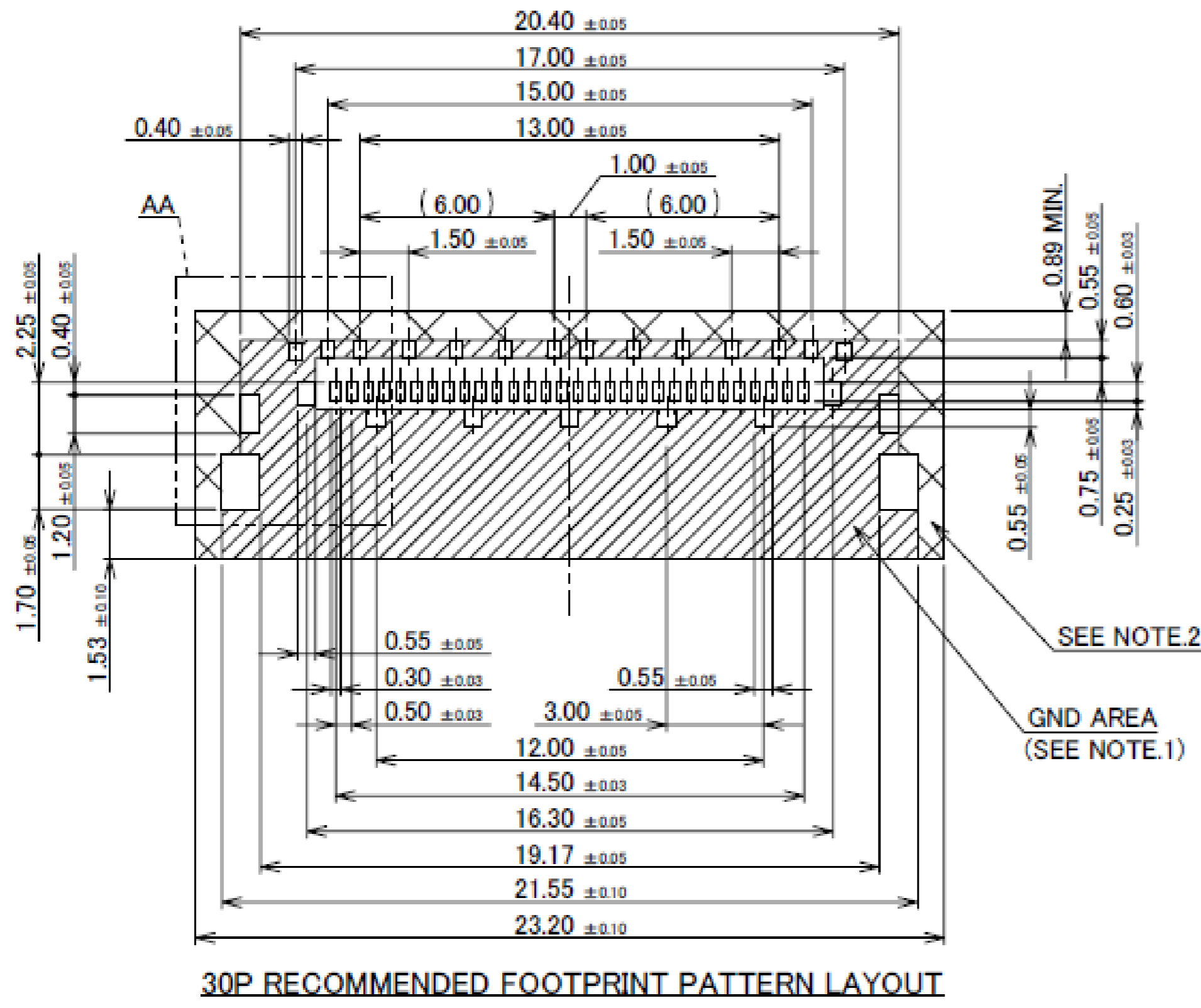


- NOTES.
1. SOLDER RESIST MUST BE APPLIED TO THIS AREA.
 2. DO NOT MOUNT ANOTHER COMPONENT IN THIS AREA.



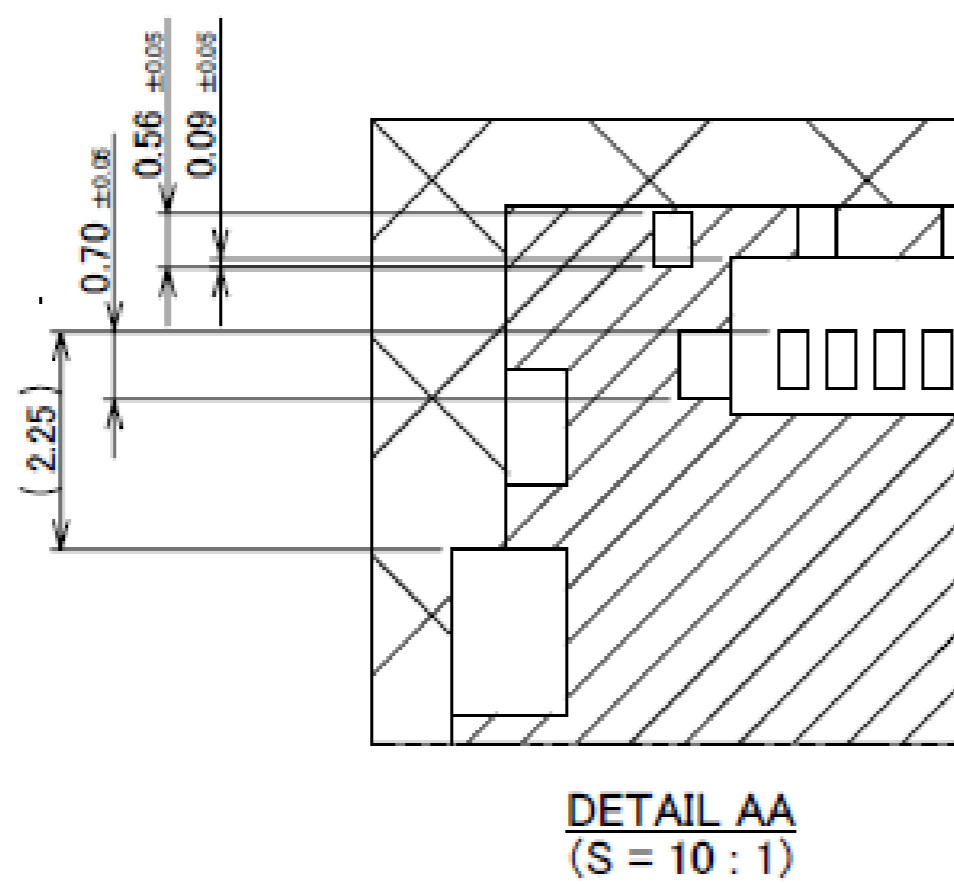
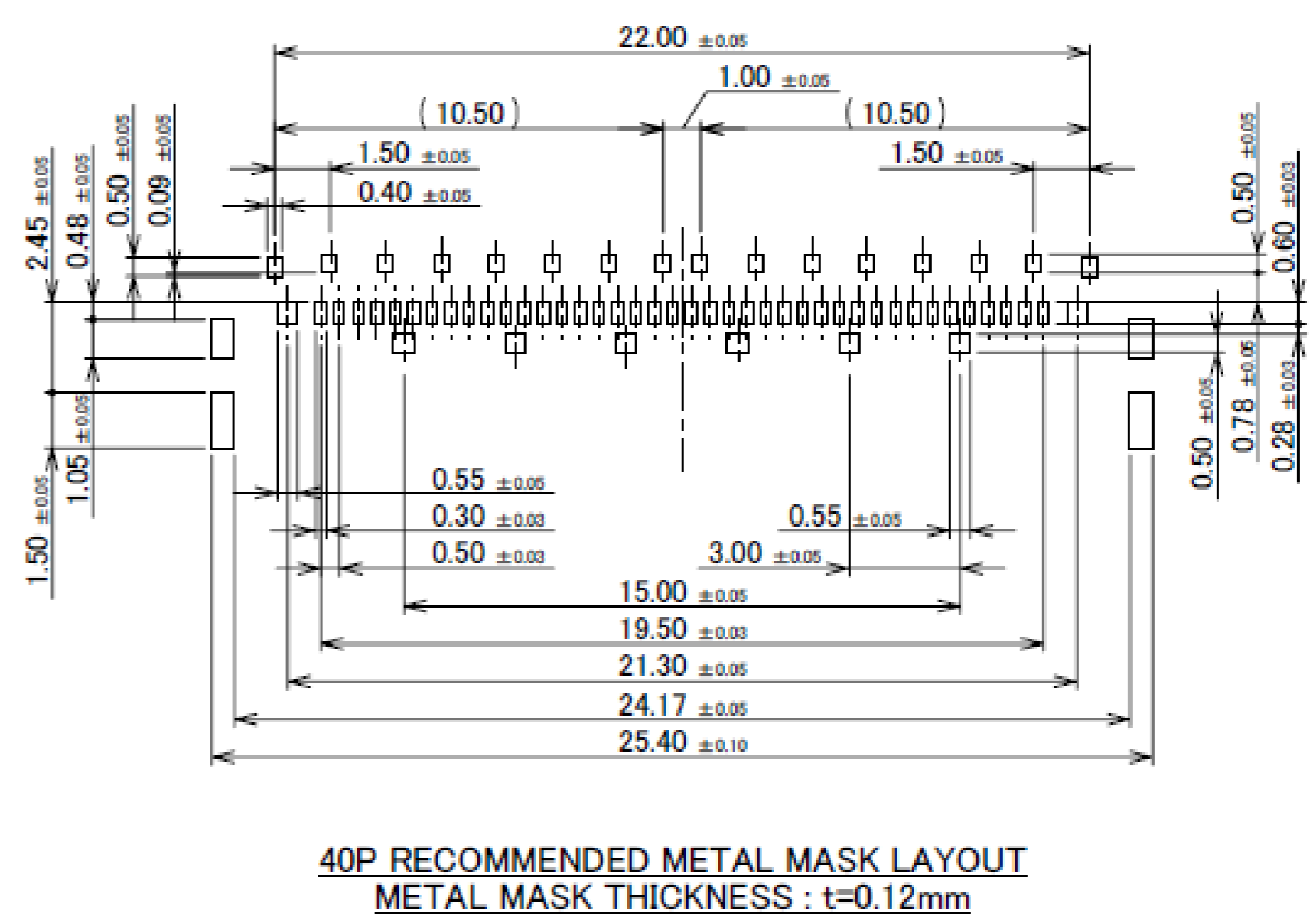
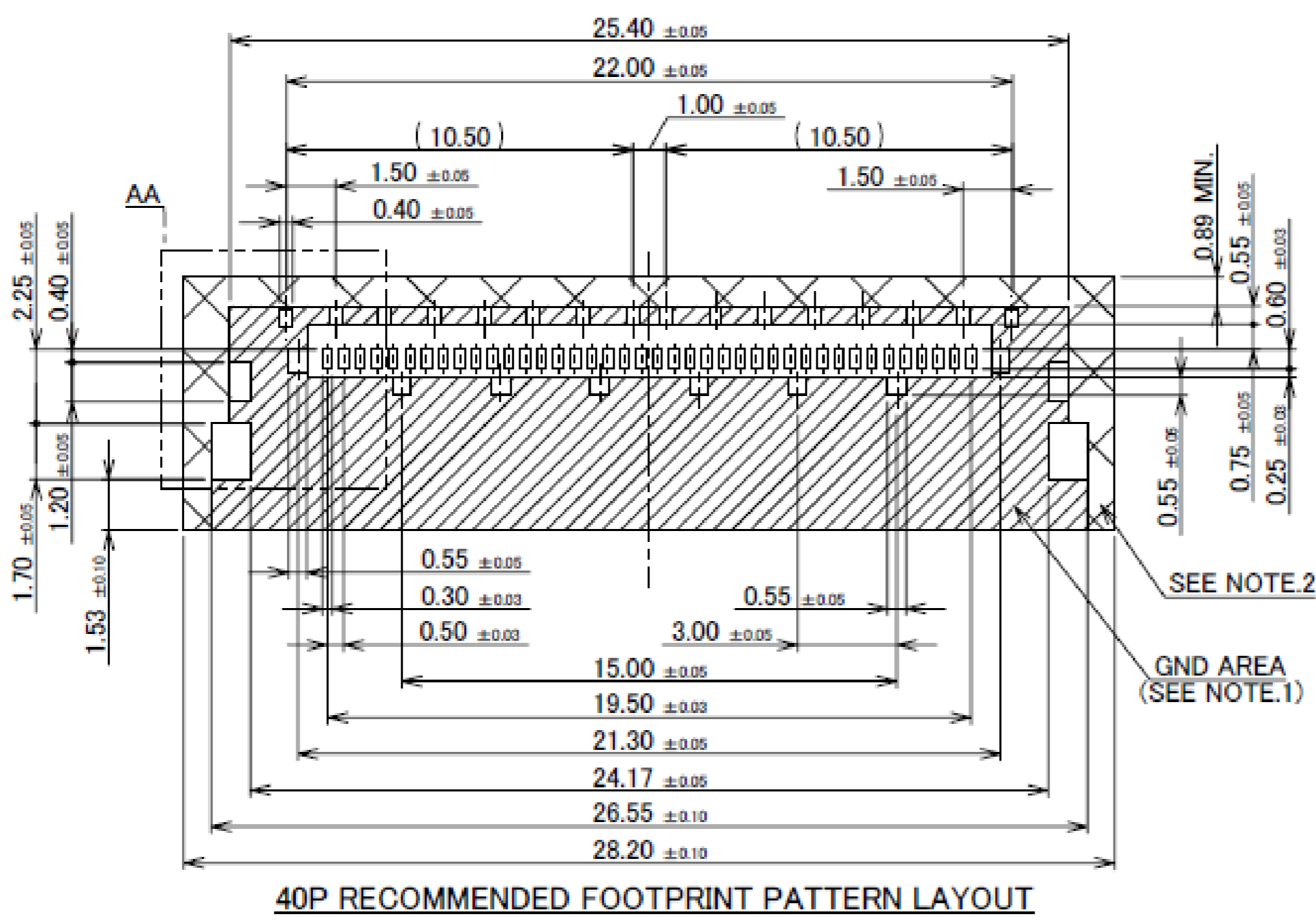
Rev.10

Receptacle Assembly



NOTES.
1. SOLDER RESIST MUST BE APPLIED TO THIS AREA.
2. DO NOT MOUNT ANOTHER COMPONENT IN THIS AREA.

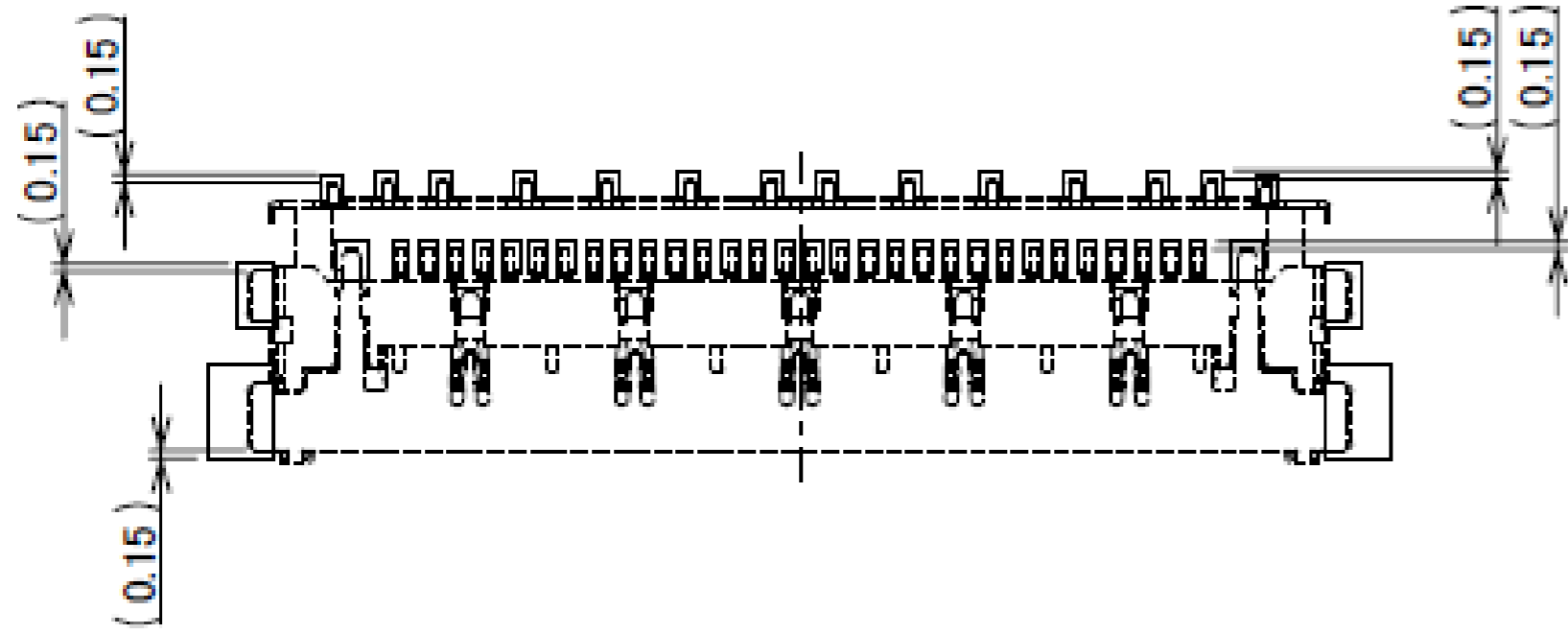
Rev.10



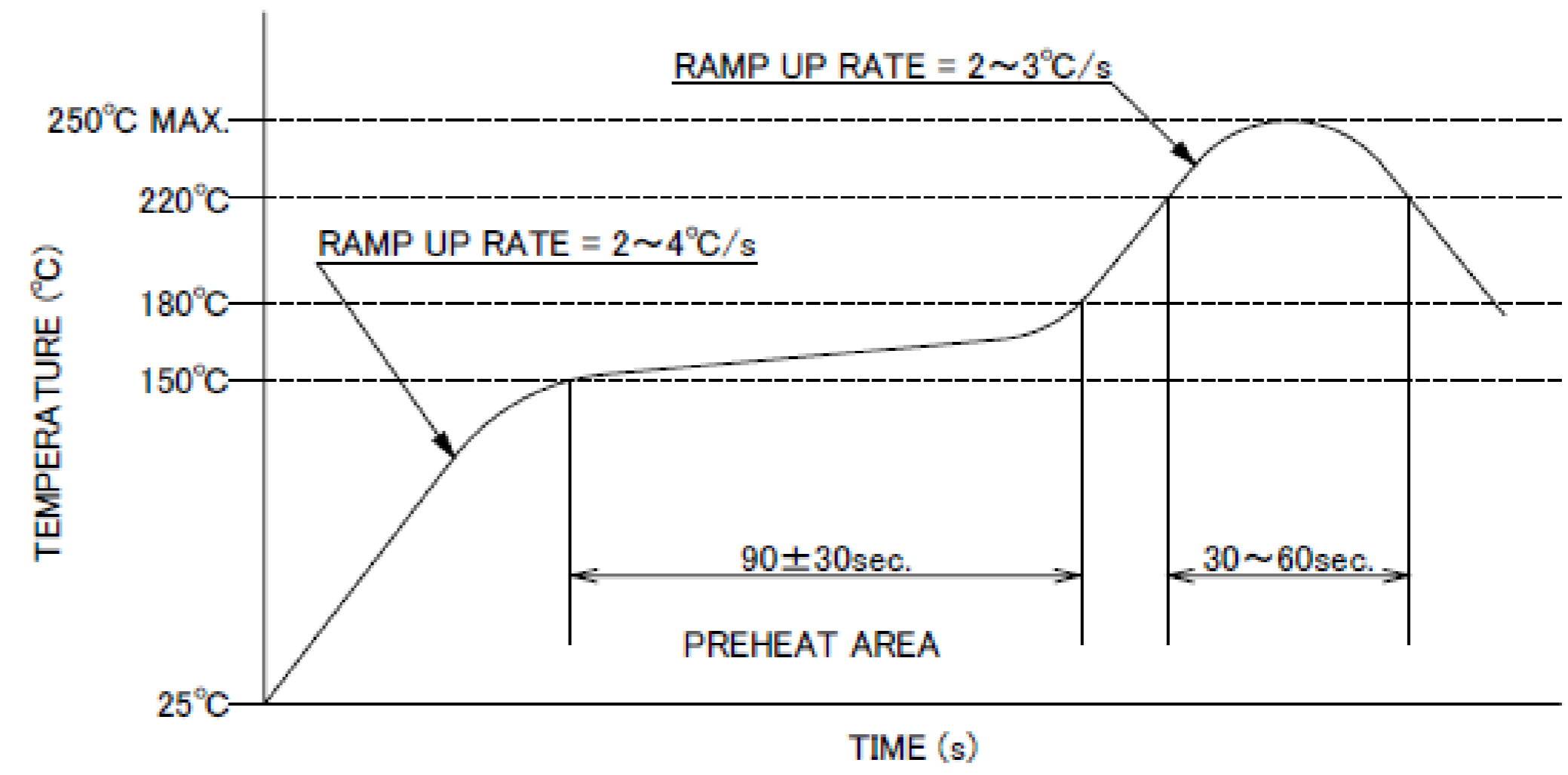
NOTES.
1. SOLDER RESIST MUST BE APPLIED TO THIS AREA.
2. DO NOT MOUNT ANOTHER COMPONENT IN THIS AREA.

Rev.10

Receptacle Assembly



CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN



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

Rev.10

| ITEMS | SPECIFICATION |
|--|---|
| APPLICABLE CABLE | MICRO-COAXIAL CABLE : AWG# 44 , 42 , 40 , 38 , 36 DISCRETE WIRE : AWG# 36 , 34 , 32 TWINAX CABLE : AWG# 40 |
| RATING VOLTAGE | 100V AC (PER CONTACT PIN) |
| RATING AMPERAGE (FOR CONTACT) | 0.1A AC/DC [AWG#44] PER CONTACT PIN/UP TO 40 CONTACTS 0.24A AC/DC [AWG#42] PER CONTACT PIN/UP TO 40 CONTACTS 0.3A AC/DC [AWG#40] PER CONTACT PIN/UP TO 40 CONTACTS 0.5A AC/DC [AWG#38] PER CONTACT PIN/UP TO 23 CONTACTS 0.8A AC/DC [AWG#36] PER CONTACT PIN/UP TO 10 CONTACTS 1.0A AC/DC [AWG#34] FOR POWER PER CONTACT/UP TO 9 CONTACTS 1.0A AC/DC [AWG#32] FOR POWER PER CONTACT/UP TO 9 CONTACTS ※TESTING BY A REAL MACHINE IS RECOMMENDED BECAUSE TEMPERATURE RISE MAY AFFECTED BY ACTUAL SITUATION |
| OPERATING TEMPERATURE | 233~378K(-40°C~+105°C) |
| OPERATING HUMIDITY | 85% MAX.(NON-CONDENSING) |
| CONTACT RESISTANCE | INITIAL : 140mohm MAX.(AWG#32) / AFTER TEST : \triangleleft140mohm MAX. 180mohm MAX.(AWG#34) 275mohm MAX.(AWG#36) 360mohm MAX.(AWG#38) 600mohm MAX.(AWG#40) 700mohm MAX.(AWG#42) 1080mohm MAX.(AWG#44) |
| GROUND SHELL RESISTANCE | INITIAL : 50mohm MAX. / AFTER TEST : \triangleleft140mohm MAX. |
| INSULATION RESISTANCE | INITIAL : 1000Mohm MIN. / AFTER TEST : 500Mohm MIN. |
| DIELECTRIC WITHSTANDING VOLTAGE | AC250V 1min |
| DURABILITY | 30 CYCLES |
| MATING FORCE (INITIAL / AFTER 30 CYCLES) | 20P : 9.70N MAX. 30P : 14.55N MAX. 40P : 19.40N MAX. |
| UNMATING FORCE (INITIAL / AFTER 30 CYCLES) | 20P : 2.00N MIN. 30P : 3.00N MIN. 40P : 4.00N MIN. |
| CABLE RETENTION FORCE | 20P : 9.80N MIN. 30P : 14.70N MIN. 40P : 19.60N MIN. |
| PRODUCT SPECIFICATION | PRS-2398 |
| TEST REPORT | TR-17060 (20846-0**T-01) / TR-18048 (20846-0**T-02) |
| INSTRUCTION MANUAL | HIM-17015 |
| ASSEMBLY MANUAL | ASM-17005 |
| APPEARANCE CRITERIA No. | QLS-A*** |

Rev.11

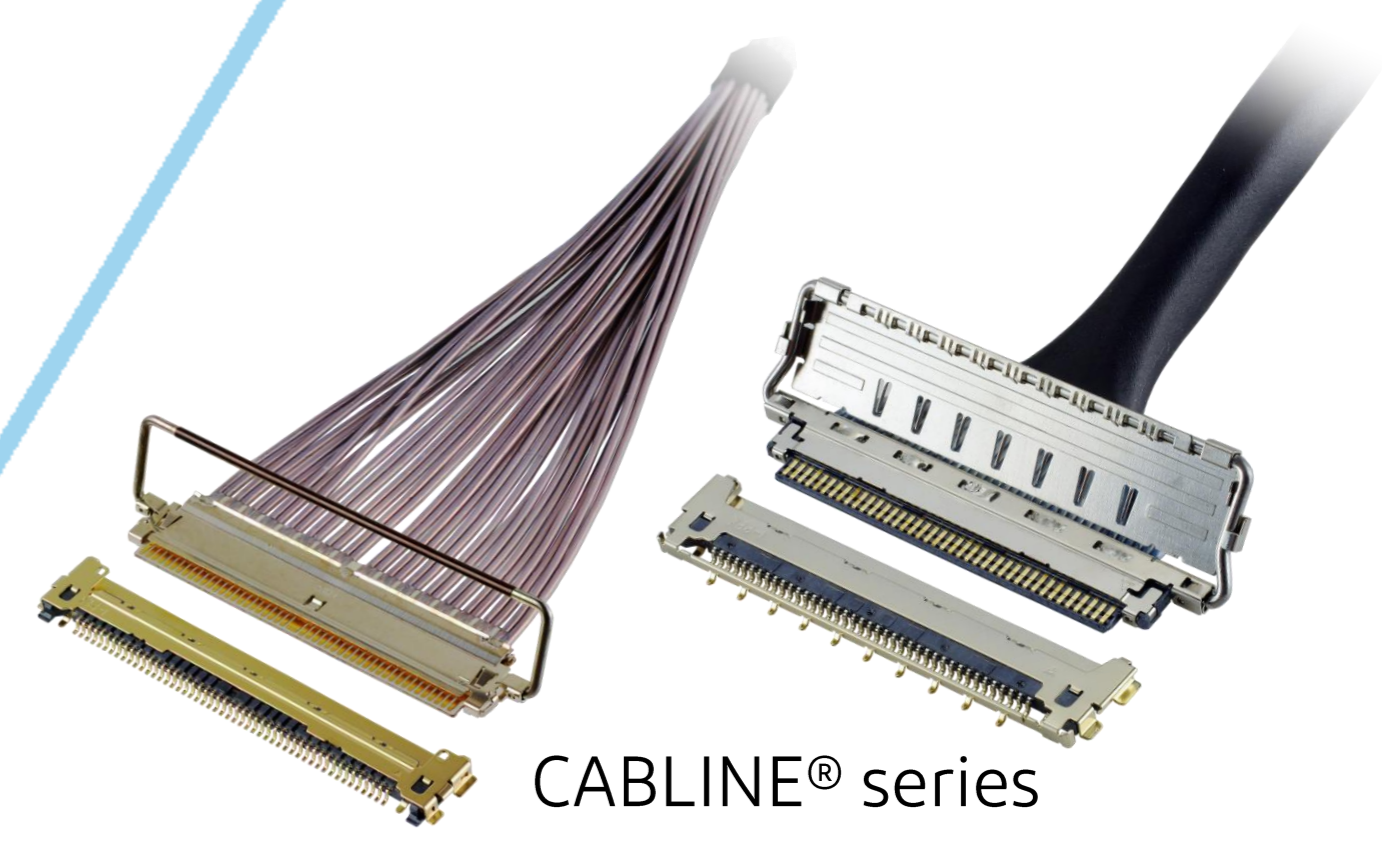
Custom Connectors Available

RF Connector

MHF® series



Micro-coaxial/Twinax/Discrete Wire Connector



CABLINE® series

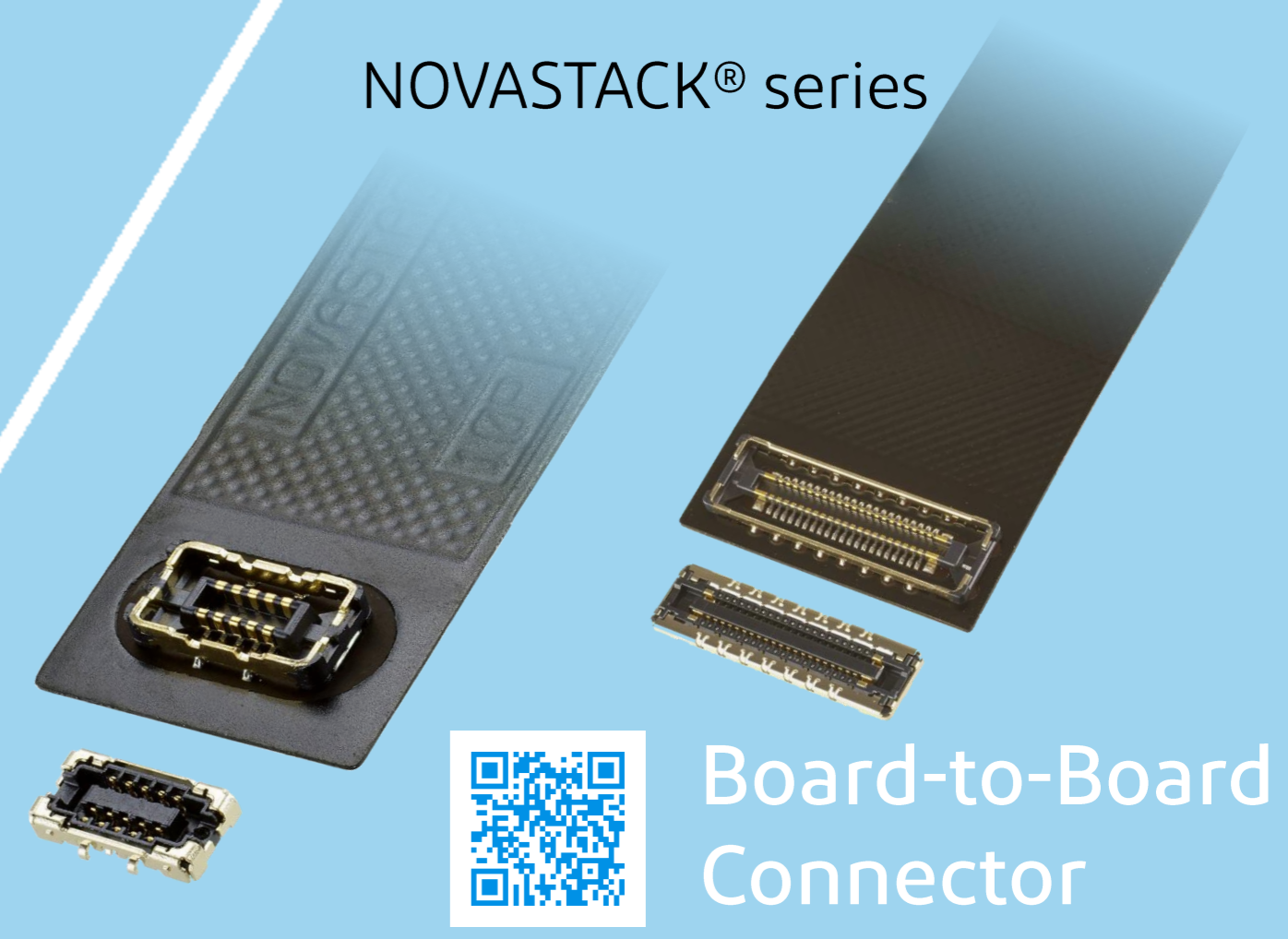


Optical Module

LIGHTPASS® series



NOVASTACK® series



Board-to-Board Connector



Power Connector/Terminal

AP series

ISH® series



MINIFLEX® series

EVAFLEX® series



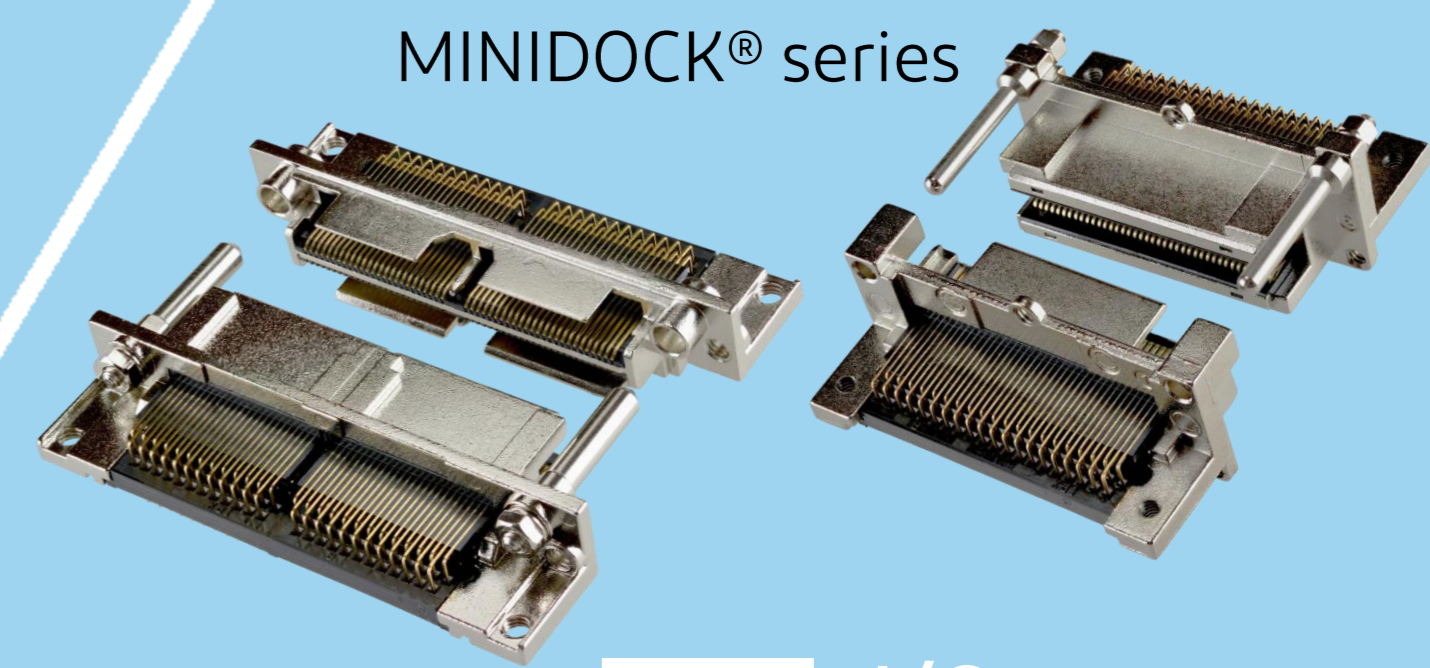
FPC FFC Connector



Inquiry



MINIDOCK® series



I/O Connector

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