

# MINIFLEX® 3-BFN L-LK-HD

Mechanical lock, robust design with hold-down feature, long actuator, low profile (Height 0.9 mm) 0.3 mm pitch, horizontal, backflip

## Product Specifications:

|               |           |                                |
|---------------|-----------|--------------------------------|
| Board Pitch   |           | 0.3 mm                         |
| Wiping Length |           | Contact A: 0.9 mm              |
|               |           | Contact B: 0.45 mm             |
| Size          | Height    | 0.90 +/- 0.10 mm               |
|               | Width     | 2.7 + (0.3 x pin count) mm     |
|               | Depth     | Open: 2.55 mm<br>Close: 3.5 mm |
| Pin counts    | Range     | 11 to 57                       |
|               | Available | 11, 40, 45                     |

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

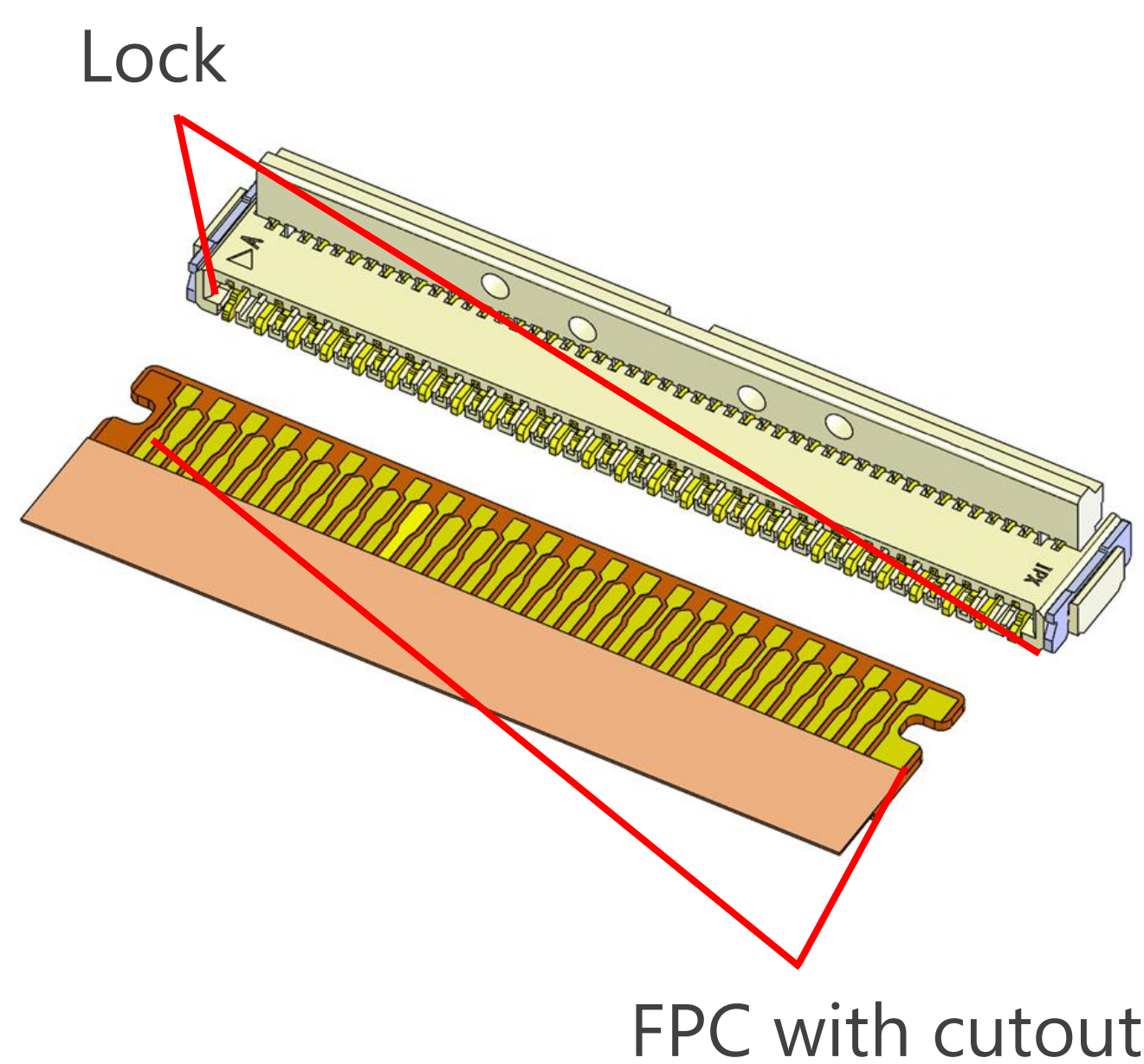
## Applicable FPC/FFC:

|                       |                 |
|-----------------------|-----------------|
| FPC/FFC Contact Pitch | 0.3             |
| FPC/FFC Contact Point | Top and Bottom  |
| FPC/FFC Thickness     | 0.2 +/- 0.03 mm |



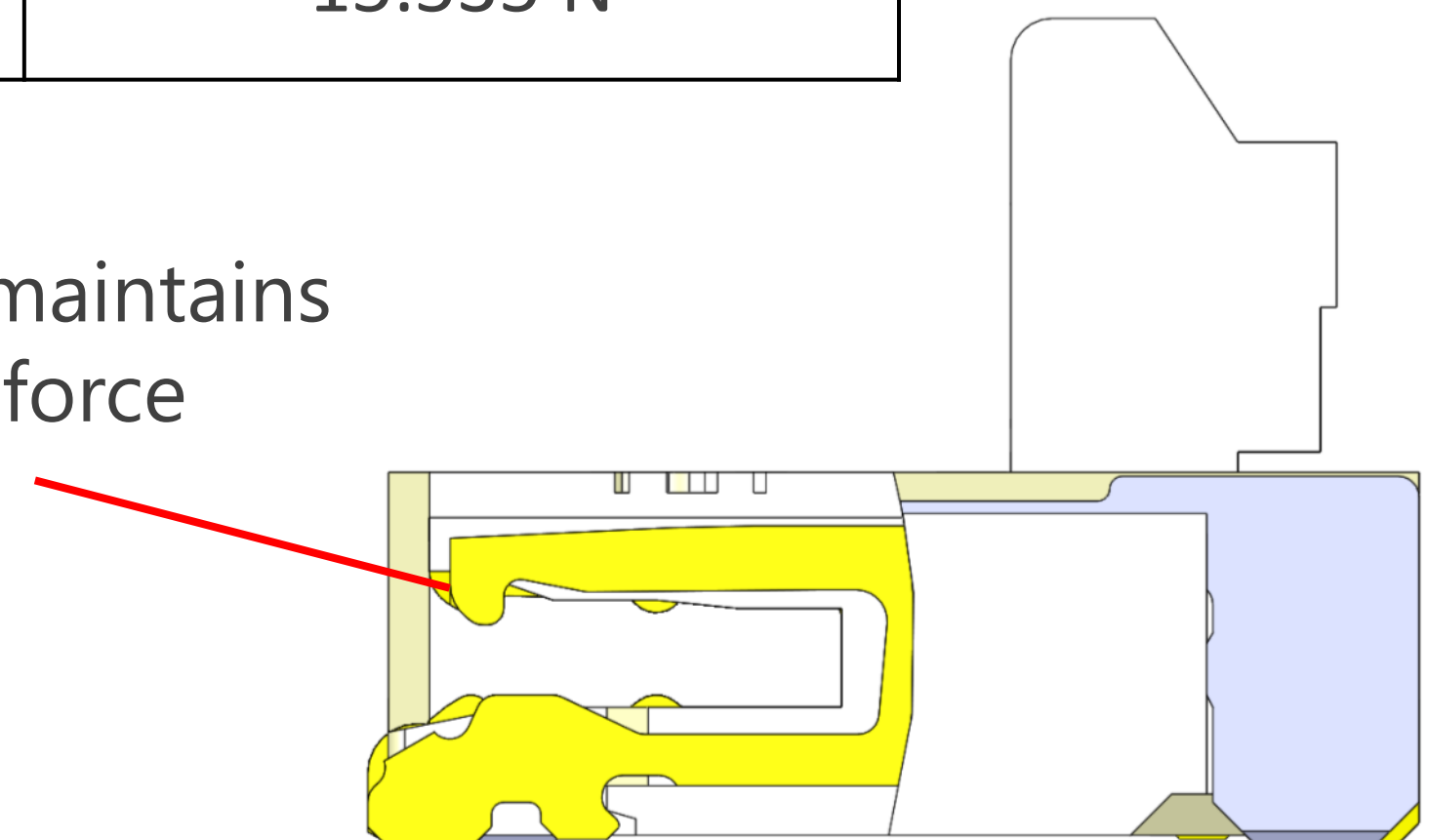
## ► High FPC retention force with additional mechanical lock

FPC retention force comparison (45 pin)



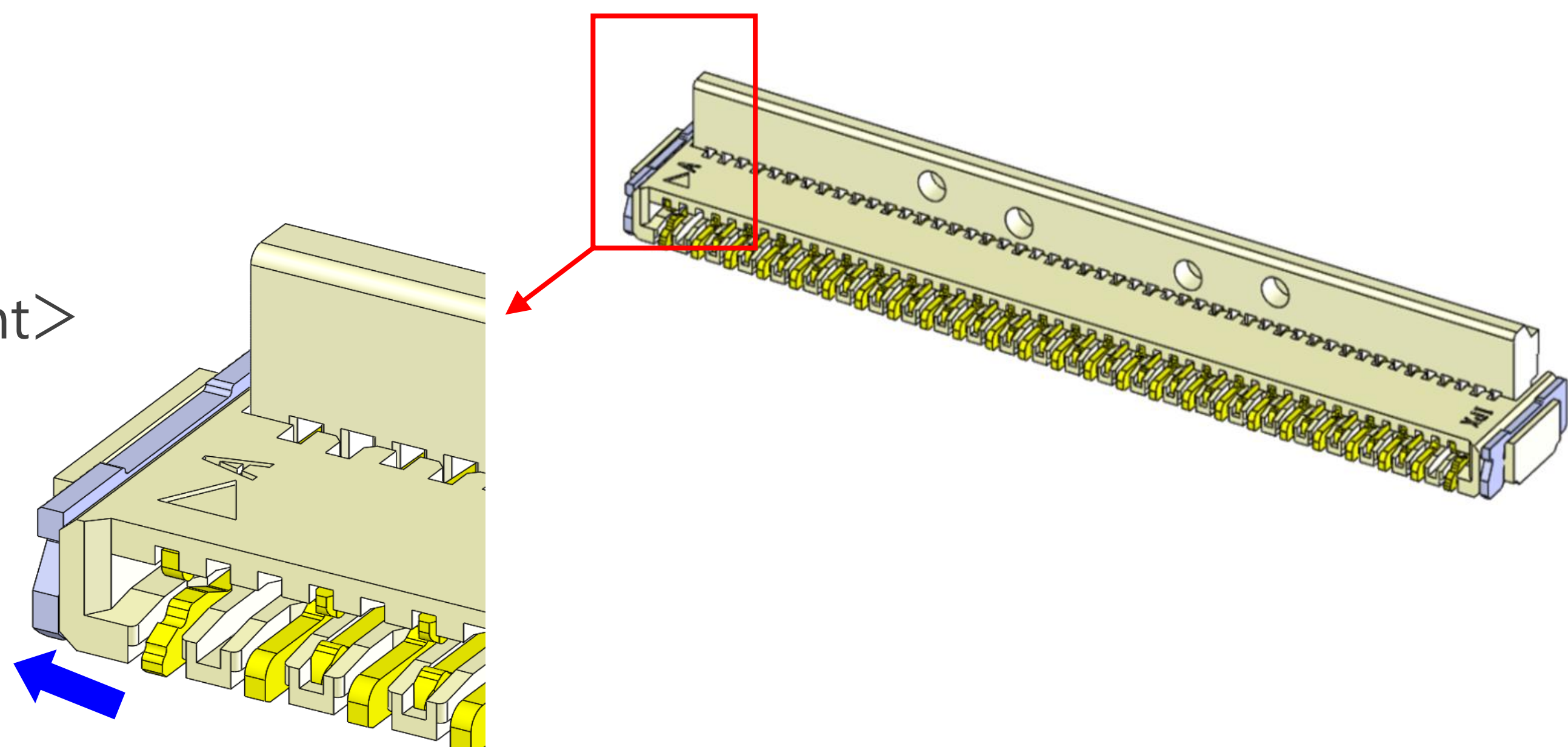
| MINIFLEX® 3-BFN L-LK-HD | MINIFLEX® 3-BFN Long |
|-------------------------|----------------------|
| 20.710 N                | 15.535 N             |

FPC LOCK mechanism maintains high FPC retention force



## ► Hold down feature improves strength of side wall

<Strength improvement>

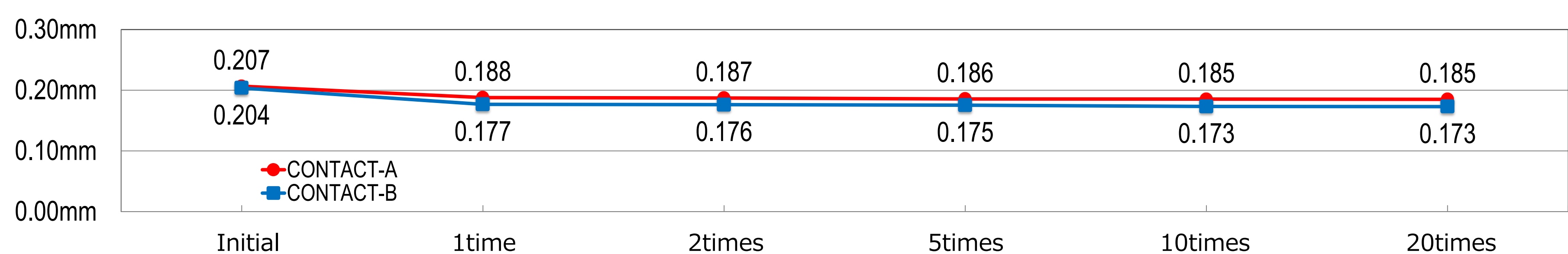


## ► Usability for closing actuator without FPC

The connector will still function even if the actuator is accidentally closed without the FPC being inserted after the SMT process

- Connector will still function reliably

(Contact gap graph MINIFLEX® 3-BFN L-HD 51 pins before and after operating actuator without FPC inserted)



- Insertion force of connector goes up
- Retention force of connector does not change greatly



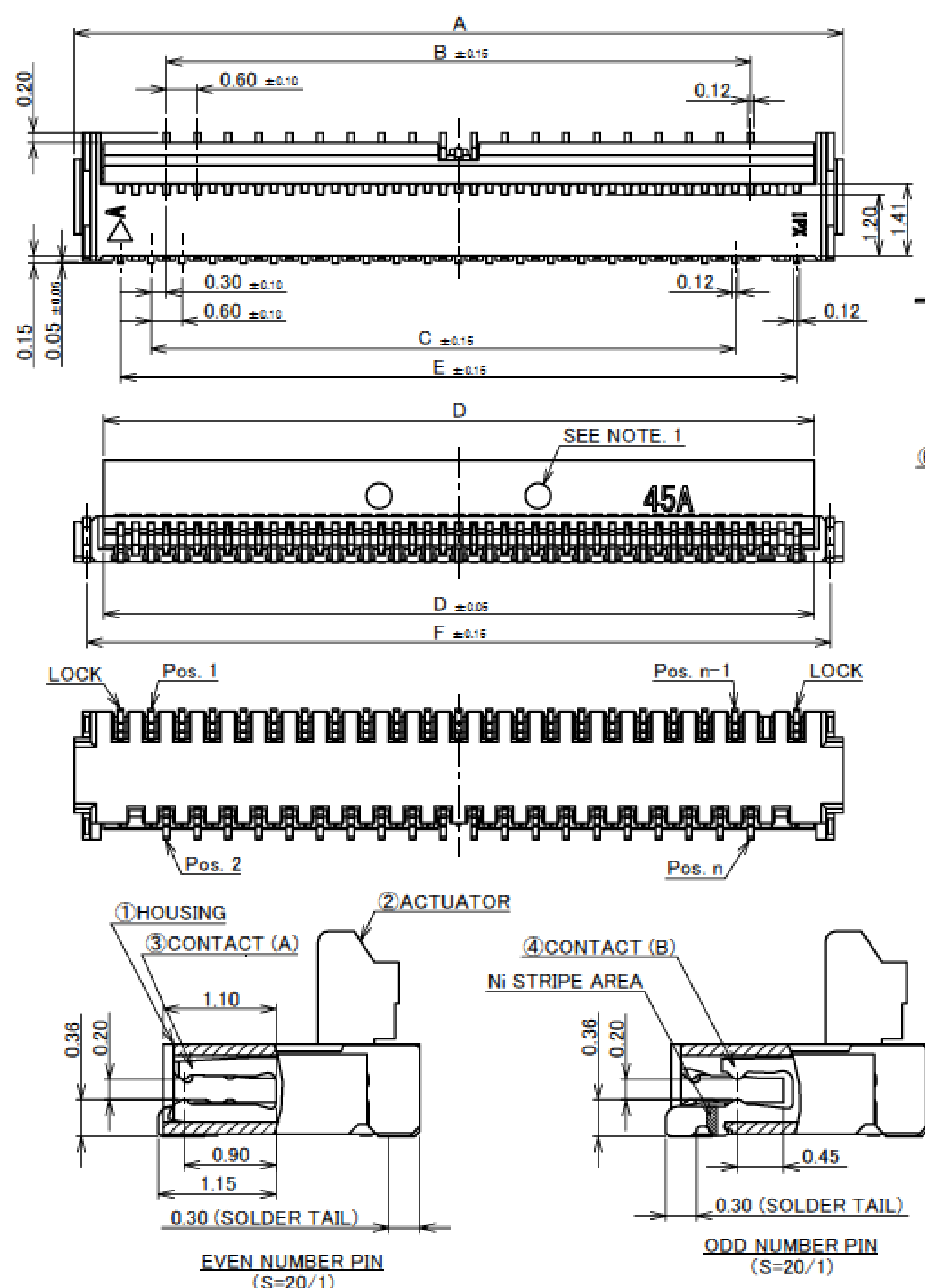




## Connector Assembly

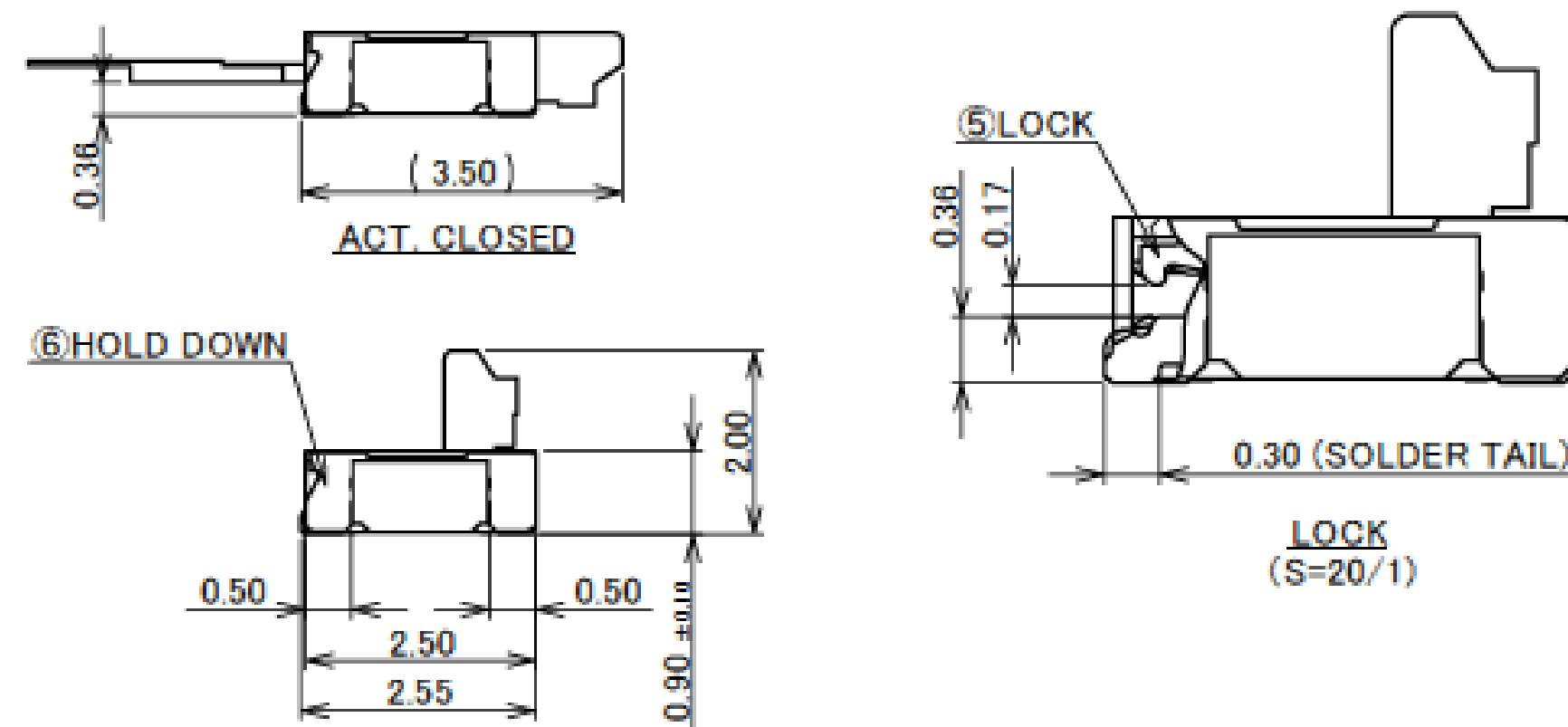
|                 |               |
|-----------------|---------------|
| Recommended P/N | 20655-0**E-01 |
|-----------------|---------------|

## EVEN NUMBER POS.



| PART NO.       | Pos. | A     | B     | C     | D     | E     | F     |
|----------------|------|-------|-------|-------|-------|-------|-------|
| ◆20655-030E-01 | 30P  | 12.00 | 8.40  | 8.40  | 10.85 | 10.20 | 11.50 |
| 20655-040E-01  | 40P  | 15.00 | 11.40 | 11.40 | 13.85 | 13.20 | 14.50 |
| ◆20655-050E-01 | 50P  | 18.00 | 14.40 | 14.40 | 16.85 | 16.20 | 17.50 |

◆ MARK MEANS NOT AVAILABLE.



NOTES.

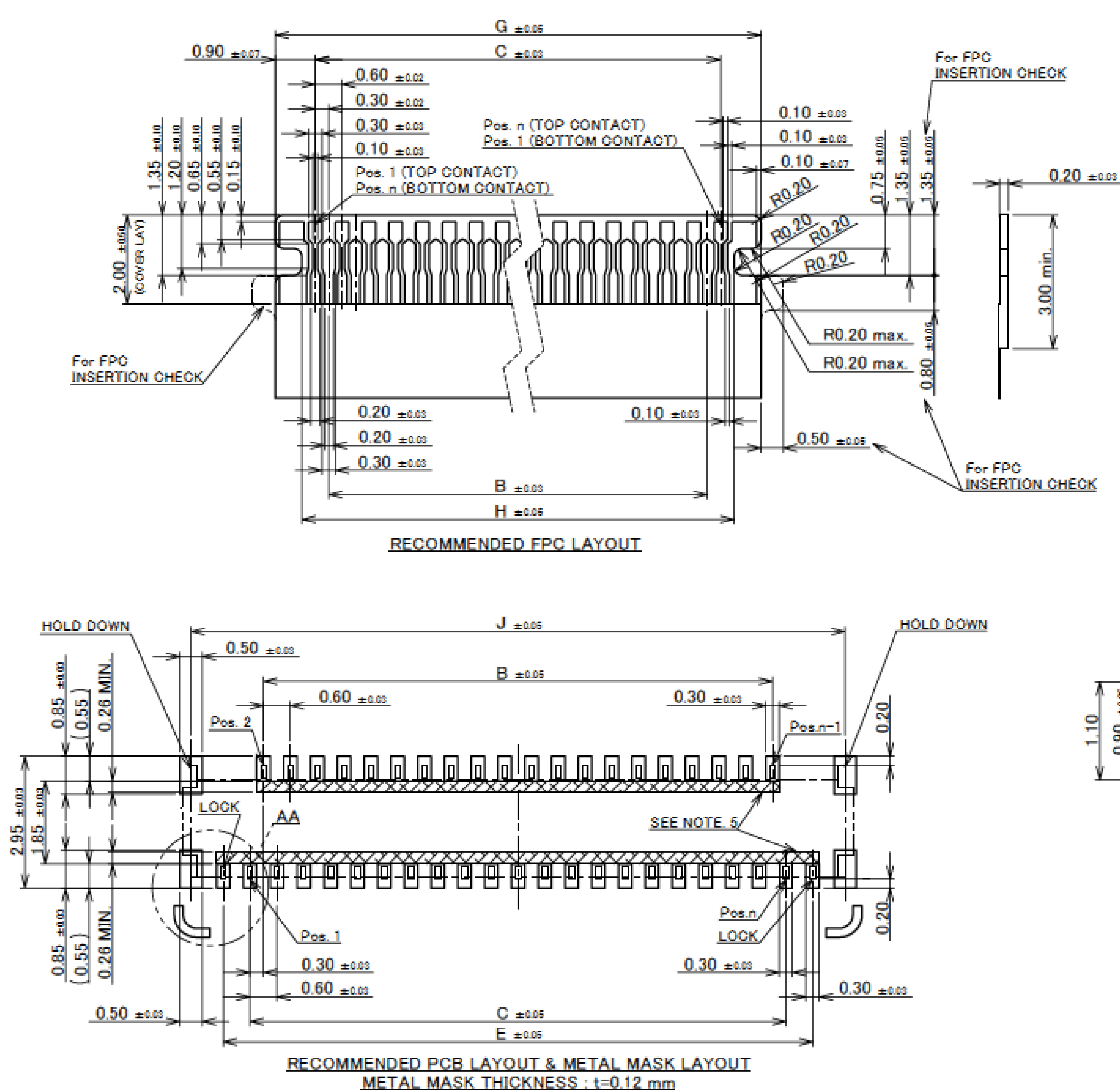
1. THIS DENT SHAPE IS PURPOSED FOR GOOD INJECTION QUALITY. THIS DENT SHAPE WILL NOT AFFECT CONNECTR FUNCTION. DENT SHAPE SHOWN ON DRAWING IS JUST FOR REFERENCE. DENT SHAPE AND QUANTITY MIGHT CHABGE FROM DIFFERENT PIN COUNT AND DIFFERENT TOOLING.
2. CONTACT POINT : TOP AND BOTTOM CONTACT

  
CAUTION

VISIT OUR WEBSITE FOR LATEST VERSIONS OF INSTRUCTION MANUAL  
NO. HIM-12007 TO HANDLE THE PRODUCT PROPERLY AND SAFELY.

Rev.9

ODD NUMBER POS.



| PART NO.       | Pos. | B     | C     | E     | G     | H     | J     |
|----------------|------|-------|-------|-------|-------|-------|-------|
| 20655-011E-01  | 11P  | 2.40  | 3.00  | 4.20  | 4.80  | 3.60  | 5.65  |
| ◆20655-029E-01 | 29P  | 7.80  | 8.40  | 9.60  | 10.20 | 9.00  | 11.05 |
| ◆20655-031E-01 | 31P  | 8.40  | 9.00  | 10.20 | 10.80 | 9.60  | 11.65 |
| ◆20655-035E-01 | 35P  | 9.60  | 10.20 | 11.40 | 12.00 | 10.80 | 12.85 |
| ◆20655-037E-01 | 37P  | 10.20 | 10.80 | 12.00 | 12.60 | 11.40 | 13.45 |
| ◆20655-041E-01 | 41P  | 11.40 | 12.00 | 13.20 | 13.80 | 12.60 | 14.65 |
| 20655-045E-01  | 45P  | 12.60 | 13.20 | 14.40 | 15.00 | 13.80 | 15.85 |
| ◆20655-047E-01 | 47P  | 13.20 | 13.80 | 15.00 | 15.60 | 14.40 | 16.45 |
| ◆20655-051E-01 | 51P  | 14.40 | 15.00 | 16.20 | 16.80 | 15.60 | 17.65 |
| ◆20655-053E-01 | 53P  | 15.00 | 15.60 | 16.80 | 17.40 | 16.20 | 18.25 |
| ◆20655-057E-01 | 57P  | 16.20 | 16.80 | 18.00 | 18.60 | 17.40 | 19.45 |

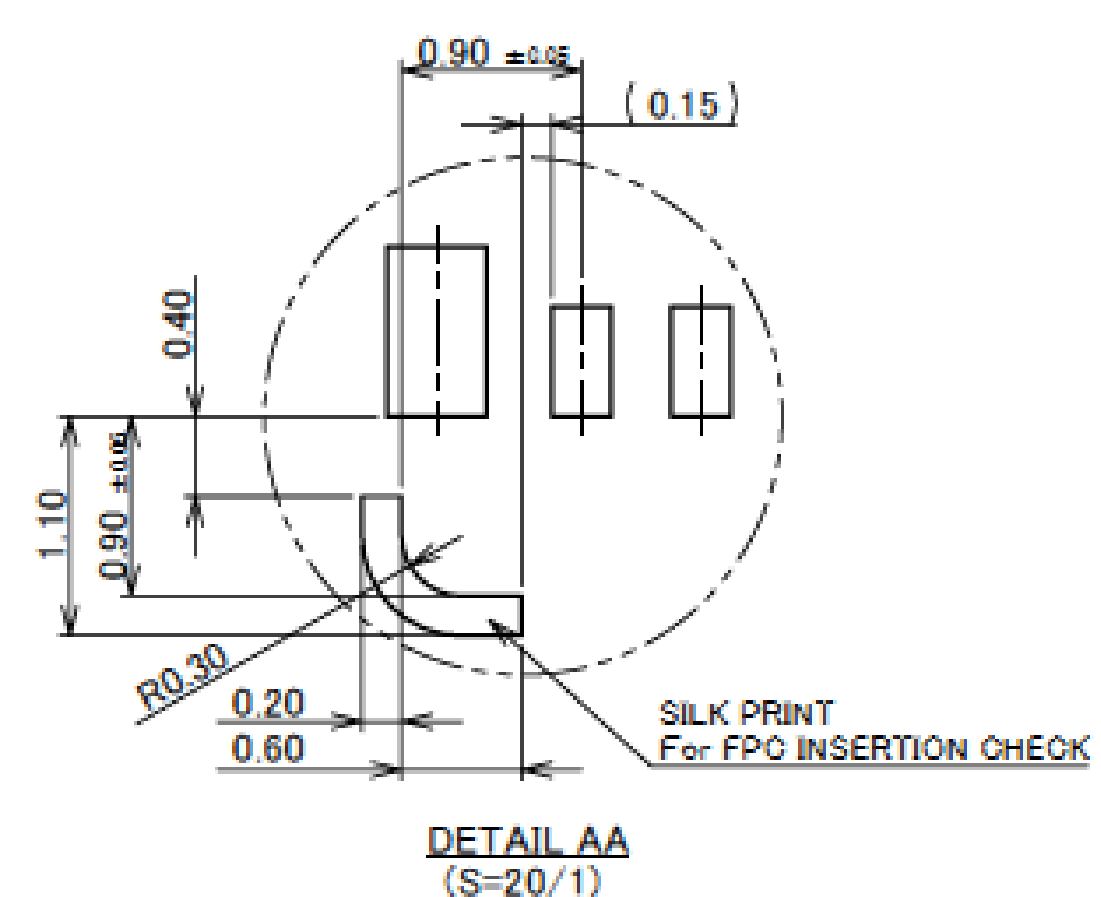
◆ MARK MEANS NOT AVAILABLE.

## NOTES

3. MATERIAL  
COVER FILM : PI  
CONDUCTOR : COPPER(RARE)  
BASE FILM : PI  
STIFFENER : PI  
ADHESIVE : THERMOSETTING ADHESIVE

ADHESIVE: THERMOSETTING  
4. FINISH  
Au OVER Ni UNDER PLATING

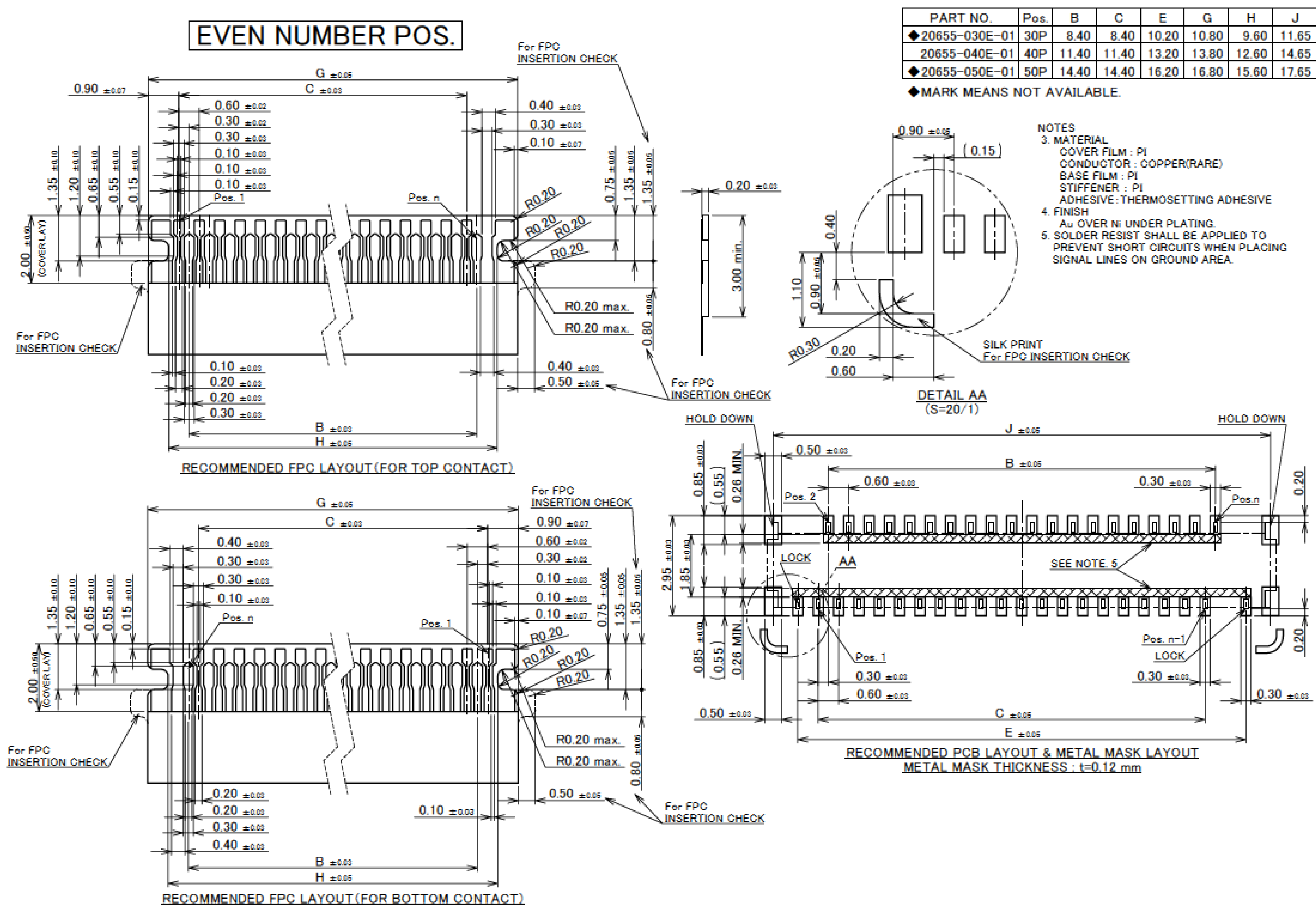
5. SOLDER RESIST SHALL BE APPLIED TO PREVENT SHORT CIRCUITS WHEN PLACING SIGNAL LINES ON GROUND AREA.



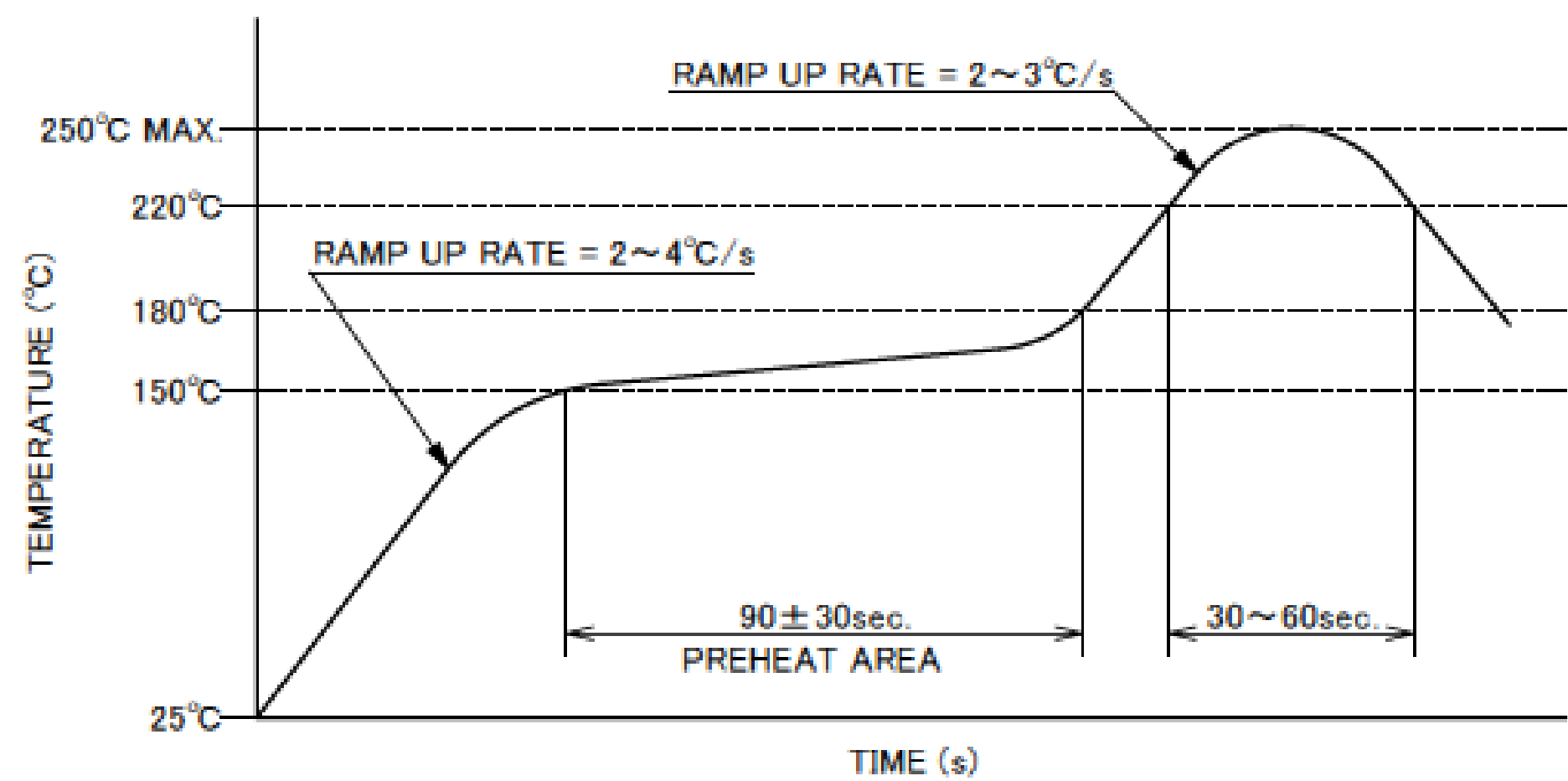
Rev.9



Connector Assembly



CONNECTOR ON RECOMMENDED PCB LAYOUT



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

Rev.9

Rev.9



# Connector Assembly

| ITEMS                                            | SPECIFICATION                                                                    |
|--------------------------------------------------|----------------------------------------------------------------------------------|
| RATING VOLTAGE                                   | 50V AC/DC (PER CONTACT)                                                          |
| RATING AMPERAGE                                  | 0.3A DC (PER CONTACT)                                                            |
| OPERATING TEMPERATURE                            | 233~358K(−40℃~85℃)                                                               |
| OPERATING HUMIDITY                               | 20~80%RH (NON-CONDENSING)                                                        |
| CONTACT RESISTANCE                               | INITIAL : 60mohm MAX. / AFTER TEST : $\triangleleft$ 40mohm MAX.                 |
| INSULATION RESISTANCE                            | 100Mohm MIN.                                                                     |
| DIELECTRIC WITHSTANDING VOLTAGE                  | AC250V 1min                                                                      |
| DURABILITY                                       | 20 CYCLES                                                                        |
| ACTUATOR LOCKING FORCE (INITIAL / 20TH CYCLES)   | INITIAL / 20 CYCLES 0.21N (21gf) × (n + 2) MAX.                                  |
| ACTUATOR UNLOCKING FORCE (INITIAL / 20TH CYCLES) | INITIAL / 20 CYCLES 0.014N (1.4gf) × (n + 2) MIN.                                |
| FPC RETENTION FORCE (INITIAL / AFTER TEST)       | INITIAL: 0.13N (13gf) × n + 1.0N MIN. / AFTER TEST: 0.10N (10gf) × n + 1.0N MIN. |
| COPLANARITY                                      | 0.10 MAX.                                                                        |
| PRODUCT SPECIFICATION                            | PRS-2077                                                                         |
| TEST REPORT                                      | TR-15027                                                                         |
| PACKING STANDARD                                 | PST-15018                                                                        |
| INSTRUCTION MANUAL                               | HIM-12007                                                                        |
| APPEARANCE CRITERIA No.                          | QLS-A***                                                                         |

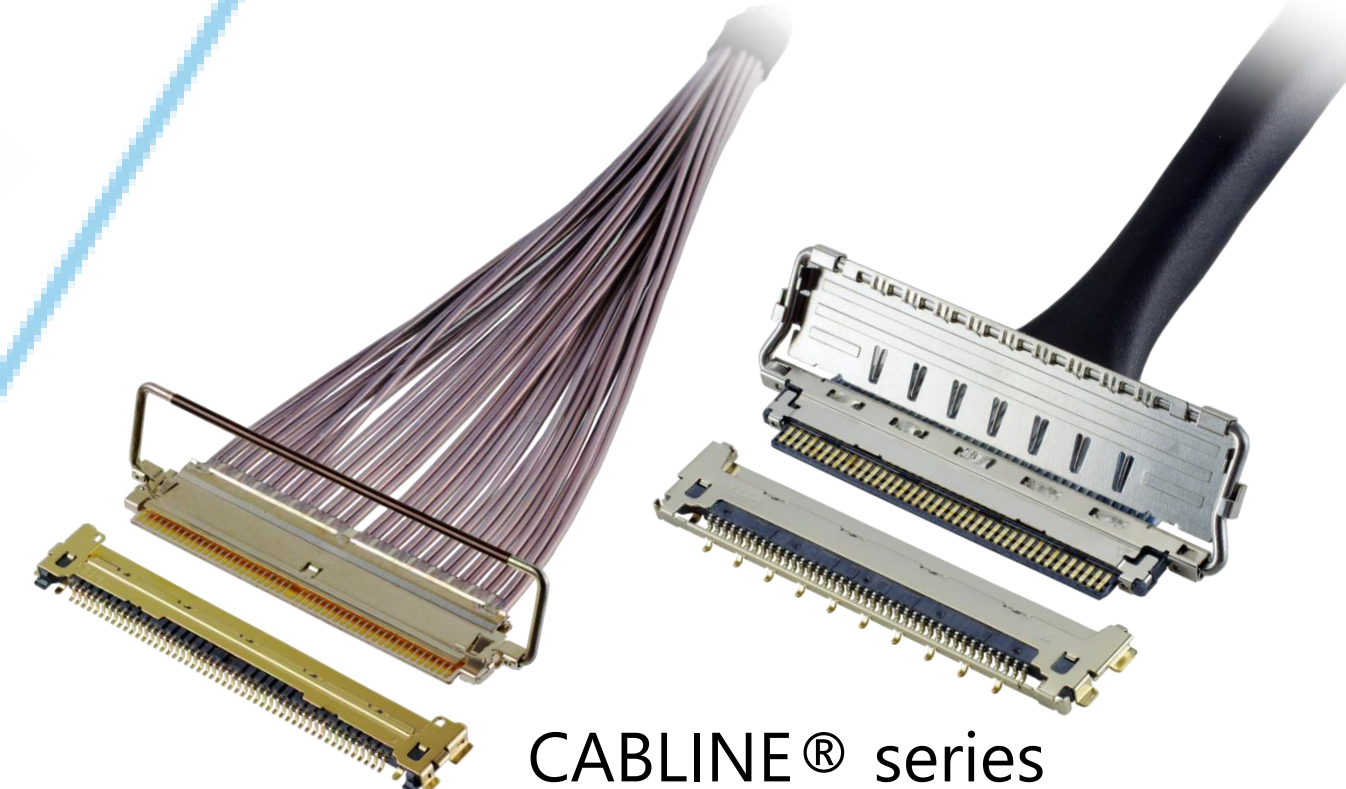
※ “n” IS THE NUMBER OF PIN



# Custom Connectors Available

## RF Connectors

MHF® series



CABLINE® series

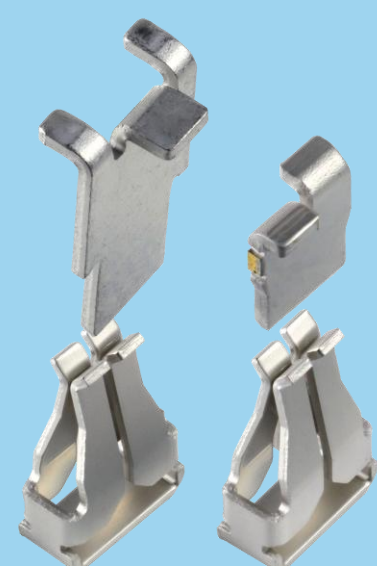


## Micro-Coaxial/Twinaxial Connectors

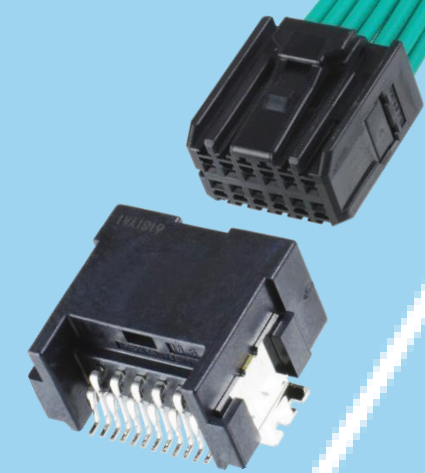


## Wire-to-Board Connectors/ Terminals

AP series



ISH® series



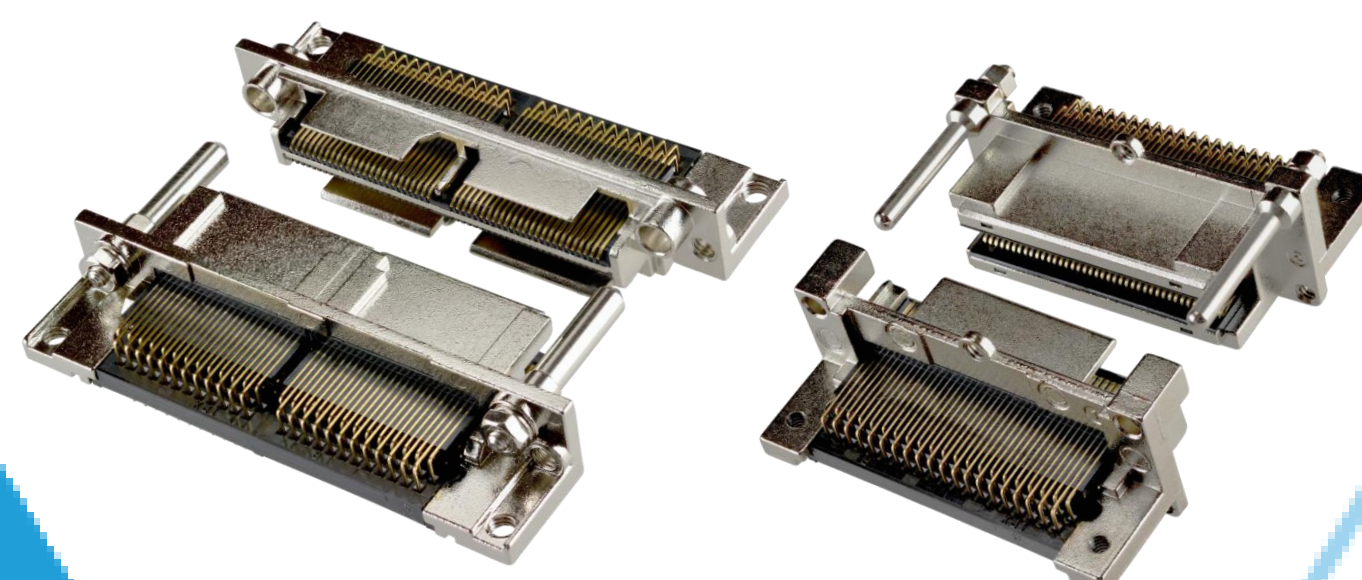
NOVASTACK® series



## Board-to-Board Connectors

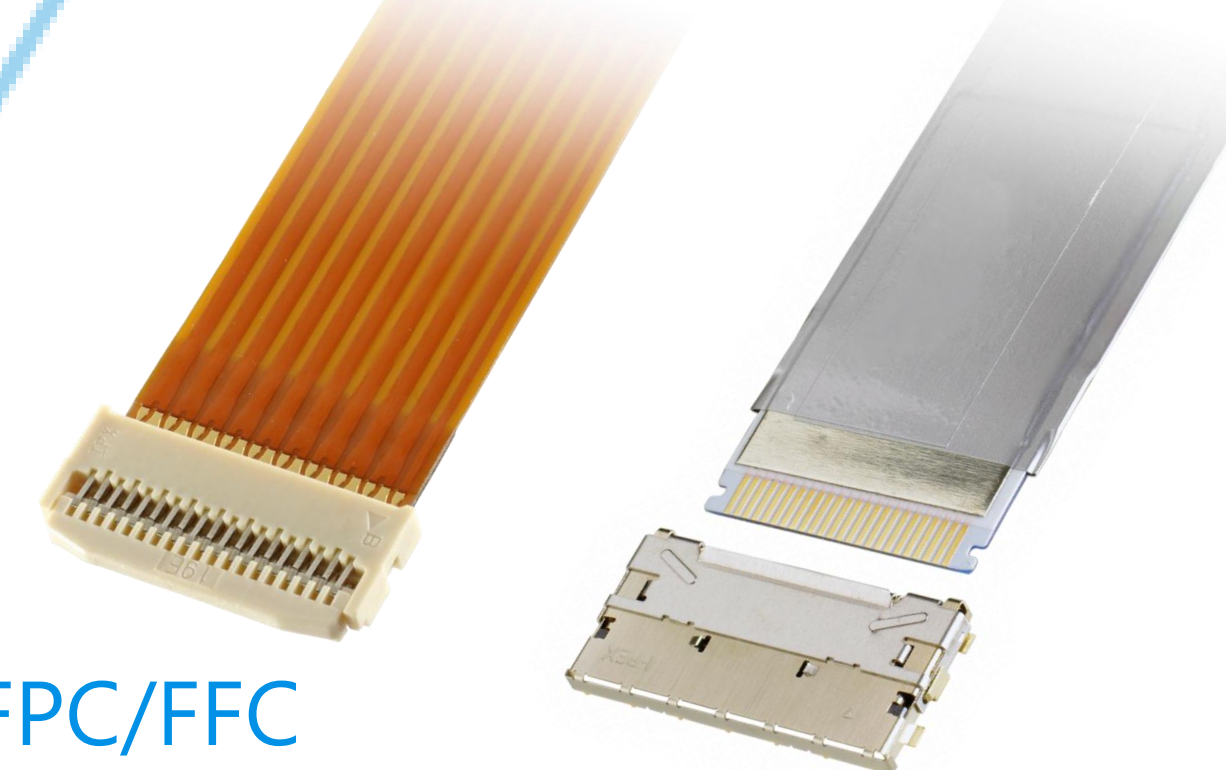


## I/O Connectors



MINIDOCK™ series

MINIFLEX® series EVAFLEX® series



## FPC/FFC Connectors



Inquiry



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