

FPL™ II

高速數據傳輸(12 Gbps/lane) ，供電用途最大支持搭載AWG#32電子線，多點接地抗噪設計，垂直插拔方式，0.5mm 間距, 極細同軸線連接器

Product Specifications:

| | | |
|--------------------|-----------|-------------------------|
| Mating type | | Right angle vertical |
| Board Pitch (mm) | | 0.5 |
| Wiping Length (mm) | | 0.51 |
| Mated size (mm) | Height | 2.2 +/- 0.2 |
| | Width | Formula: 5.8 + (0.5*?p) |
| | Depth | 6.1 |
| Pin Counts | Range | Up to 50 |
| | Available | 30, 40, 50 |

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):

| |
|--|
| HDMI 2.1 (12 Gbps/Lane), USB 3.2 Gen2 (10 Gbps/Lane), DP UHBR3 (8.1 Gbps/Lane) |
|--|

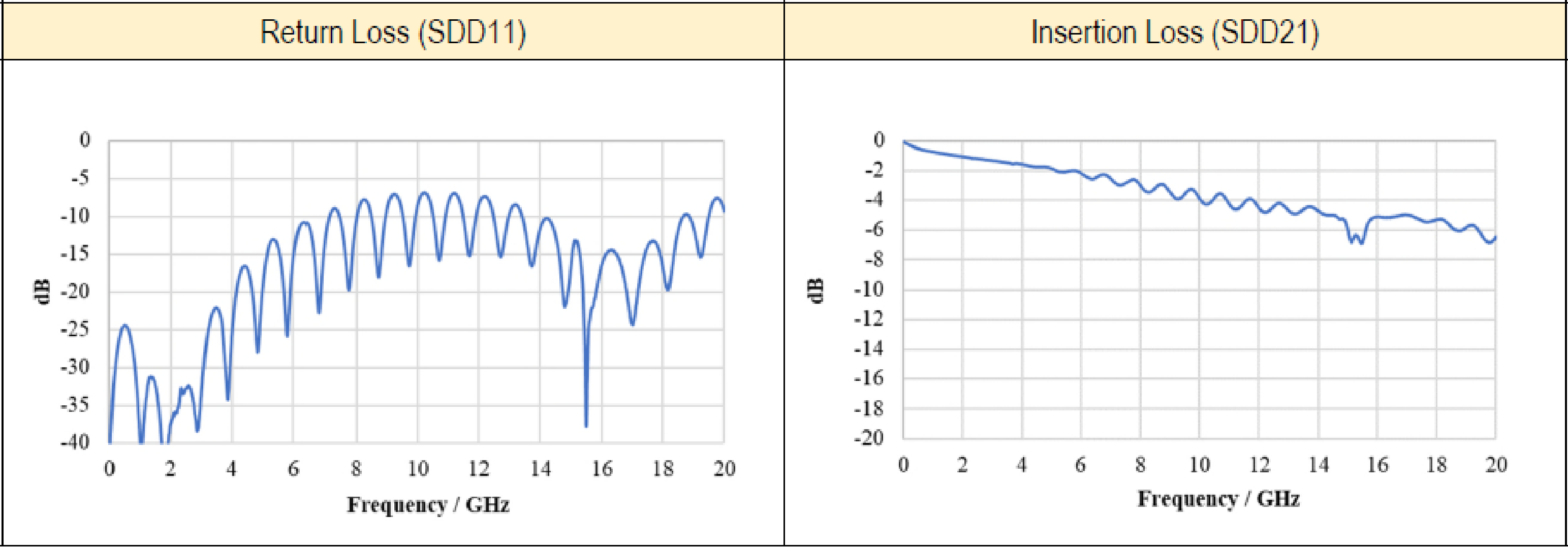


*若有規格外 Pin數需求,請與當地負責業務窗口聯繫。

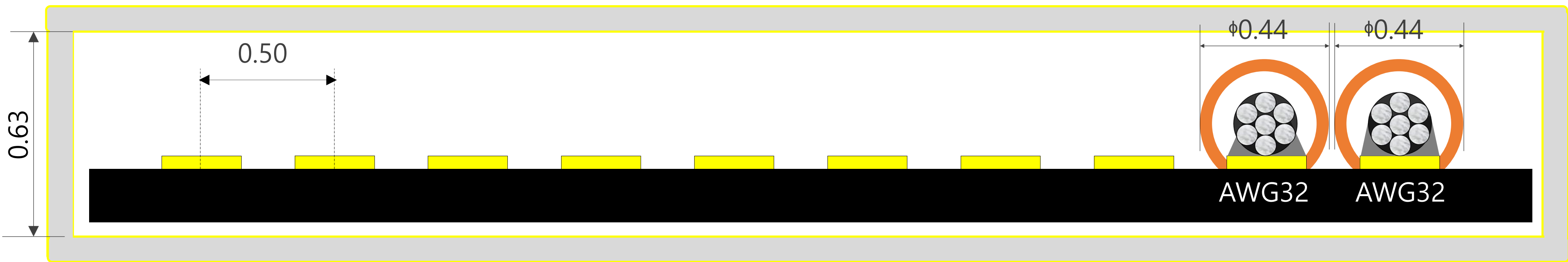
► 高速率傳輸, 12 Gbps/lane應用的理想選擇

Measurement results

Connector: FPL II 40P
Cable: Micro-coaxial cable
AWG #40, 50ohm , Length : 100 mm
Pin Assignment: GSSGSSG

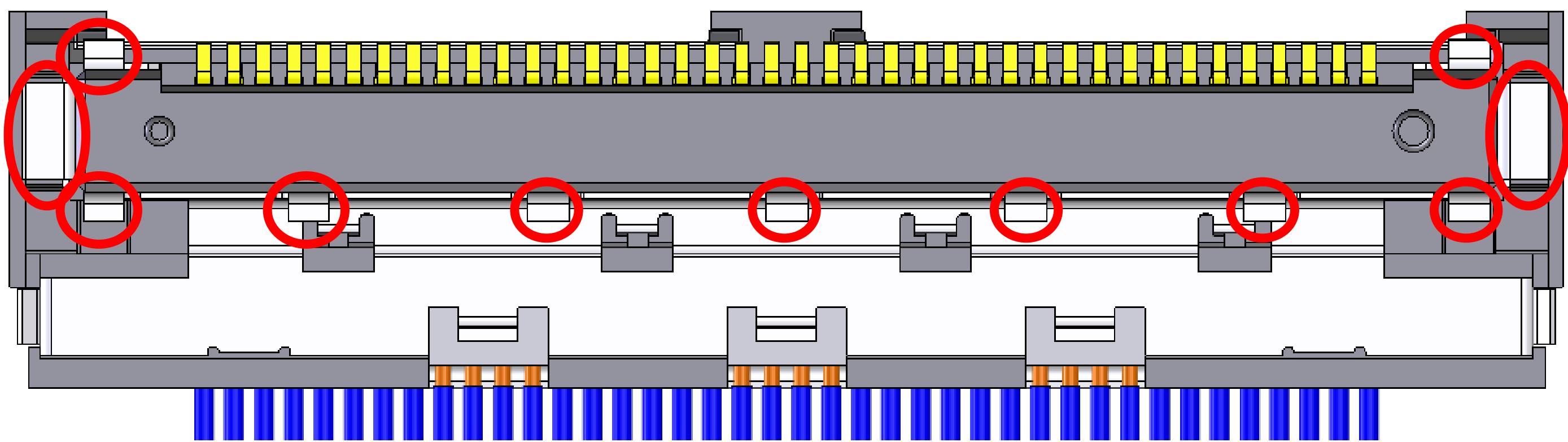


► 供電用途最大支持搭載AWG#32電子線



Metal shell FPL™ II 0.5mm間距，搭載電子線的情形 (Unit : mm)

► 多點接地設計，有效屏蔽電磁波干擾



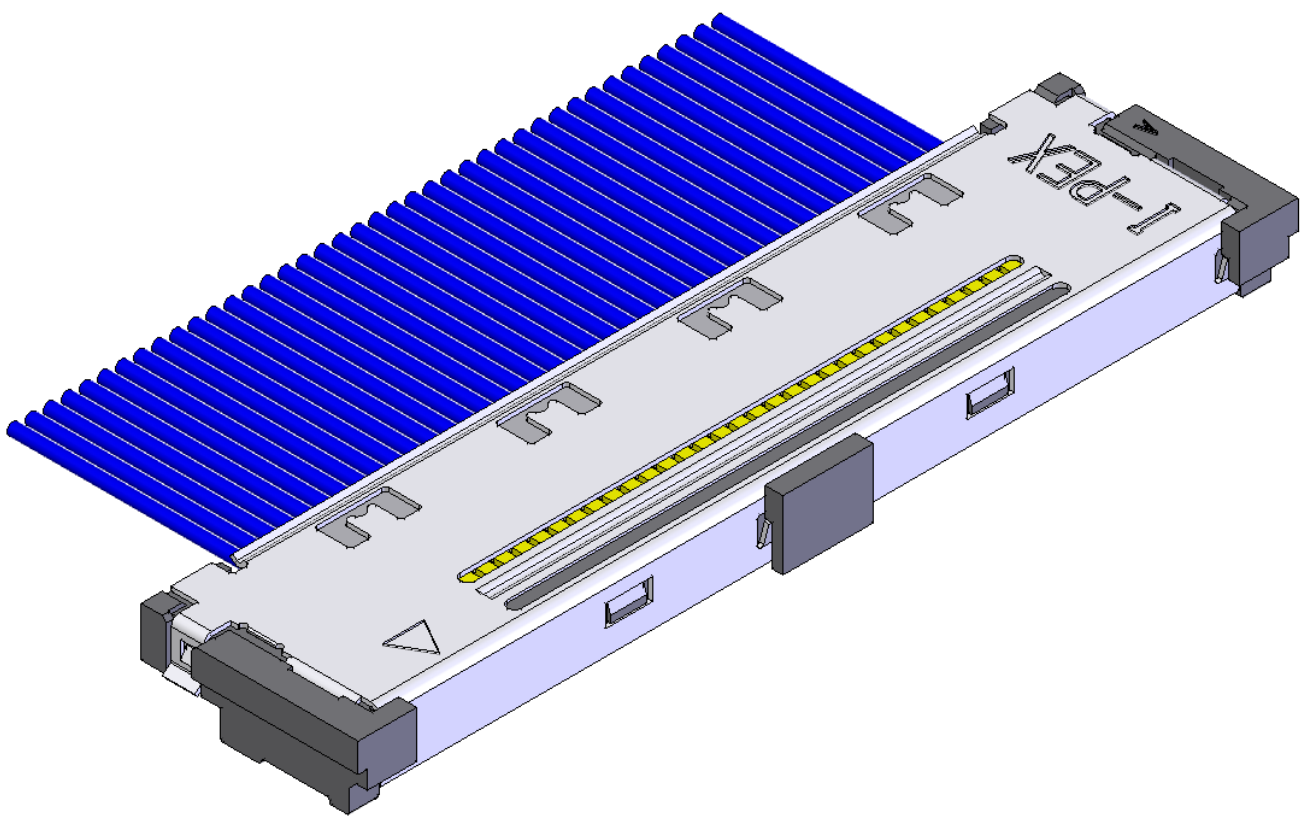
FPL™ II 30P 底部視圖

○ 接地部位

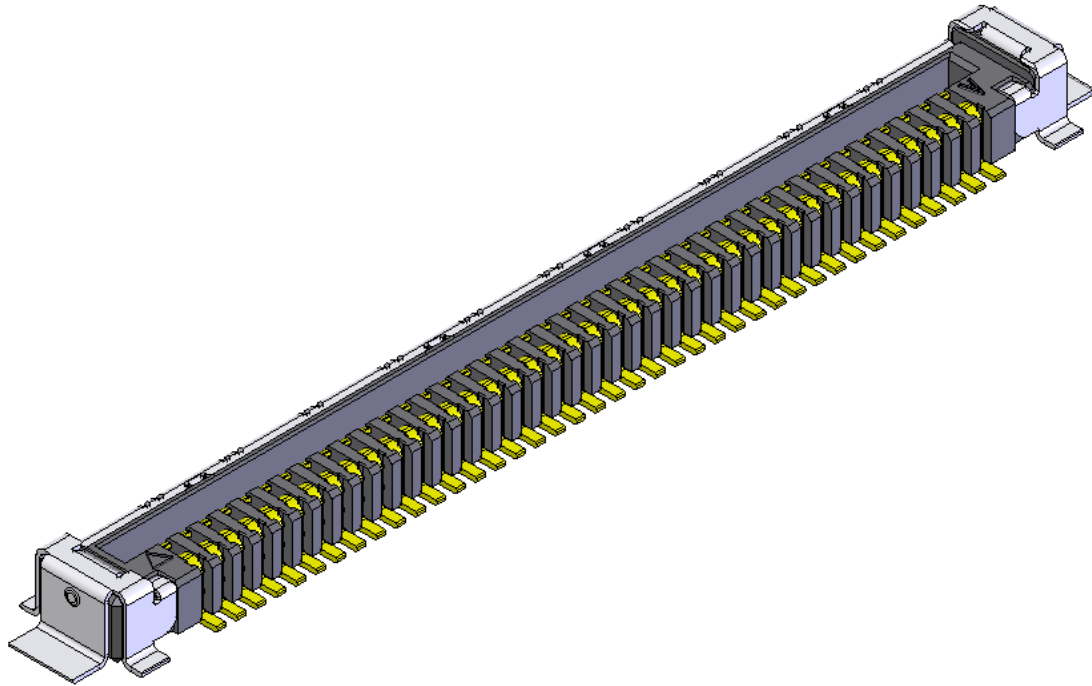
Component Parts Details

Component Parts

Connector parts

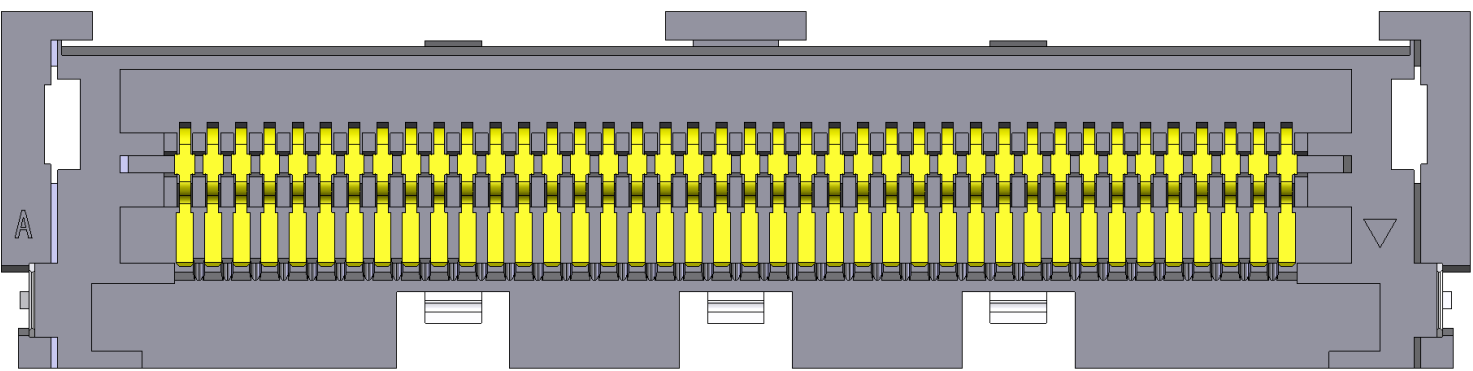


PLUG

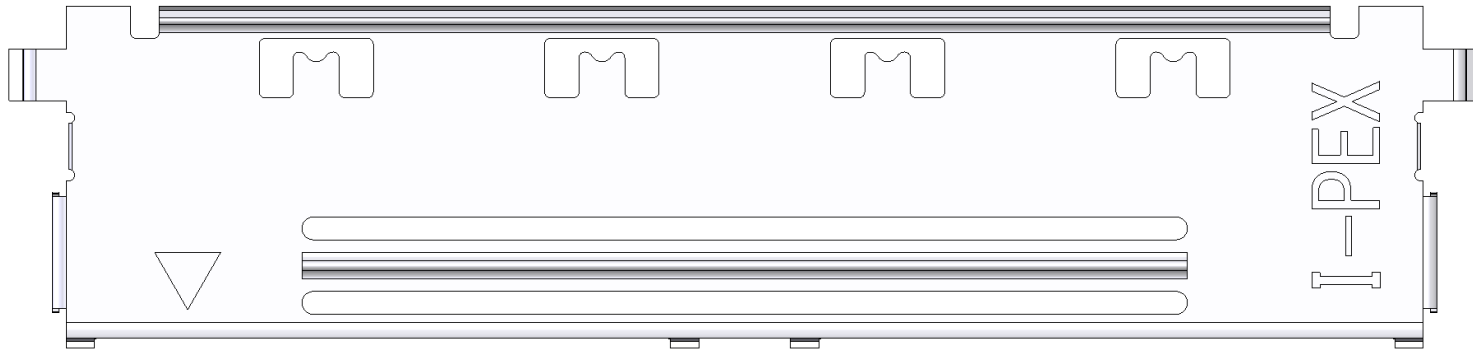


RECEPTACLE

Plug parts



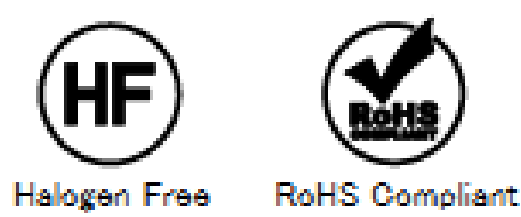
PLUG HOUSING ASSEMBLY



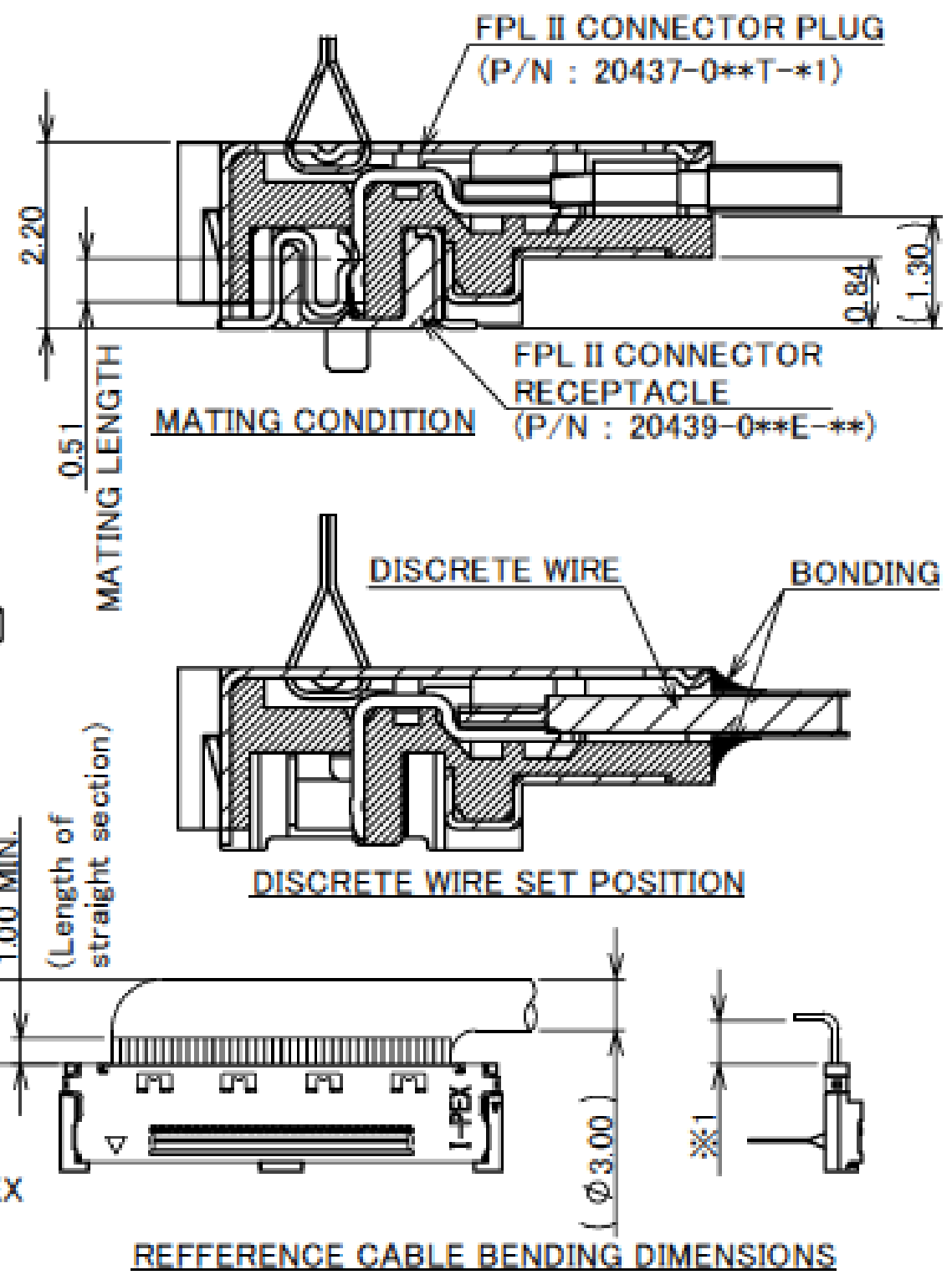
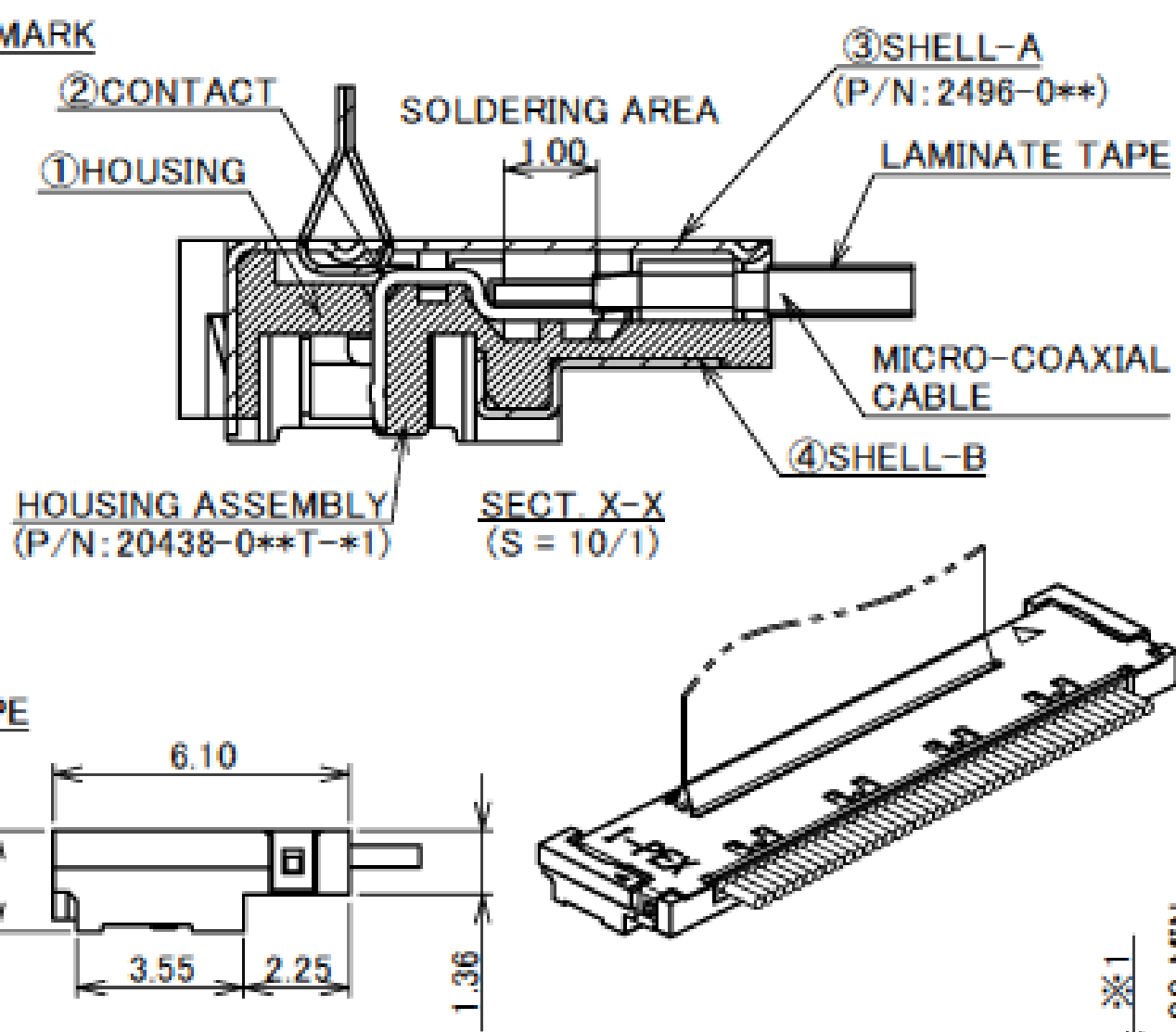
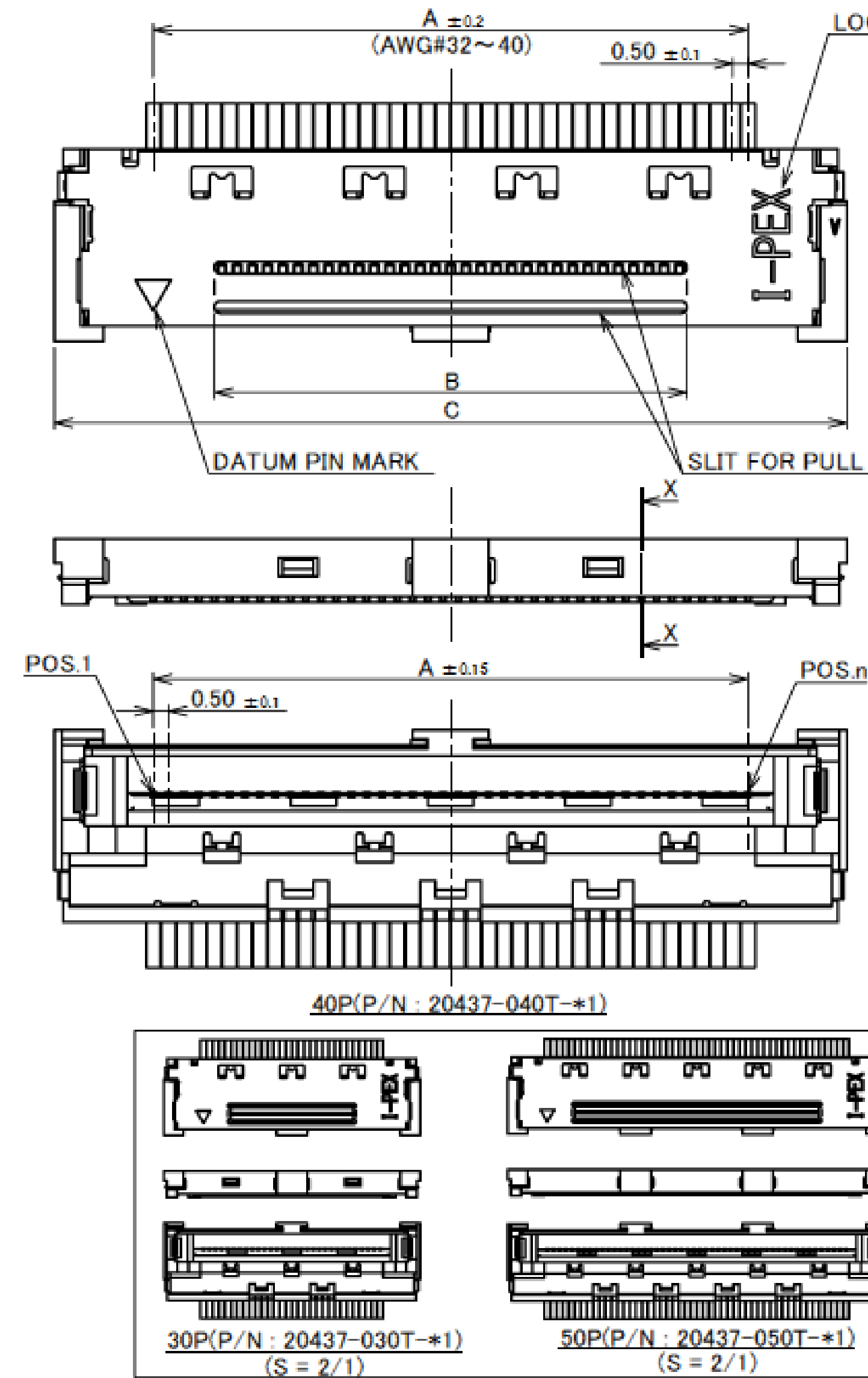
PLUG SHELL-A

Plug for Cable Assembly

| Recommended P/N | | 20437-0**T-01 | | |
|-----------------|------|---------------|-------|-------|
| PART No. | POS. | A | B | C |
| 20437-030T-*1 | 30 | 14.50 | 10.50 | 20.80 |
| 20437-040T-*1 | 40 | 19.50 | 15.50 | 25.80 |
| 20437-050T-*1 | 50 | 24.50 | 20.50 | 30.80 |



| CABLE ASS'Y PART No. | HOUSING ASS'Y PART No. | SHELL-A PART No. | CONTACT FINISH (MATING AREA) |
|-------------------------|---------------------------|---------------------|---------------------------------|
| 20437-0**T-01 | 20438-0**T-01 | 2496-0** | Au 0.10 μm MIN. |
| 20437-0**T-11 | 20438-0**T-11 | | Au 0.30 μm MIN. |



※1: THE BEND DIMENSIONS MAY VARY BASED ON THE SIZE AND QUANTITY OF CABLES. PLEASE CONFIRM THE MINIMUM BENDING RADIUS WITH I-PEX OR THE HARNESS MANUFACTURER.

| NO. | DISCRIPTION | MATERIAL | FINISH , REMARKS |
|-----|-------------|-----------------|--|
| 4 | SHELL-B | PHOSPHOR BRONZE | Sn 2.00 μm MIN. OVER Ni 1.00 μm MIN. |
| 3 | SHELL-A | PHOSPHOR BRONZE | Sn 2.00 μm MIN. OVER Ni 1.00 μm MIN. |
| 2 | CONTACT | PHOSPHOR BRONZE | PART NO. 20437-0**T-01 MATING AREA : Au 0.10 μm MIN. OVER Ni 1.00 μm MIN. OTHER AREA : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN. PART NO. 20437-0**T-11 MATING AREA : Au 0.30 μm MIN. OVER Ni 1.00 μm MIN. OTHER AREA : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN. |
| 1 | HOUSING | LCP | UL94V-0, BLACK |

CAUTION VISIT OUR WEBSITE FOR LATEST VERSIONS OF INSTRUCTION MANUAL NO. HIM-09007 TO HANDLE THE PRODUCT PROPERLY AND SAFELY.

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| PART No. | POS. | A | D | E |
|---------------|------|-------|-------|-------|
| 20437-030T-*1 | 30 | 14.50 | 15.70 | 17.50 |
| 20437-040T-*1 | 40 | 19.50 | 20.70 | 22.50 |
| 20437-050T-*1 | 50 | 24.50 | 25.70 | 27.50 |

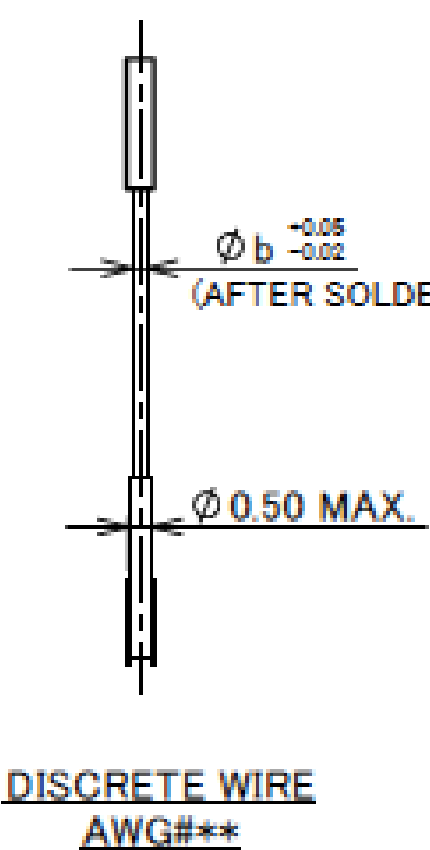
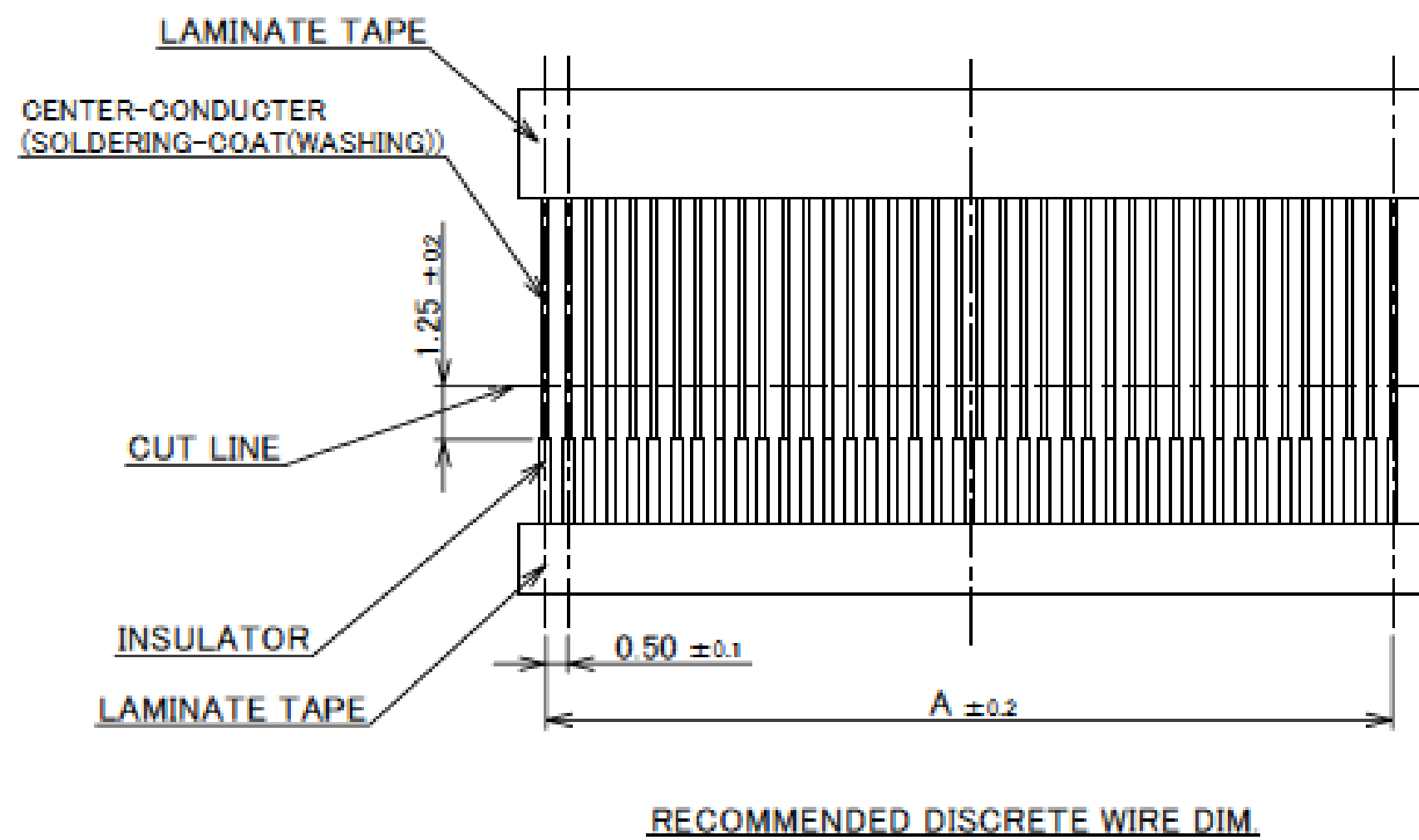
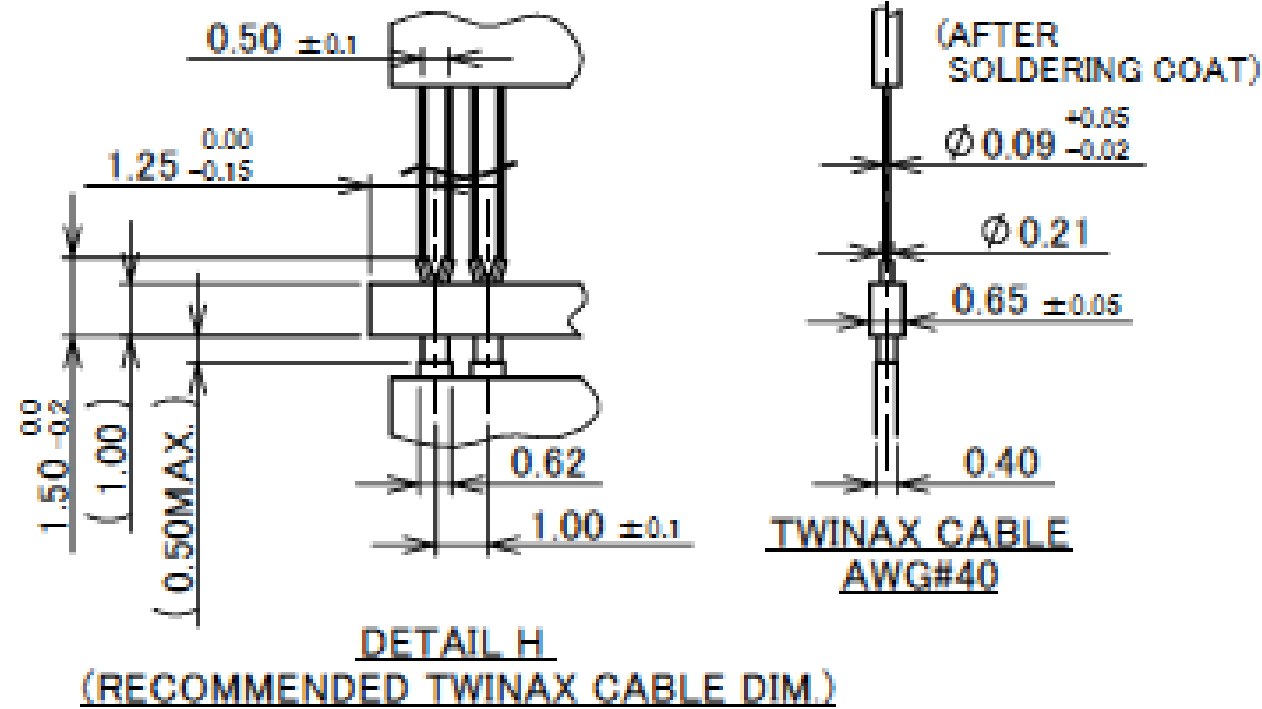
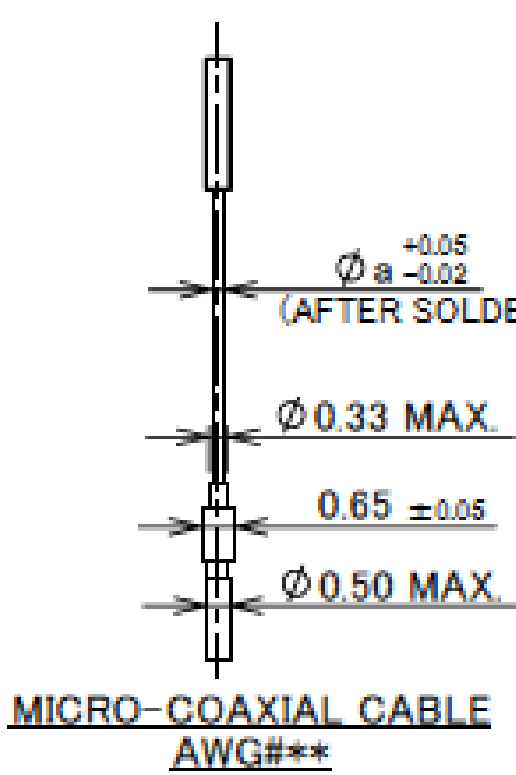
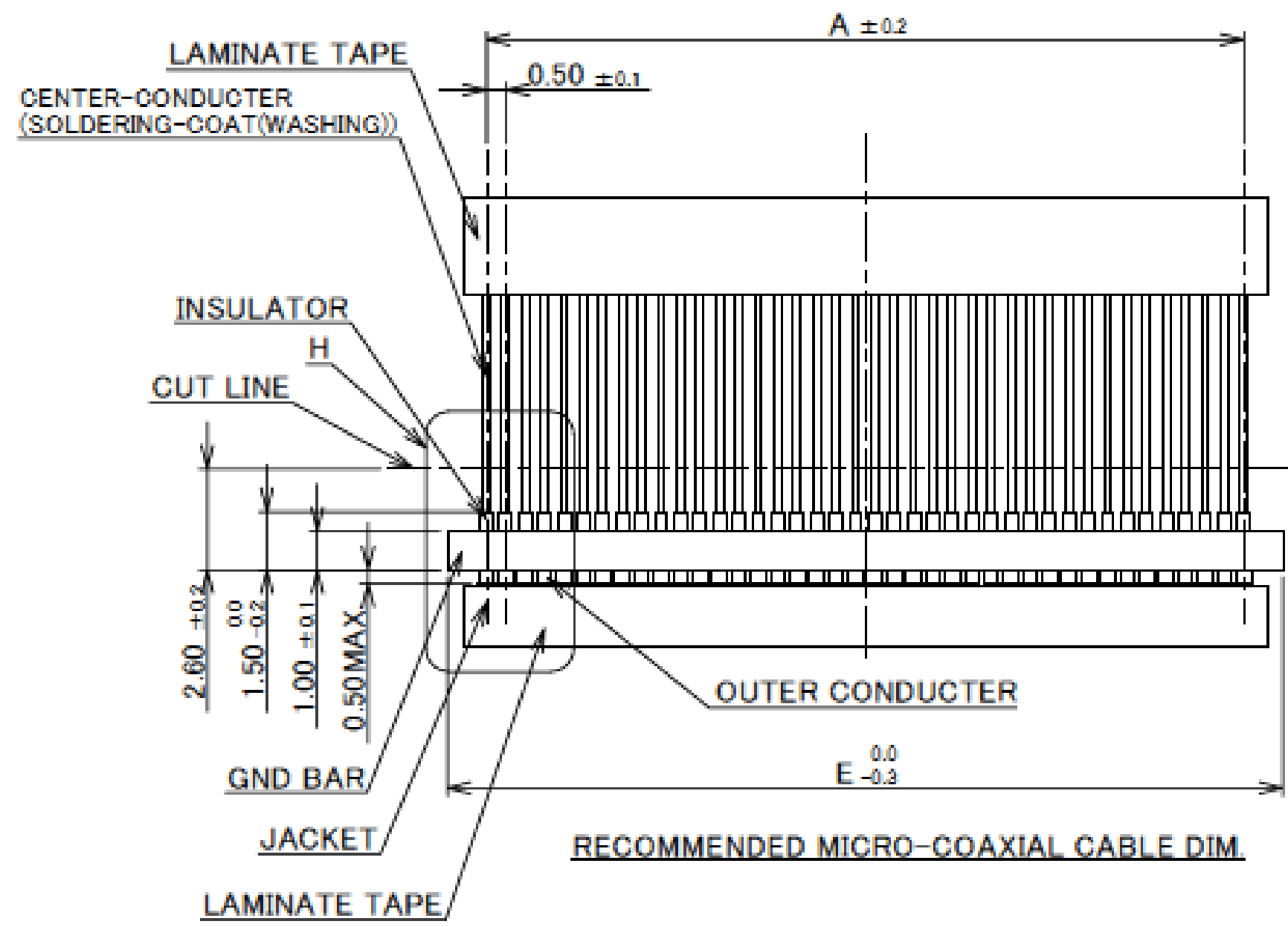
CHARACTERISTIC IMPEDANCE MATCHING MICRO-COAXIAL CABLE

| | a |
|-----|------|
| #36 | 0.15 |
| #38 | 0.12 |
| #40 | 0.09 |

CHARACTERISTIC IMPEDANCE UN-MATCHING MICRO-COAXIAL CABLE

| | a |
|-----|-------|
| #32 | 0.24 |
| #34 | 0.192 |

MICRO-COAXIAL CABLE #32, 34 : NOT RECOMMENDED FOR HIGH SPEED SIGNAL TRANSFER





DISCRETE WIRE DIMENSION

| | b |
|-----|-------|
| #32 | 0.24 |
| #34 | 0.192 |
| #36 | 0.15 |

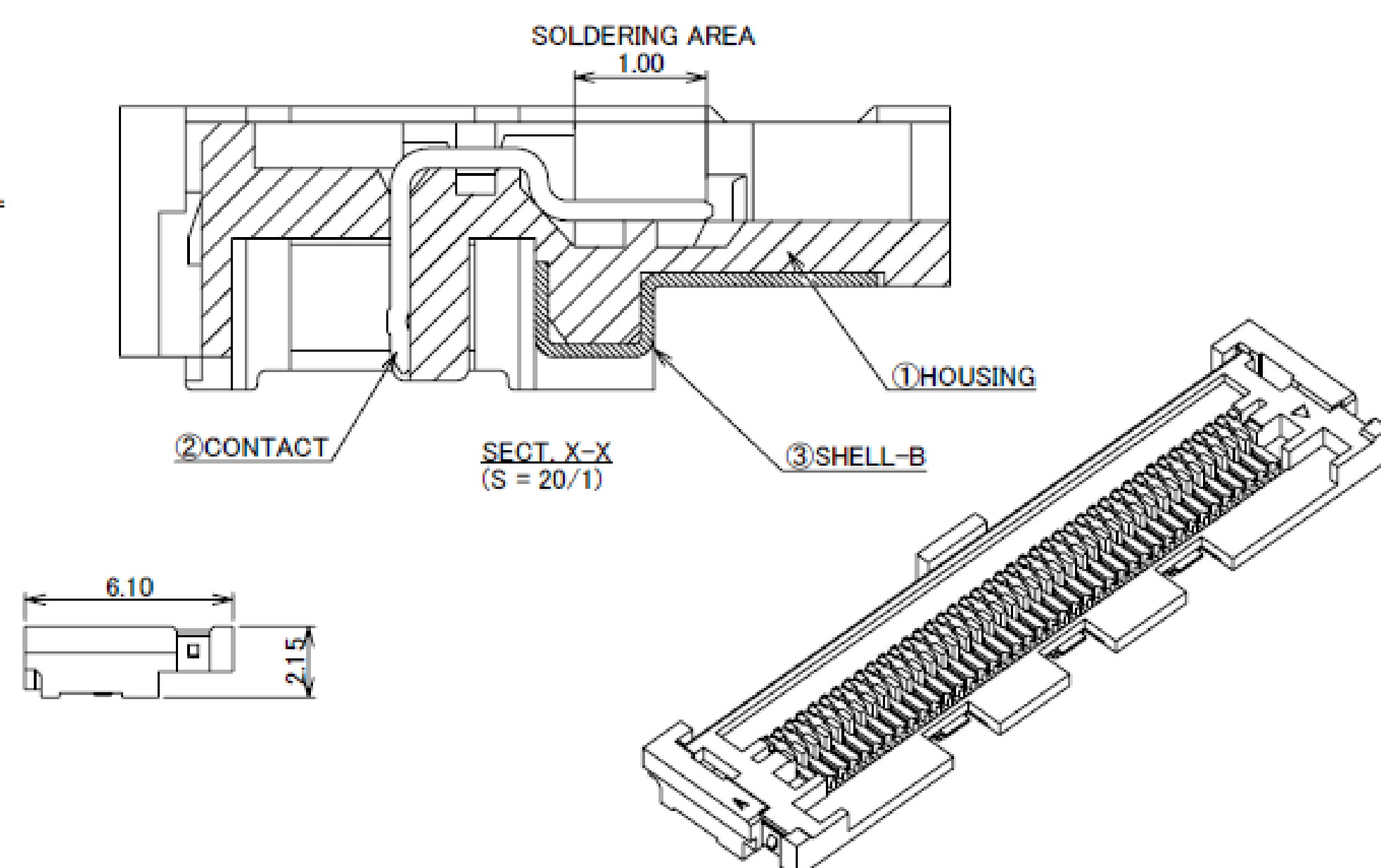
Rev.19

Plug Housing Assembly

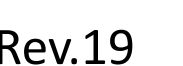
| Recommended P/N | | 20438-0**T-01 | | | |
|-----------------|------|---------------|-------|-------|-------|
| PART No. | POS. | A | B | C | D |
| 20438-030T-*1 | 30 | 17.80 | 16.80 | 14.50 | 20.80 |
| 20438-040T-*1 | 40 | 22.80 | 21.80 | 19.50 | 25.80 |
| 20438-050T-*1 | 50 | 27.80 | 26.80 | 24.50 | 30.80 |

Halogen Free RoHS Compliant

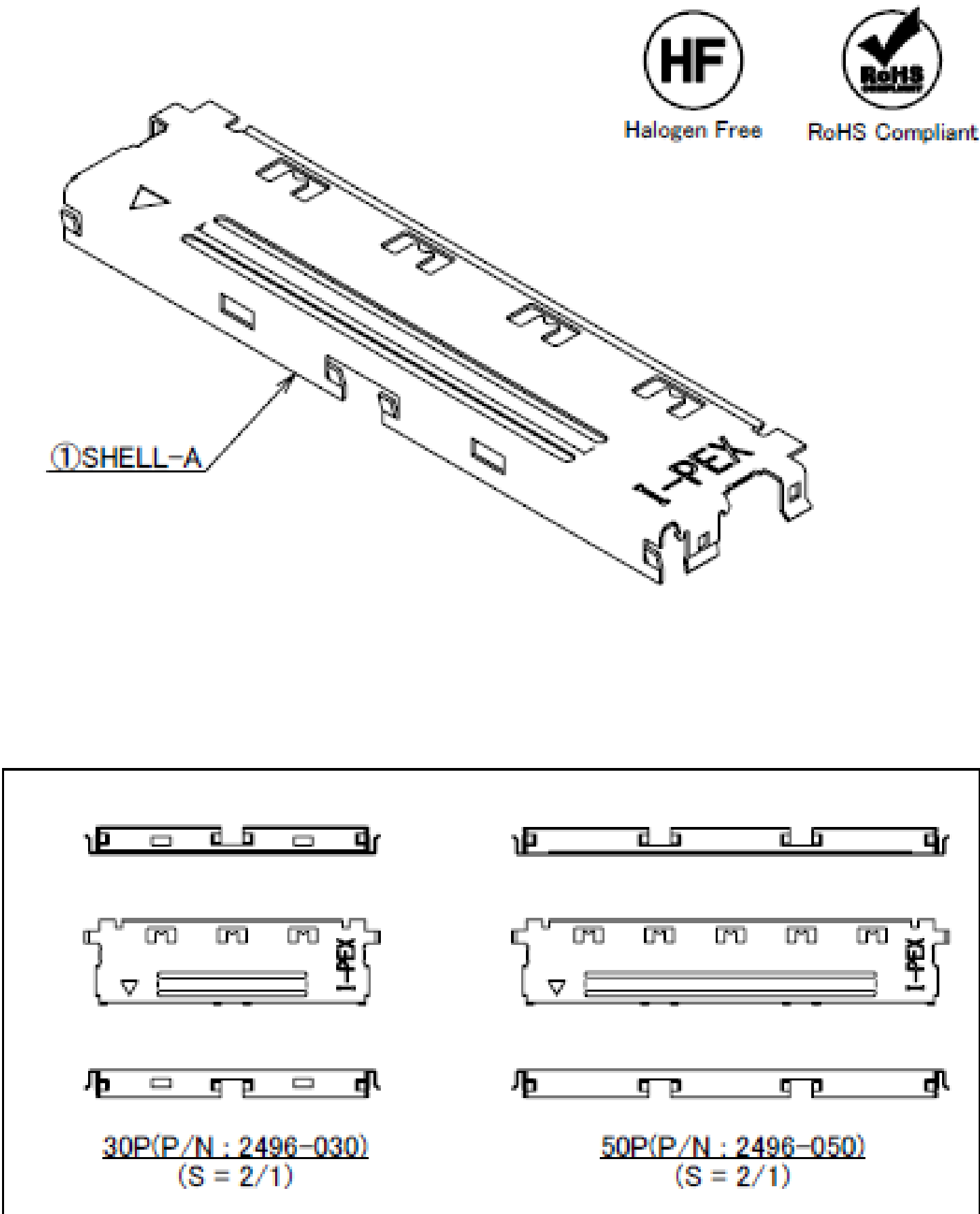
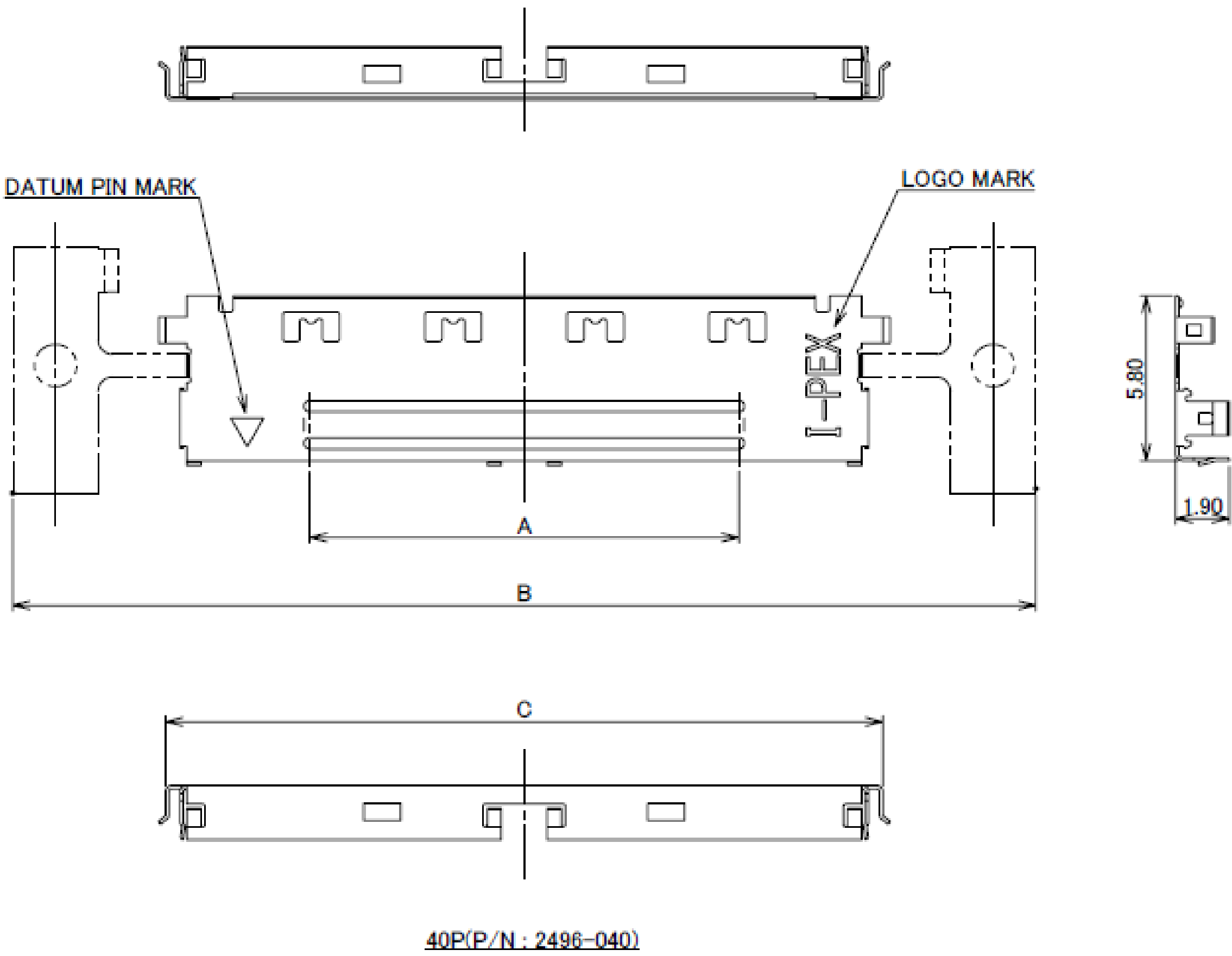


| | | | |
|-----|-------------|-----------------|---|
| 3 | SHELL-B | PHOSPHOR BRONZE | Sn 2.00 μ m MIN. OVER Ni 1.00 μ m MIN. |
| 2 | CONTACT | PHOSPHOR BRONZE | <p><u>PART NO. 20438-0**T-01</u> MATING AREA : Au 0.10 μm MIN. OVER Ni 1.00 μm MIN. OTHER AREA : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN.</p> <p><u>PART NO. 20438-0**T-11</u> MATING AREA : Au 0.30 μm MIN. OVER Ni 1.00 μm MIN. OTHER AREA : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN.</p> |
| 1 | HOUSING | LCP | UL94V-0, BLACK |
| NO. | DISCRIPTION | MATERIAL | FINISH . REMARKS |



Plug Shell-A

| Recommended P/N | | 2496-0** | | | |
|-----------------|------|----------|-------|-------|-------|
| PART NO. | Pos. | A | B | C | D |
| 2496-030 | 30 | 10.00 | 30.00 | 20.24 | 35.00 |
| 2496-040 | 40 | 15.00 | 36.00 | 25.24 | 40.00 |
| 2496-050 | 50 | 20.00 | 40.00 | 30.24 | 45.00 |

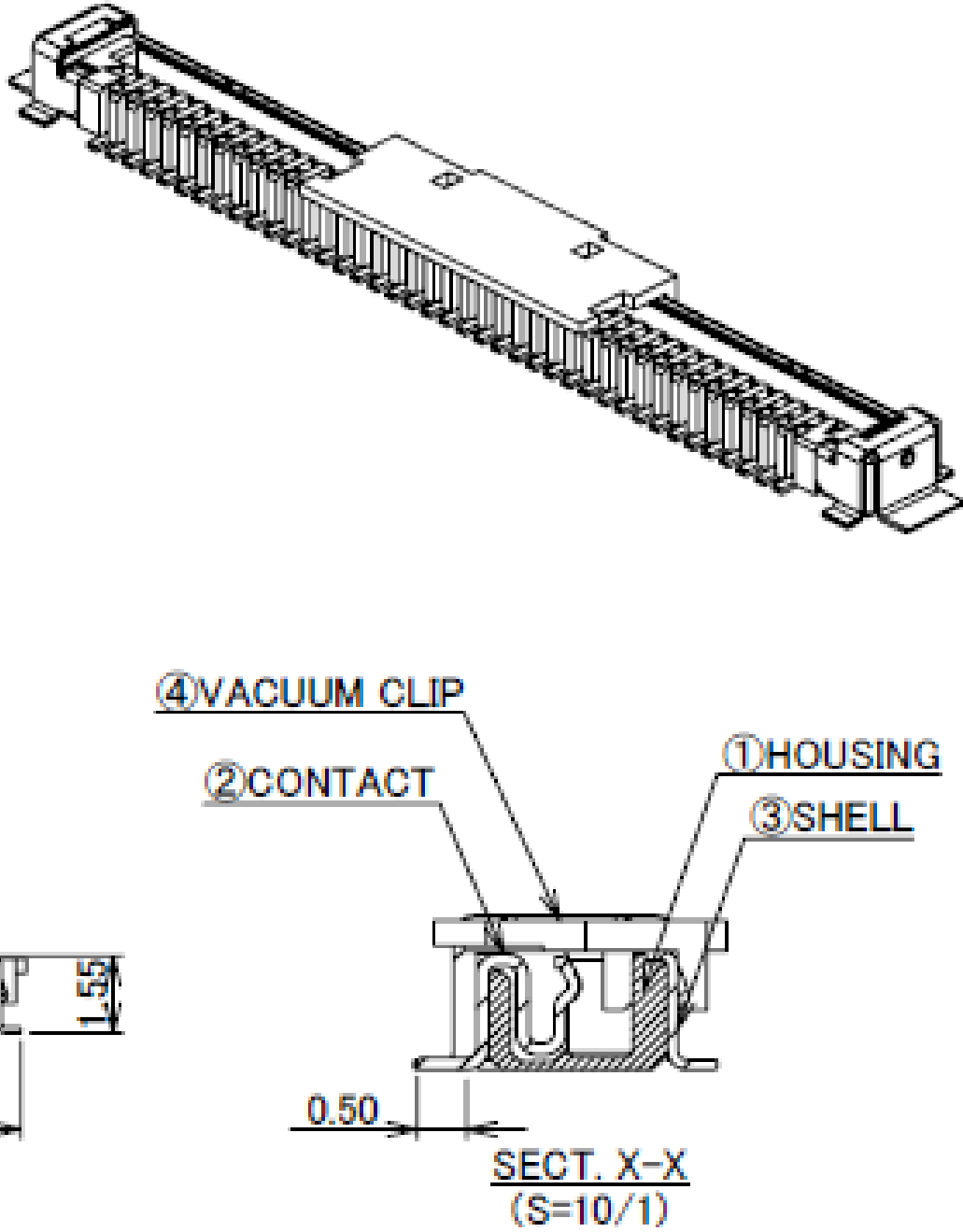
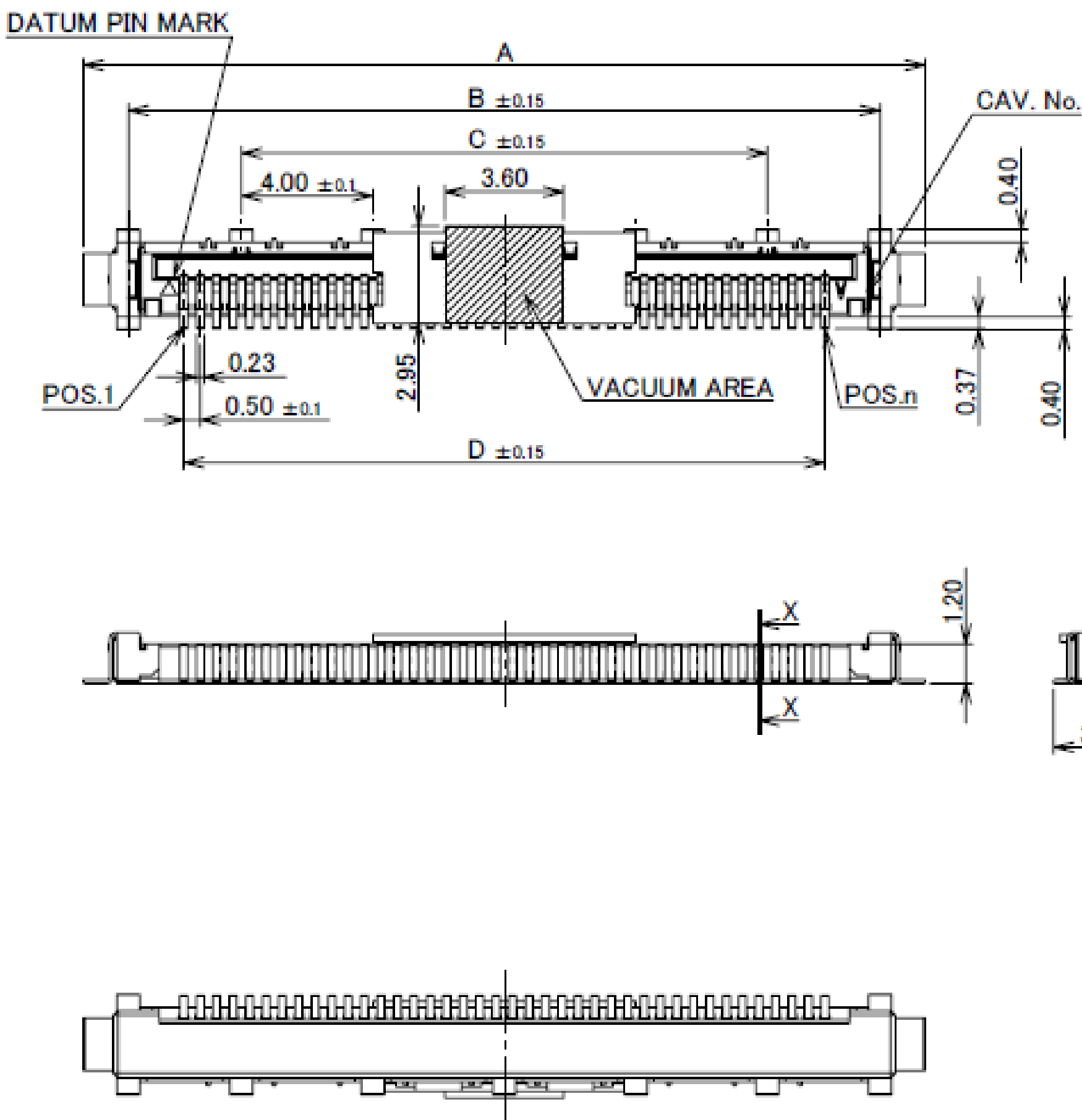


| | | | |
|-----|-------------|-----------------|---|
| 1 | SHELL-A | PHOSPHOR BRONZE | Sn(NO POLISH) 2.00 μ m MIN. OVER Ni 1.00 μ m MIN. |
| NO. | DISCRIPTION | MATERIAL | FINISH , REMARKS |

Rev.11

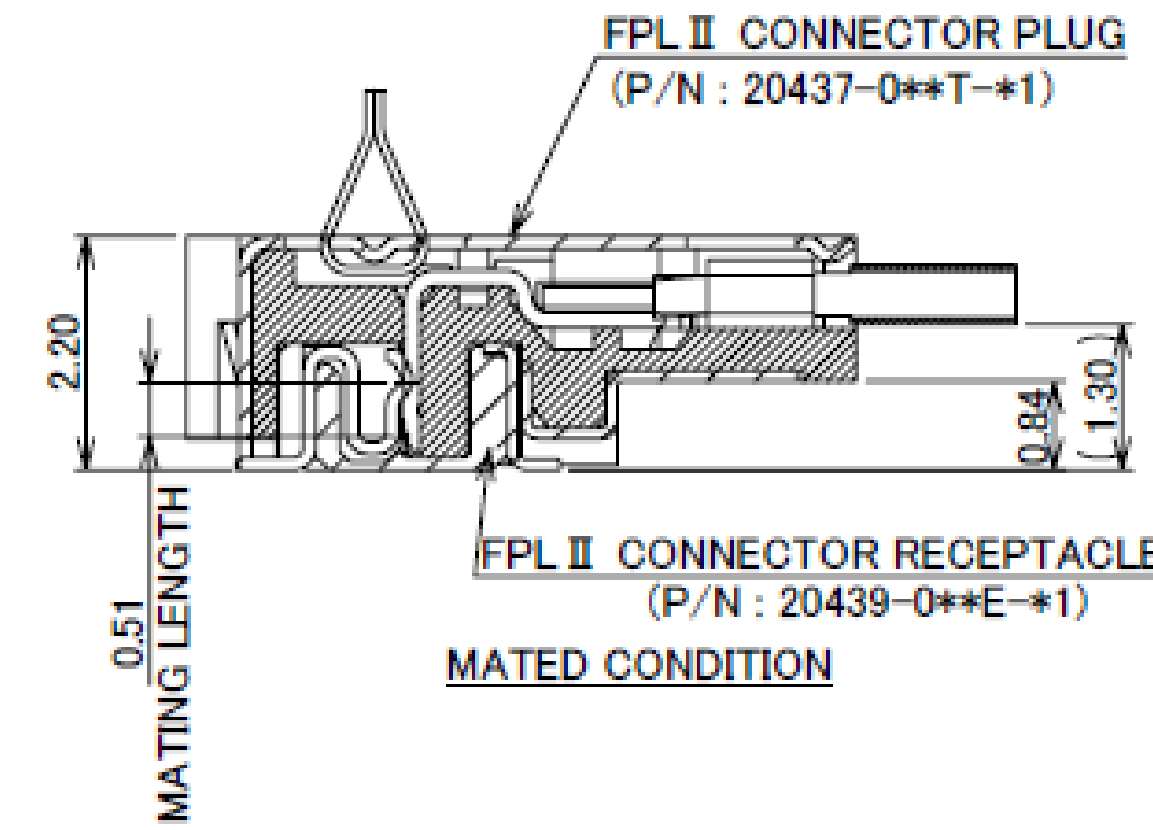
Receptacle Assembly

| Recommended P/N | | 20439-0**E-01 | | | |
|-----------------|------|---------------|-------|-------|-------|
| PART NO. | Pos. | A | B | C | D |
| 20439-030E-*1 | 30 | 20.60 | 17.86 | 12.00 | 14.50 |
| 20439-040E-*1 | 40 | 25.60 | 22.86 | 16.00 | 19.50 |
| 20439-050E-*1 | 50 | 30.60 | 27.86 | 20.00 | 24.50 |



| PART NO. | CONTACT FINISH (MATING SIDE) |
|---------------|------------------------------|
| 20439-0**E-01 | Au 0.1 μ m MIN. |
| 20439-0**E-11 | Au 0.3 μ m MIN. |

| MATING COMBINATION TABLE | | |
|--------------------------|---------------|---------------------|
| Pos. | PLUG PART NO. | RECEPTACLE PART NO. |
| 30P | 20437-030T-*1 | 20439-030E-*1 |
| 40P | 20437-040T-*1 | 20439-040E-*1 |
| 50P | 20437-050T-*1 | 20439-050E-*1 |

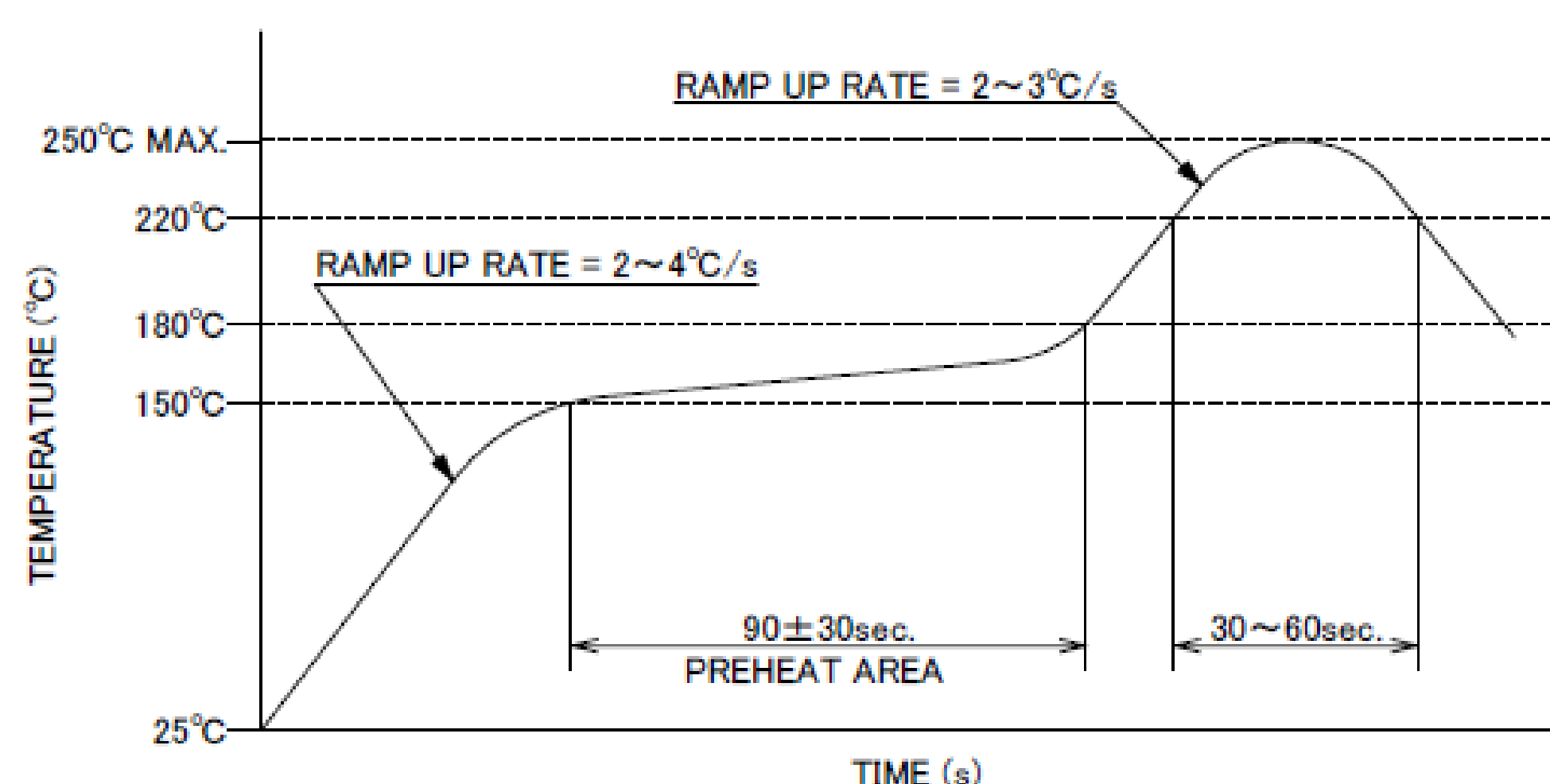
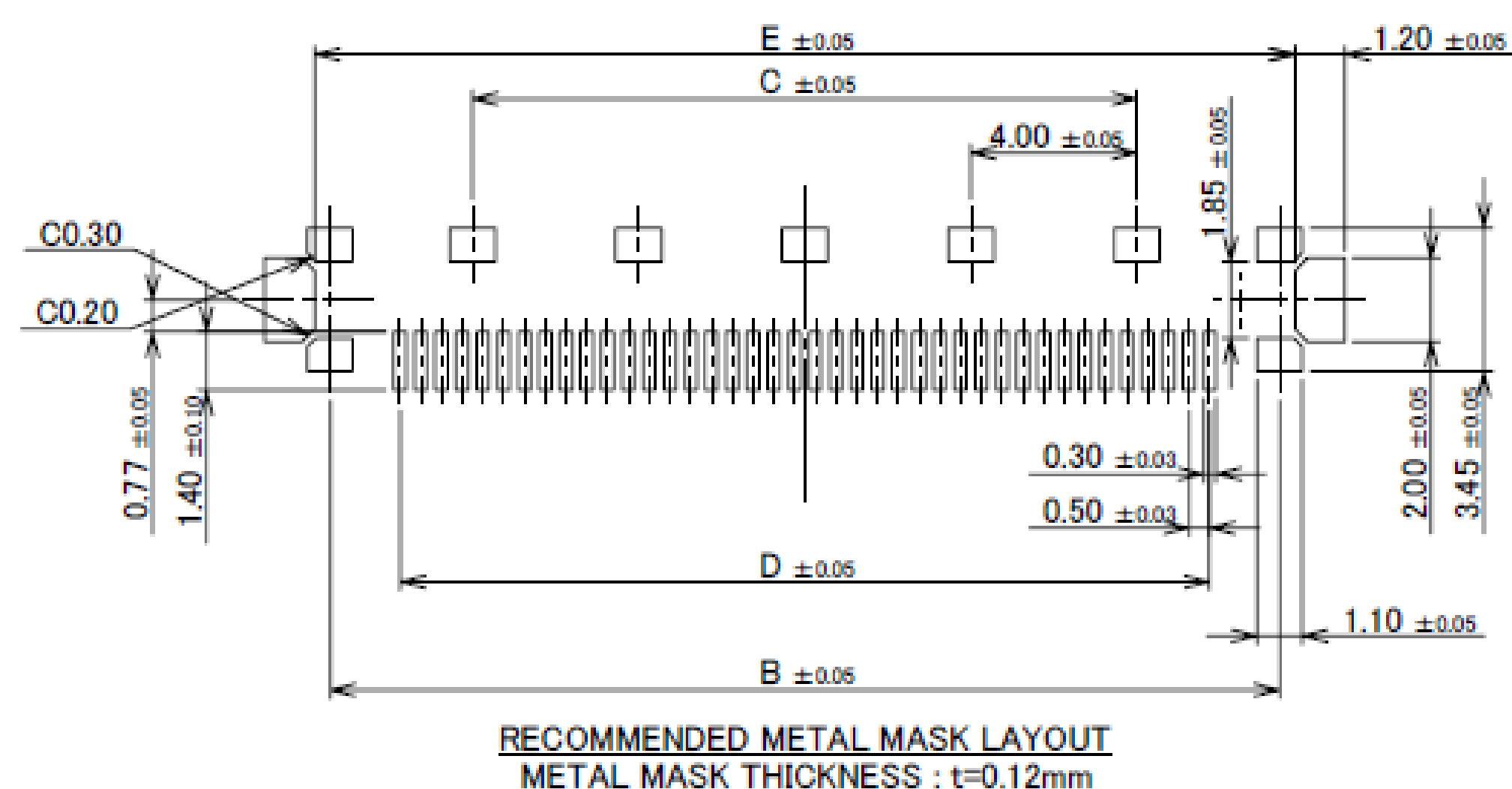
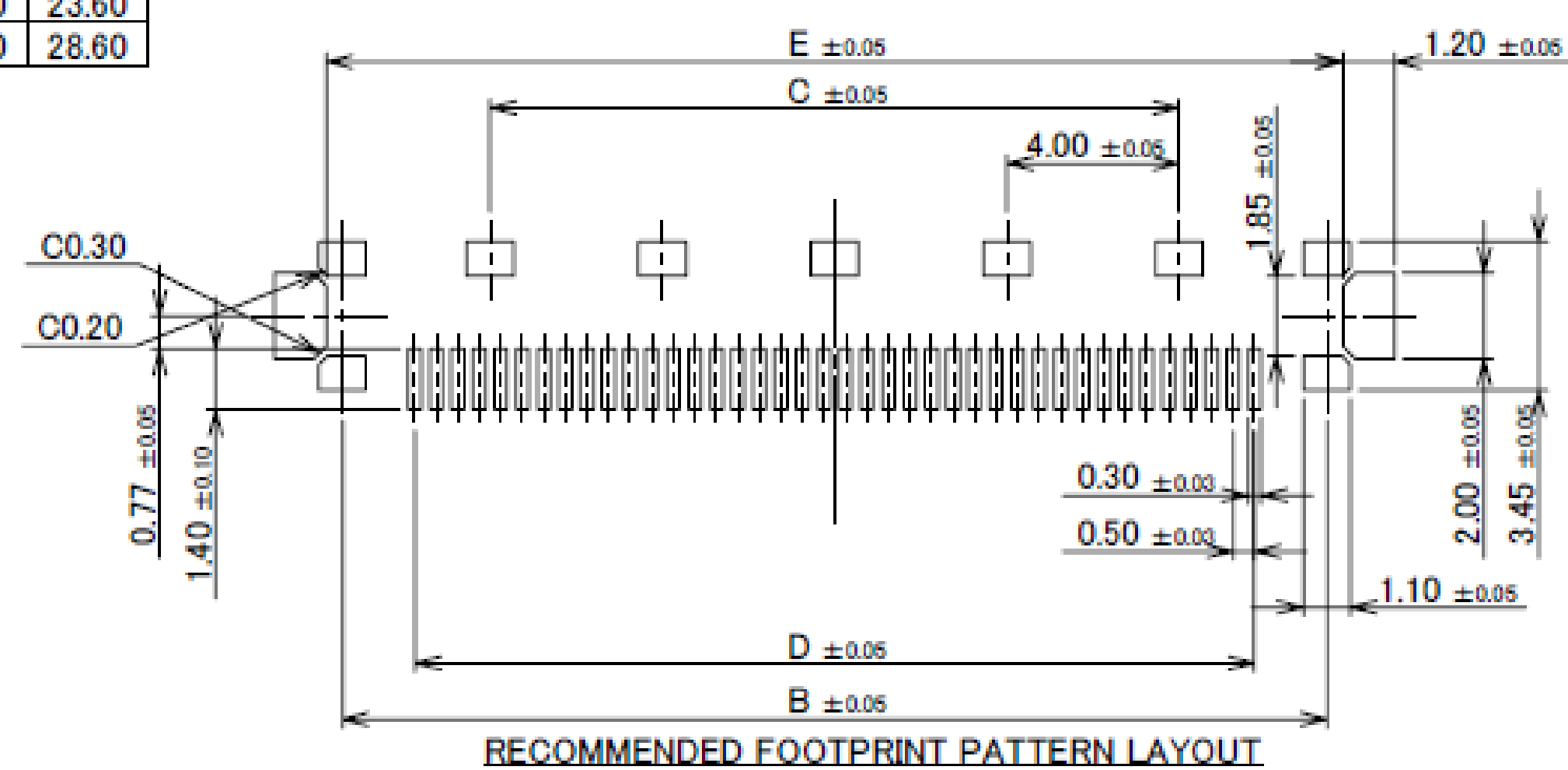


| | | | |
|-----|-------------|-----------------|--|
| 4 | VACUUM CLIP | LCP | UL94V-0, BEIGE |
| 3 | SHELL | PHOSPHOR BRONZE | Sn(NO POLISH) 0.50 μ m MIN. OVER Ni 1.00 μ m MIN. |
| 2 | CONTACT | PHOSPHOR BRONZE | PART NO. 20439-0**E-0* MATING AREA : Au 0.10 μ m MIN. OVER Ni 1.00 μ m MIN. OTHER AREA : Au 0.05 μ m MIN. OVER Ni 1.00 μ m MIN. PART NO. 20439-0**E-1* MATING AREA : Au 0.30 μ m MIN. OVER Ni 1.00 μ m MIN. OTHER AREA : Au 0.05 μ m MIN. OVER Ni 1.00 μ m MIN. |
| 1 | HOUSING | LCP | UL94V-0, BLACK |
| NO. | DISCRIPTION | MATERIAL | FINISH , REMARKS |

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Receptacle Assembly

| PART NO. | Pos. | B | C | D | E |
|---------------|------|-------|-------|-------|-------|
| 20439-030E-*1 | 30 | 17.86 | 12.00 | 14.50 | 18.60 |
| 20439-040E-*1 | 40 | 22.86 | 16.00 | 19.50 | 23.60 |
| 20439-050E-*1 | 50 | 27.86 | 20.00 | 24.50 | 28.60 |



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

Receptacle Assembly

| ITEMS | SPECIFICATION |
|---------------------------------------|---|
| APPLICABLE CABLE | MICRO-COAXIAL CABLE : AWG# 40, 38, 36, 34, 32 DISCRETE WIRE : AWG# 36, 34, 32 TWINAX CABLE : AWG# 40 |
| RATING VOLTAGE | 100V AC (PER CONTACT PIN) |
| RATING AMPERAGE (FOR CONTACT) | 0.3A AC/DC [AWG#40] PER CONTACT PIN / UP TO 50 CONTACTS 0.6A AC/DC [AWG#38] PER CONTACT PIN / UP TO 6 CONTACTS 0.8A AC/DC [AWG#36] PER CONTACT PIN / UP TO 4 CONTACTS 1.0A AC/DC [AWG#34, 32] PER CONTACT PIN / UP TO 7 CONTACTS TESTING BY REAL MACHINE IS RECOMMENDED BECAUSE TEMPERATURE RISE MAY AFFECTED BY ACTUAL SITUATION. |
| OPERATING TEMPERATURE | 233~358K(-40℃~+85℃) |
| OPERATING HUMIDITY | 85% MAX. |
| CONTACT RESISTANCE | INITIAL : 145mohm MAX.(AWG#32) / AFTER TEST : ≦40mohm MAX. 185mohm MAX.(AWG#34) 210mohm MAX.(AWG#36) 335mohm MAX.(AWG#38) 575mohm MAX.(AWG#40) |
| GROUND SHELL RESISTANCE | INITIAL : 50mohm MAX. / AFTER TEST : ≦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 : 50.0N MAX. 40P : 60.0N MAX. 50P : 70.0N MAX. |
| UNMATING FORCE (INITIAL / AFTER TEST) | 30P : 5.0N MIN. 40P : 6.0N MIN. 50P : 7.0N MIN. |
| CABLE RETENTION FORCE | 30.0N MIN. |
| COPLANARITY | 0.10 MAX. |
| PRODUCT SPECIFICATION | PRS-1383 |
| TEST REPORT | TR-07048 |
| PACKING STANDARD | 300-583 |
| INSTRUCTION MANUAL | HIM-09007 |
| ASSEMBLY MANUAL | ASM-07005 |
| APPEARANCE CRITERIA No. | QLS-A*** |

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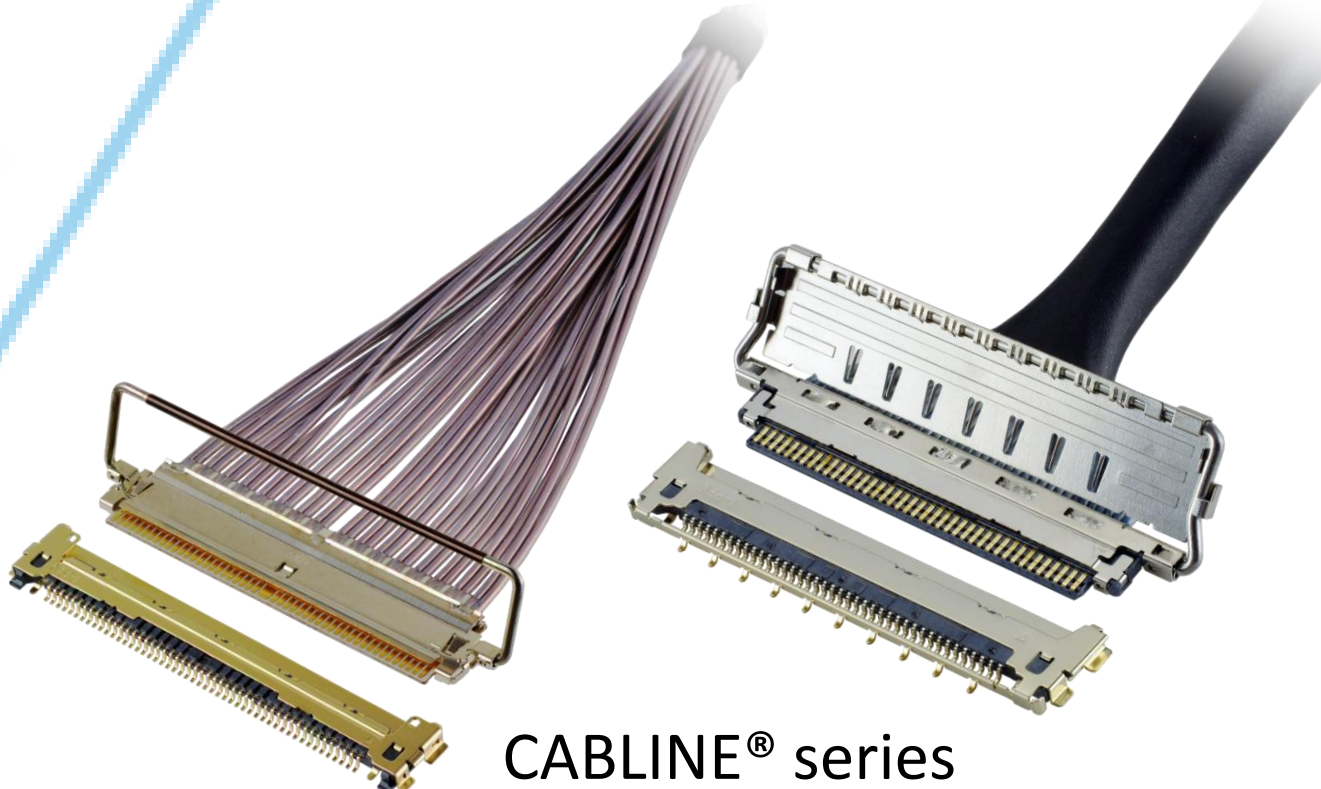
Custom Connectors Available

 RF
Connectors

MHF® series



CABLINE® series

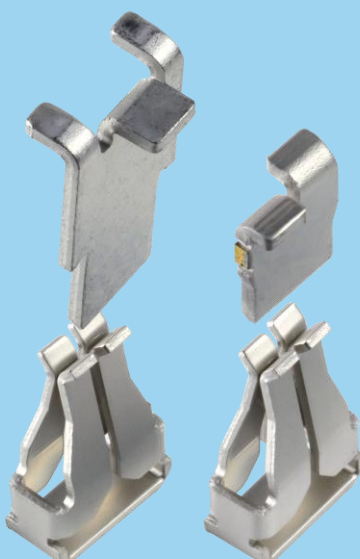


Micro-Coaxial/Twinax
Connectors



Wire-to-Board
Connectors/
Terminals

AP series



ISH® series



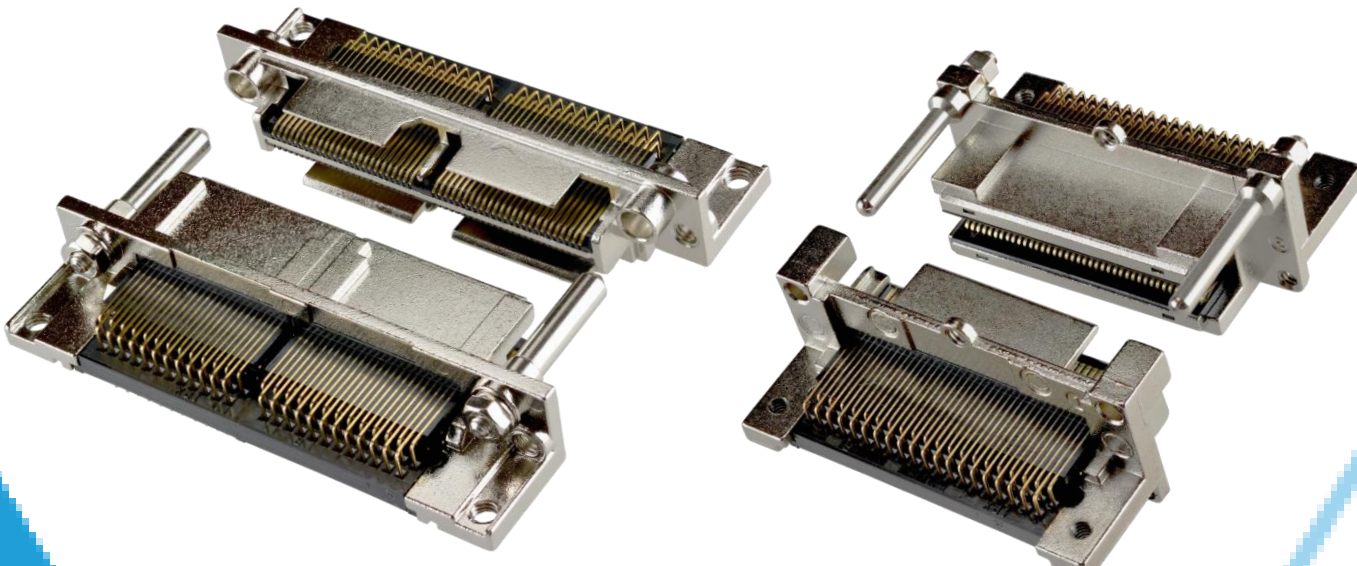
NOVASTACK® series



Board-to-Board
Connectors



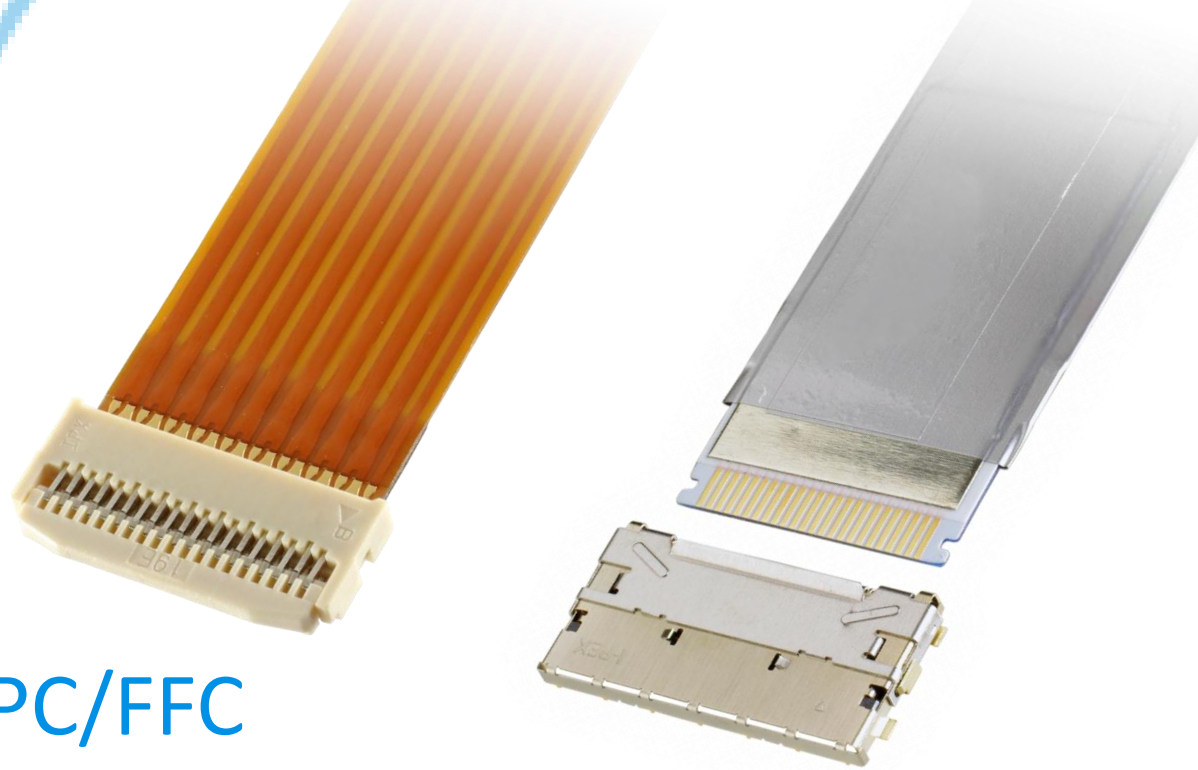
I/O
Connectors



MINIDOCK™ series

MINIFLEX® series

EVAFLEX® series



FPC/FFC
Connectors



Inquiry



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