

# MINIFLEX® 3-BFNH

유지력 강화, 타사 제품과 호환되는 실장 패턴  
0.3 mm Pitch, 수평 결합, 백플립

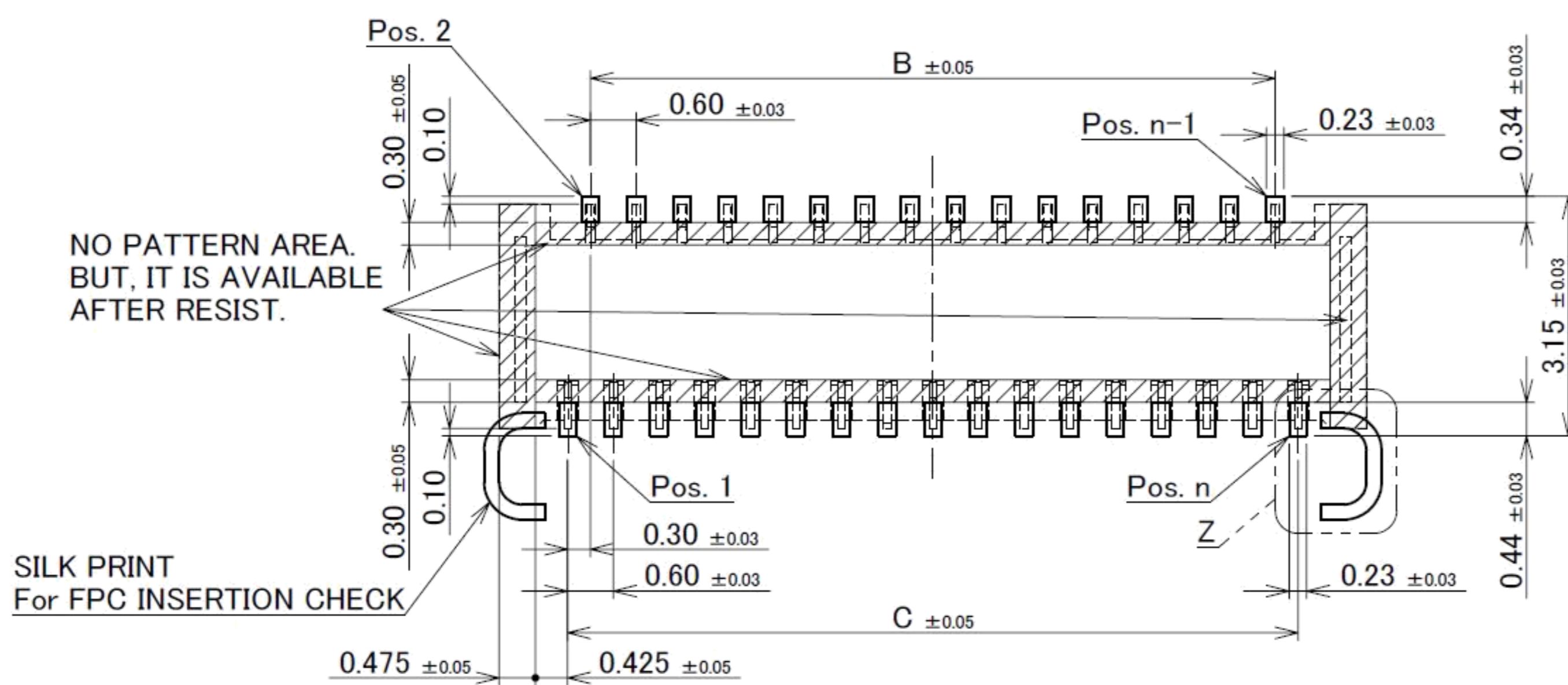
Product Specifications:		Short Actuator	Long Actuator
Board Pitch (mm)		0.3	
Wiping Length (mm)		Contact A: 1.0 Contact B: 0.45	
Size (mm)	Height	0.90 +/- 0.10	
	Width	1.5 + (0.3 * ?p)	
	Depth	2.95 3.15	3.5
Pin counts	Range	7-71 (odd)	33-71 (odd)
	Available	7,9,11,21,23,31,35,39,41,45	51, 61, 71

Applicable FPC/FFC:	
FPC/FFC Contact Pitch	0.3
FPC/FFC Contact Point	Top and Bottom
FPC/FFC Thickness (mm)	0.2 +/- 0.03



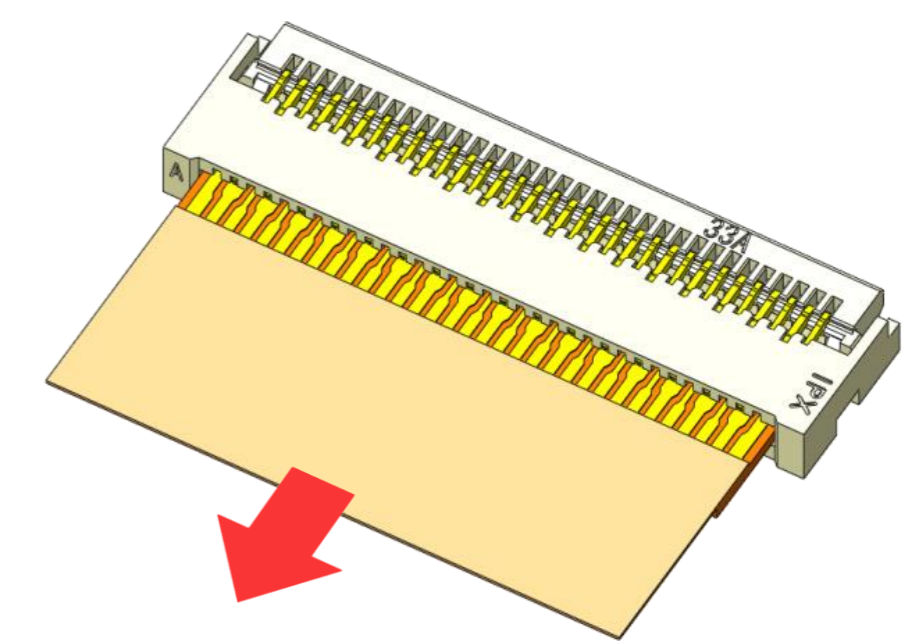
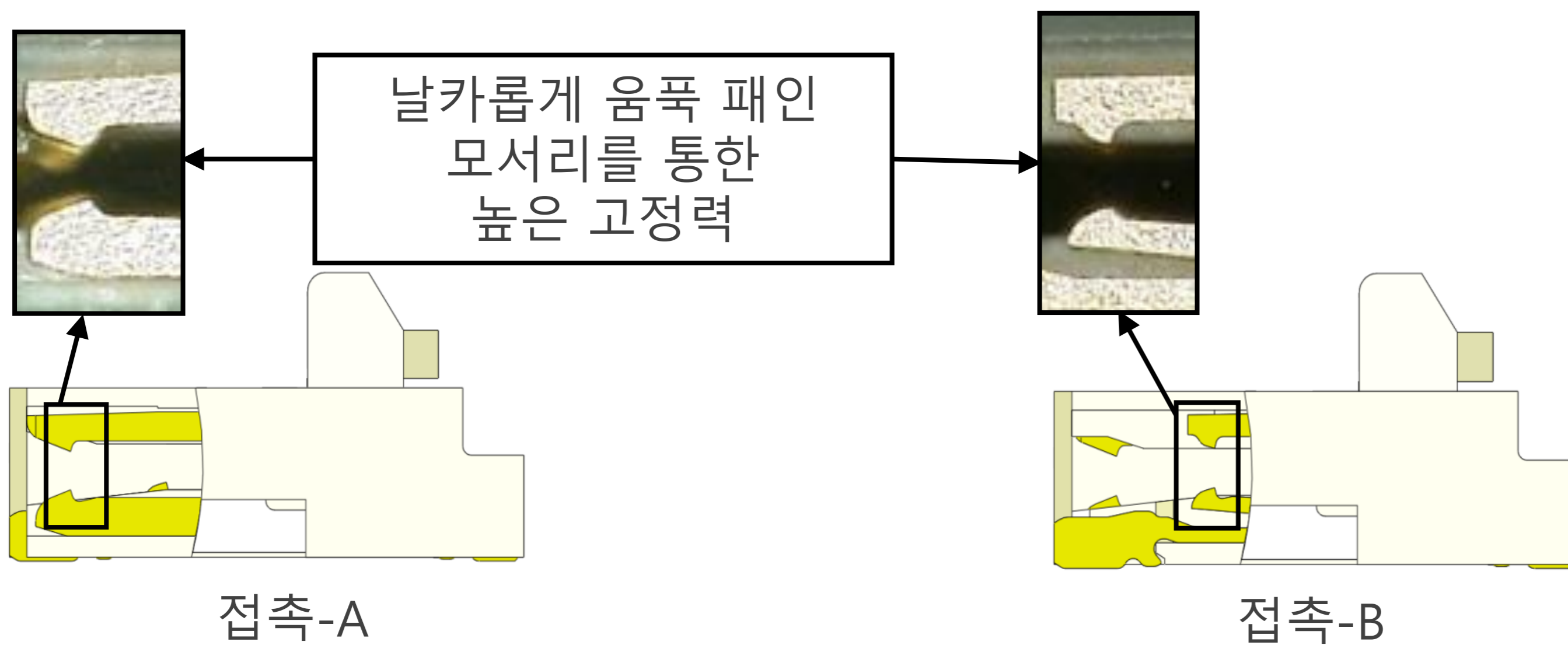
\*기재가 되어있지 않은 핀 수의 대응 여부에 대해서는 문의해 부탁드립니다.

## ▶ 타사 제품과 호환되는 실장 패턴 및 FPC 패턴



ショートアクチuator			ロングアクチuator		
Pos.	B	C	Pos.	B	C
7P	1.20	1.80	51P	14.40	15.00
9P	1.80	2.40	61P	17.40	18.00
11P	2.40	3.00	71P	20.40	21.00
21P	5.40	6.00			
23P	6.00	6.60			
31P	8.40	9.00			
35P	9.60	10.20			
39P	10.80	11.40			
41P	11.40	12.00			
45P	12.60	13.20			

## ▶ 단자 접점부를 샤프 엣지 형상으로 하여 보다 높은 FPC 유지력 보유

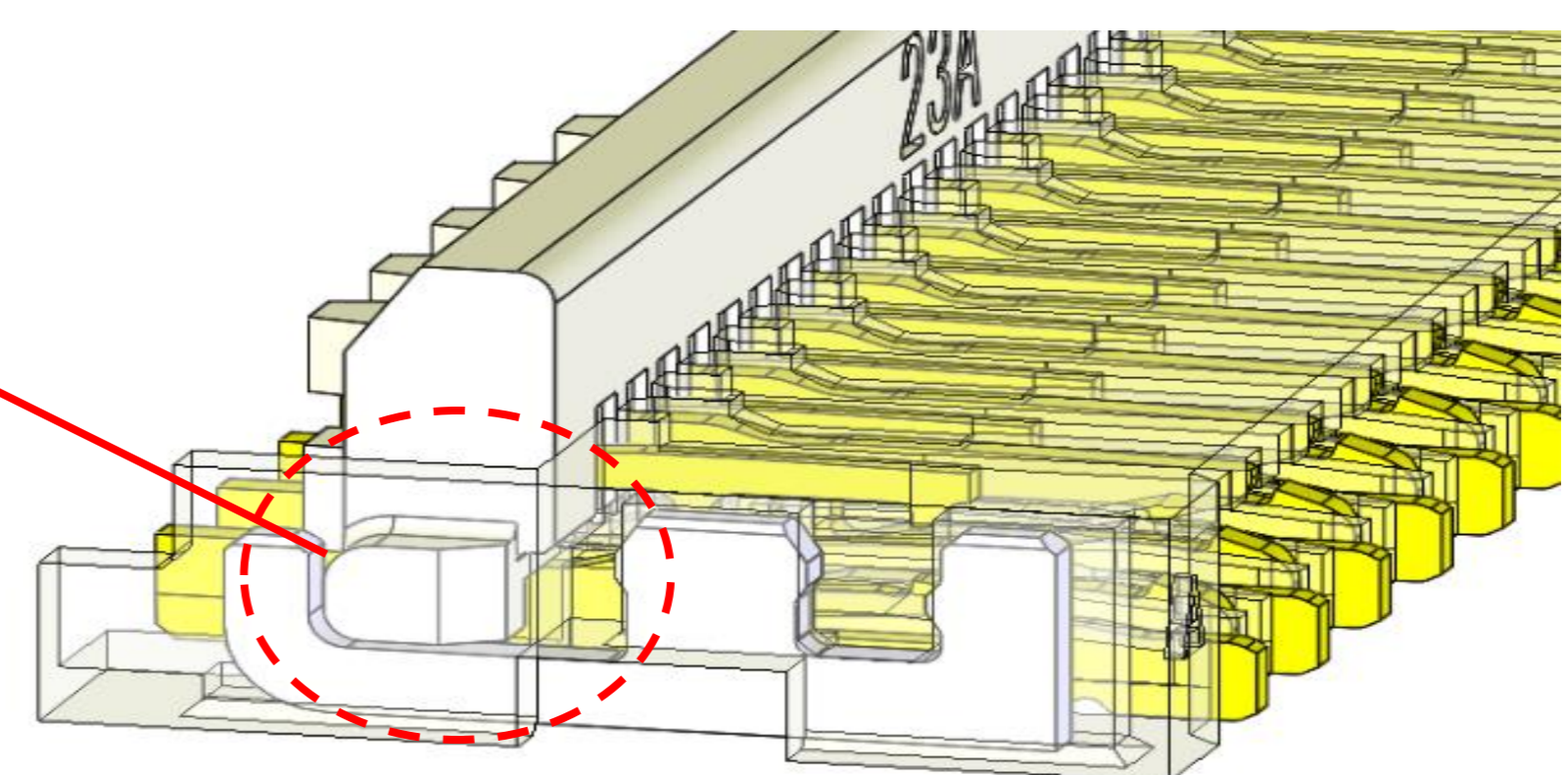


FPC 고정력 (39 p)
16.058 N

## ▶ 독자적인 홀더 형상에 의한 액추에이터의 탈락을 방지

액추에이터 홀더 부품이 액추에이터의 벗겨지는 움직임에 대해 보호 장치 역할 수행

액추에이터 박리력 (액추에이터 가장자리로부터 2mm 위치에서 액추에이터가 바깥쪽으로 당김.)
8.35 N





# Component Parts Details

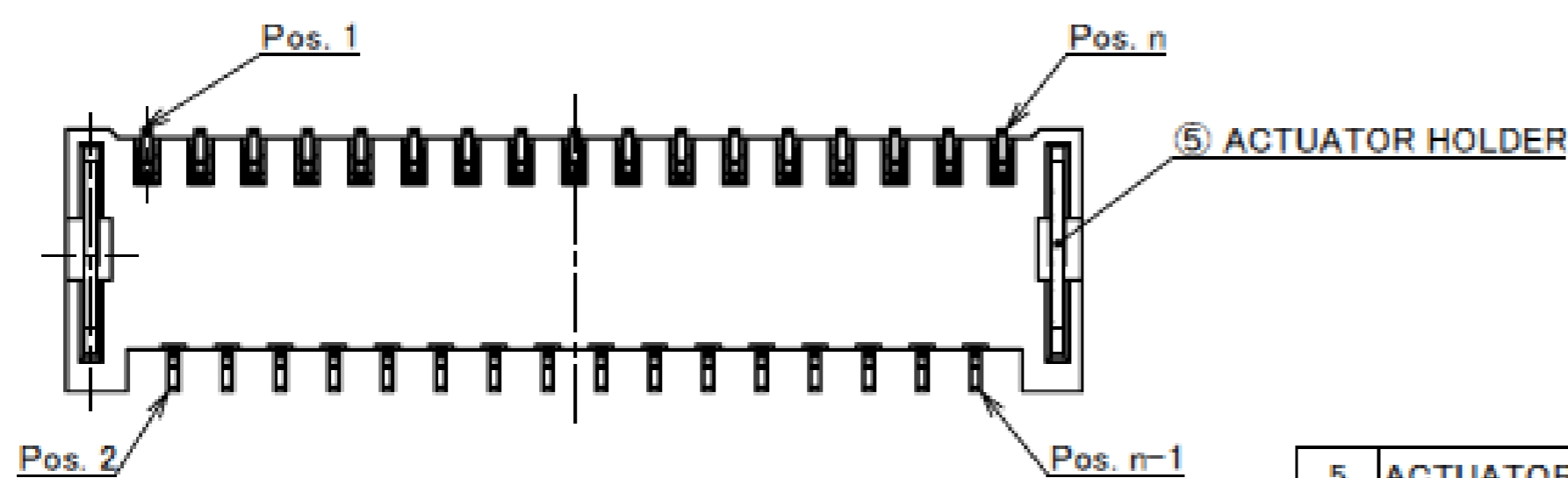
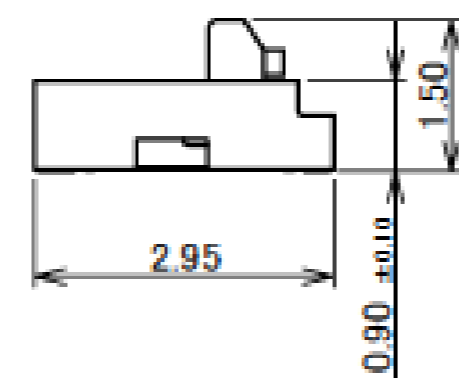
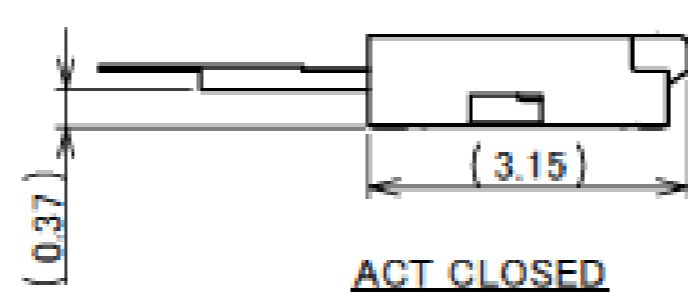
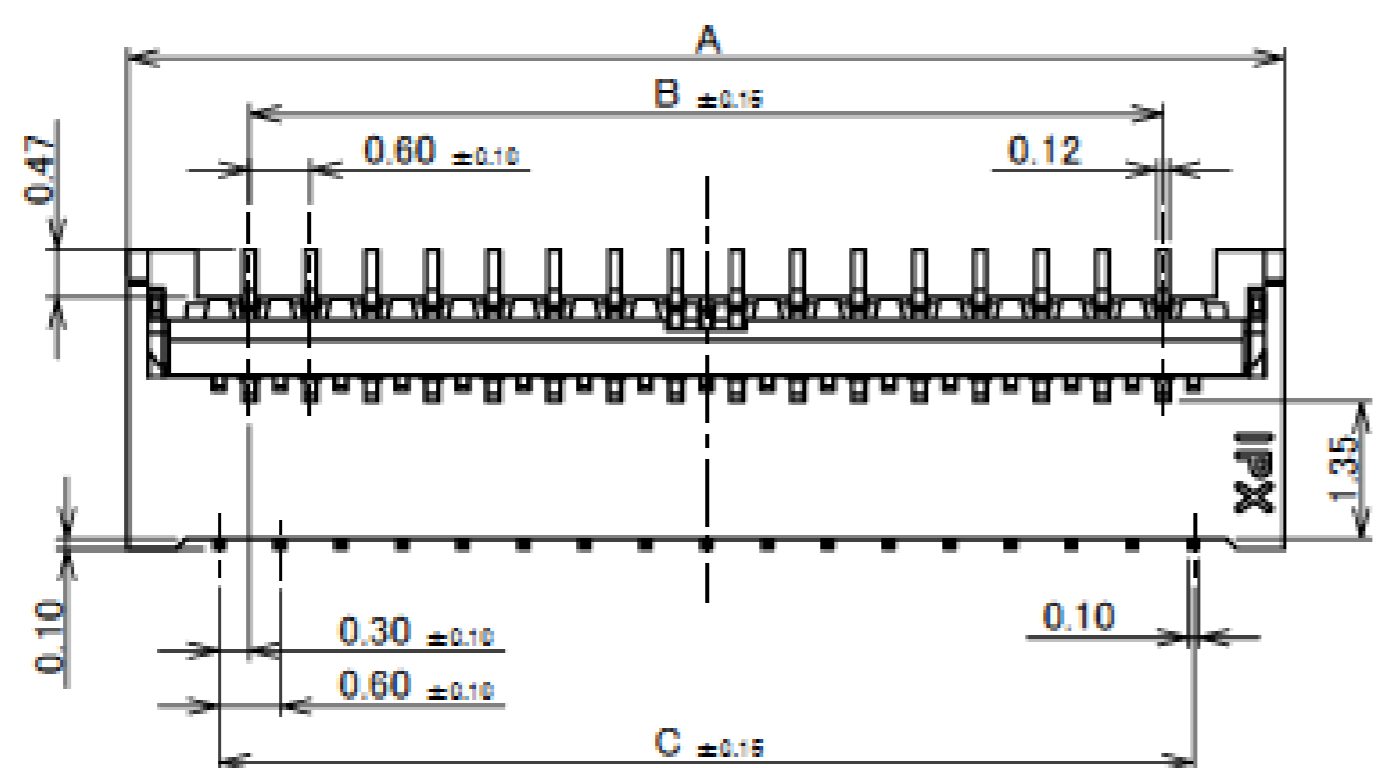
## Connector Assembly

Recommended P/N 20613-0\*\*E-02

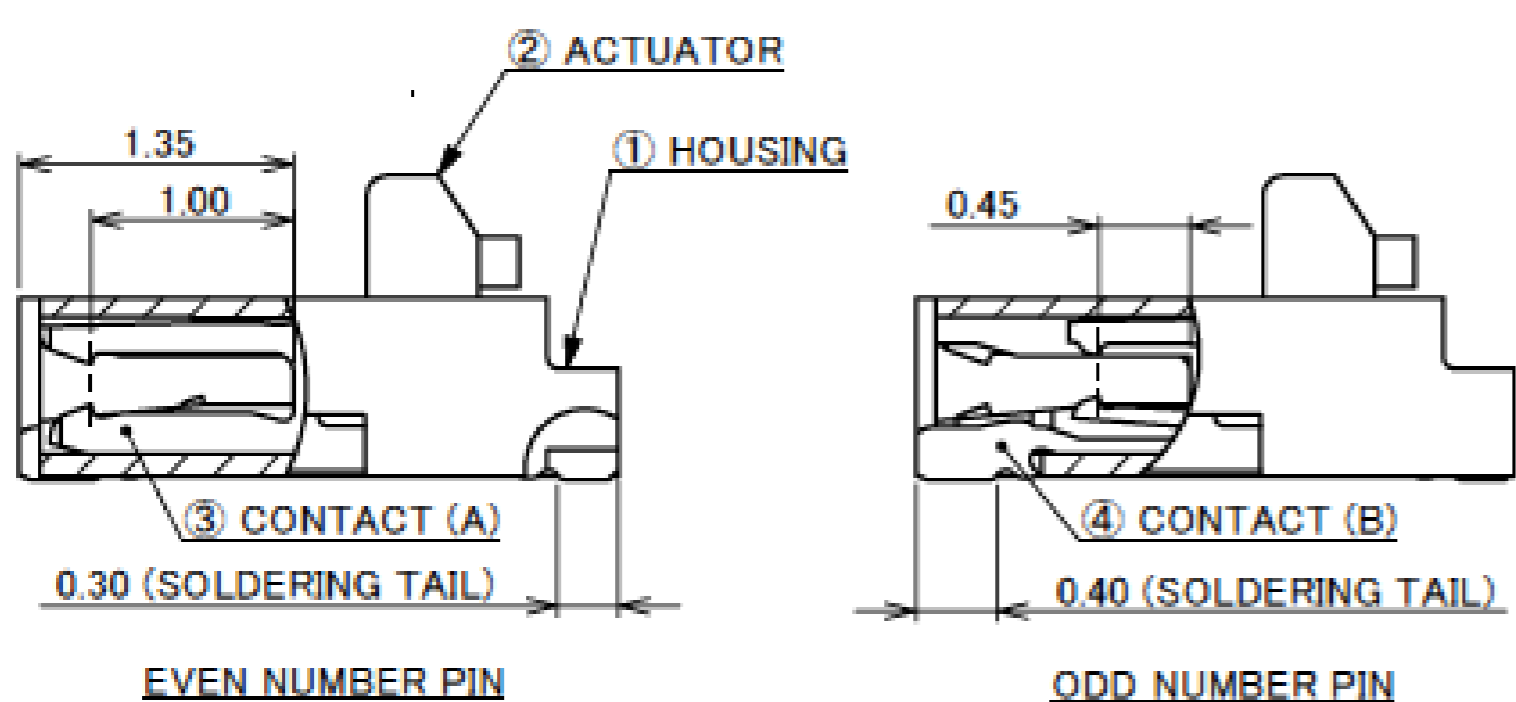


PART No.	Pos.	A	B	C	D	E
20613-007E-02	7P	3.60	1.20	1.80	2.45	2.80
20613-009E-02	9P	4.20	1.80	2.40	3.05	3.40
20613-011E-02	11P	4.80	2.40	3.00	3.65	4.00
◆20613-013E-02	13P	5.40	3.00	3.60	4.25	4.60
◆20613-015E-02	15P	6.00	3.60	4.20	4.85	5.20
◆20613-017E-02	17P	6.60	4.20	4.80	5.45	5.80
◆20613-019E-02	19P	7.20	4.80	5.40	6.05	6.40
20613-021E-02	21P	7.80	5.40	6.00	6.65	7.00
20613-023E-02	23P	8.40	6.00	6.60	7.25	7.60
20613-025E-02	25P	9.00	6.60	7.20	7.85	8.20
◆20613-027E-02	27P	9.60	7.20	7.80	8.45	8.80
◆20613-029E-02	29P	10.20	7.80	8.40	9.05	9.40
20613-031E-02	31P	10.80	8.40	9.00	9.65	10.00
20613-033E-02	33P	11.40	9.00	9.60	10.25	10.60
20613-035E-02	35P	12.00	9.60	10.20	10.85	11.20
◆20613-037E-02	37P	12.60	10.20	10.80	11.45	11.80
20613-039E-02	39P	13.20	10.80	11.40	12.05	12.40
20613-041E-02	41P	13.80	11.40	12.00	12.65	13.00
◆20613-043E-02	43P	14.40	12.00	12.60	13.25	13.60
20613-045E-02	45P	15.00	12.60	13.20	13.85	14.20
◆20613-047E-02	47P	15.60	13.20	13.80	14.45	14.80
◆20613-049E-02	49P	16.20	13.80	14.40	15.05	15.40
◆20613-051E-02	51P	16.80	14.40	15.00	15.65	16.00
◆20613-053E-02	53P	17.40	15.00	15.60	16.25	16.60
◆20613-055E-02	55P	18.00	15.60	16.20	16.85	17.20
◆20613-057E-02	57P	18.60	16.20	16.80	17.45	17.80
◆20613-059E-02	59P	19.20	16.80	17.40	18.05	18.40
◆20613-061E-02	61P	19.80	17.40	18.00	18.65	19.00
◆20613-071E-02	71P	22.80	20.40	21.00	21.65	22.00

◆MARK MEANS NOT AVAILABLE.

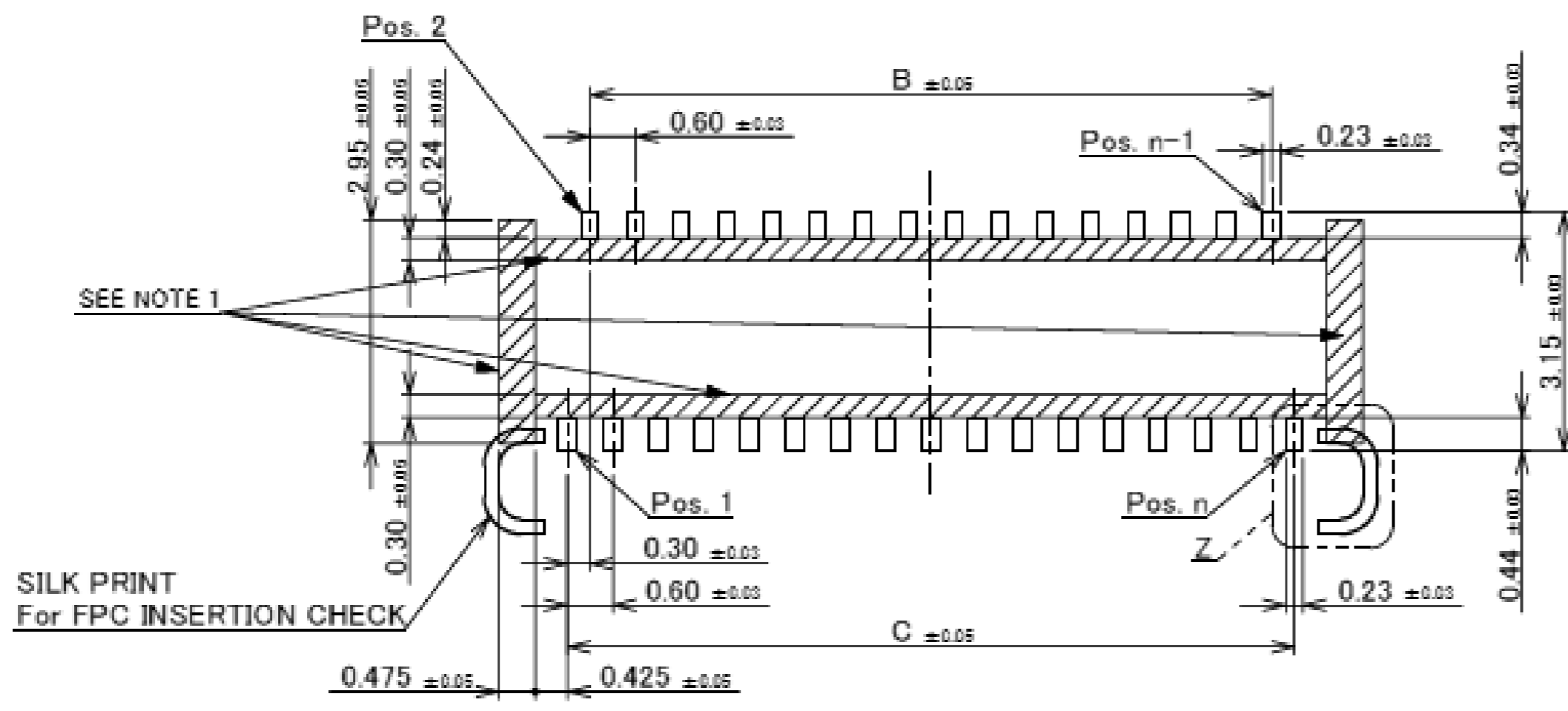


NOTE  
1. CONTACT POINT: TOP AND BOTTOM CONTACT

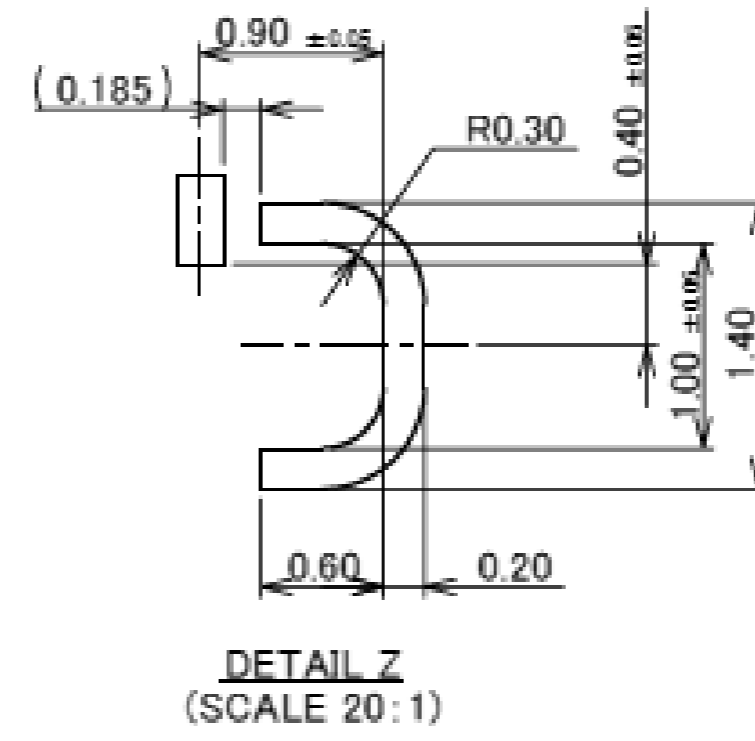


NO.	DISCRIPTION	MATERIAL	REMARKS
5	ACTUATOR HOLDER	NICKEL SILVER	
4	CONTACT(B)	PHOSPHOR BRONZE	CONTACT AREA : Au 0.1 μm MIN. OVER Ni 1.0 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.0 μm MIN.
3	CONTACT(A)	PHOSPHOR BRONZE	CONTACT AREA : Au 0.1 μm MIN. OVER Ni 1.0 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.0 μm MIN.
2	ACTUATOR	LCP	UL94V-0, BEIGE
1	HOUSING	LCP	UL94V-0, BEIGE

# Connector Assembly

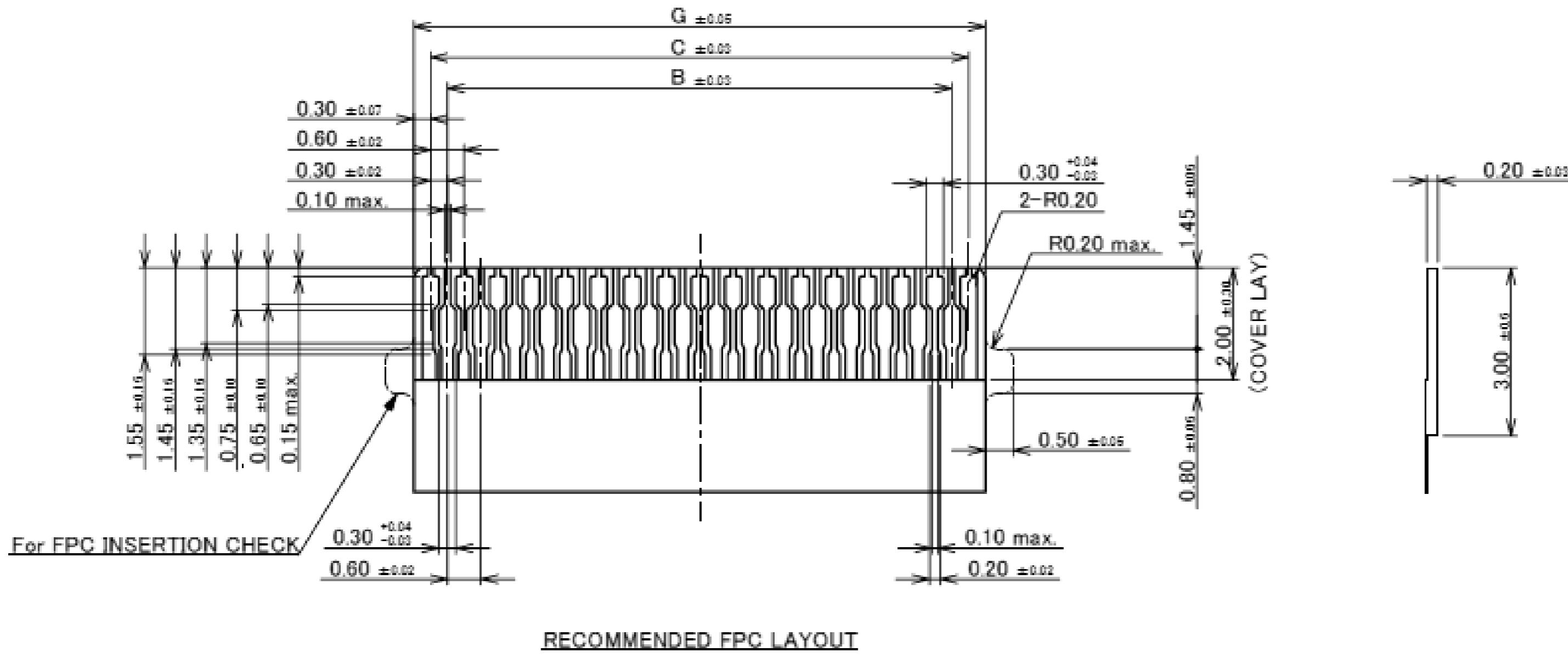


RECOMMENDED FOOTPRINT PATTERN & METAL MASK LAYOUT  
METAL MASK THICKNESS : t=0.12mm



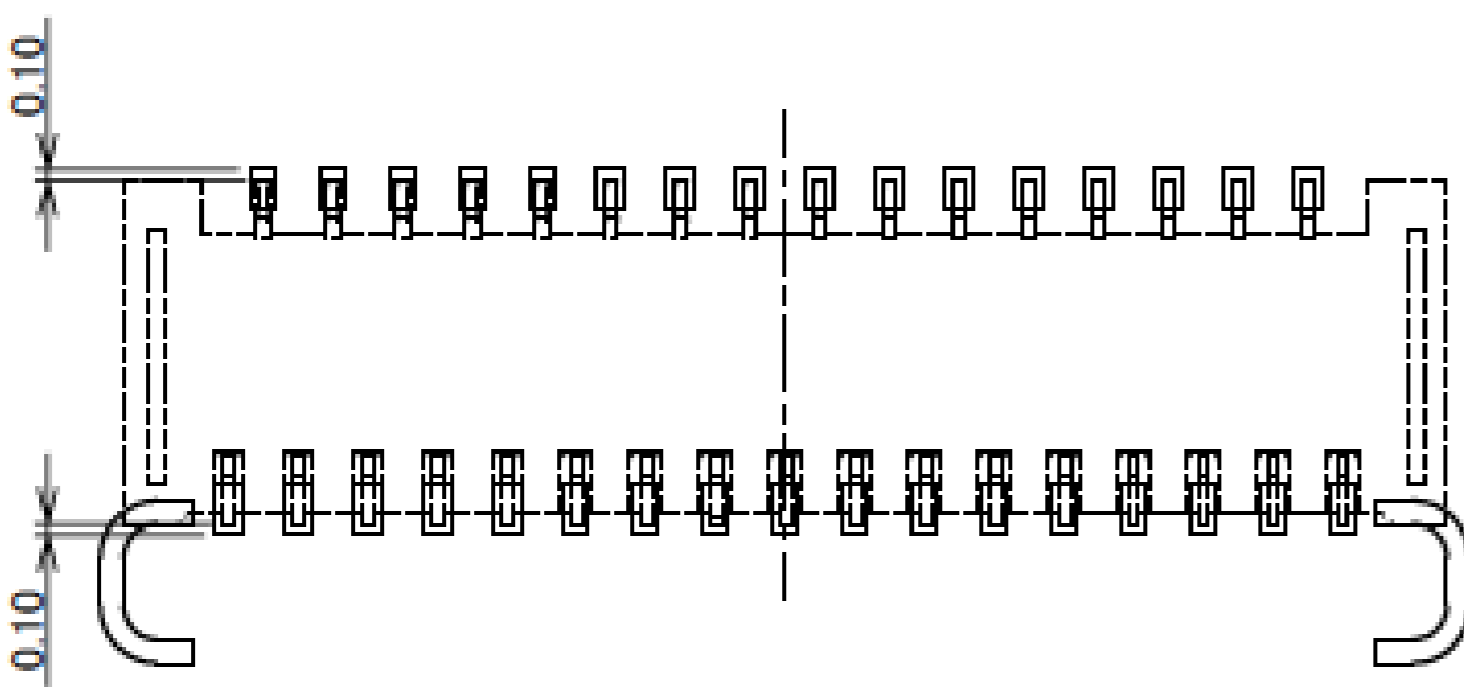
PART No.	Pos.	B	C	G
20613-007E-02	7P	1.20	1.80	2.40
20613-009E-02	9P	1.80	2.40	3.00
20613-011E-02	11P	2.40	3.00	3.60
◆20613-013E-02	13P	3.00	3.60	4.20
◆20613-015E-02	15P	3.60	4.20	4.80
◆20613-017E-02	17P	4.20	4.80	5.40
◆20613-019E-02	19P	4.80	5.40	6.00
◆20613-021E-02	21P	5.40	6.00	6.60
20613-023E-02	23P	6.00	6.60	7.20
20613-025E-02	25P	6.60	7.20	7.80
◆20613-027E-02	27P	7.20	7.80	8.40
◆20613-029E-02	29P	7.80	8.40	9.00
20613-031E-02	31P	8.40	9.00	9.60
20613-033E-02	33P	9.00	9.60	10.20
20613-035E-02	35P	9.60	10.20	10.80
◆20613-037E-02	37P	10.20	10.80	11.40
20613-039E-02	39P	10.80	11.40	12.00
20613-041E-02	41P	11.40	12.00	12.60
◆20613-043E-02	43P	12.00	12.60	13.20
20613-045E-02	45P	12.60	13.20	13.80
◆20613-047E-02	47P	13.20	13.80	14.40
◆20613-049E-02	49P	13.80	14.40	15.00
◆20613-051E-02	51P	14.40	15.00	15.60
◆20613-053E-02	53P	15.00	15.60	16.20
◆20613-055E-02	55P	15.60	16.20	16.80
◆20613-057E-02	57P	16.20	16.80	17.40
◆20613-059E-02	59P	16.80	17.40	18.00
◆20613-061E-02	61P	17.40	18.00	18.60
◆20613-071E-02	71P	20.40	21.00	21.60

◆MARK MEANS NOT AVAILABLE

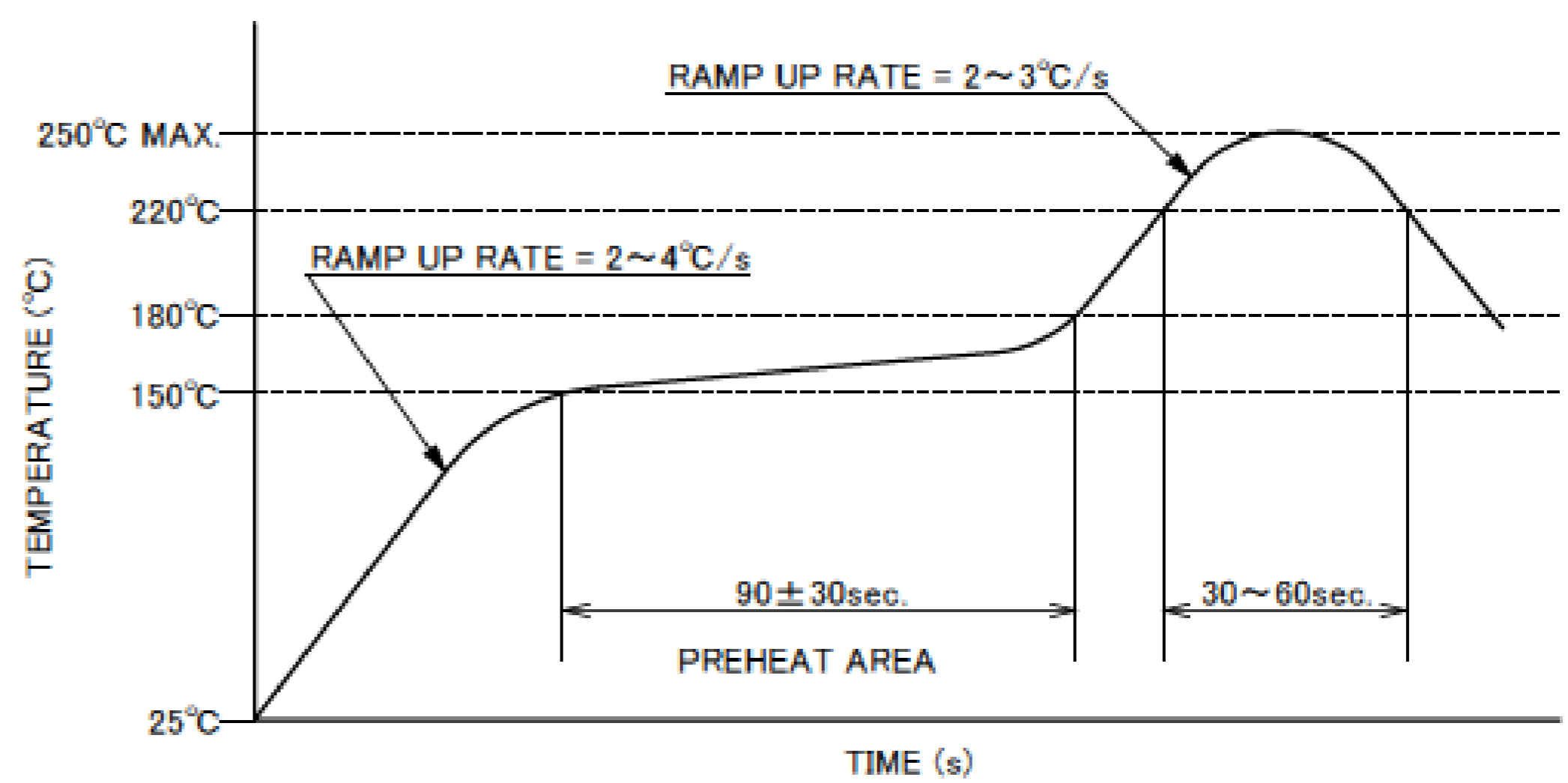


RECOMMENDED FPC LAYOUT

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



CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN



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

# Connector Assembly

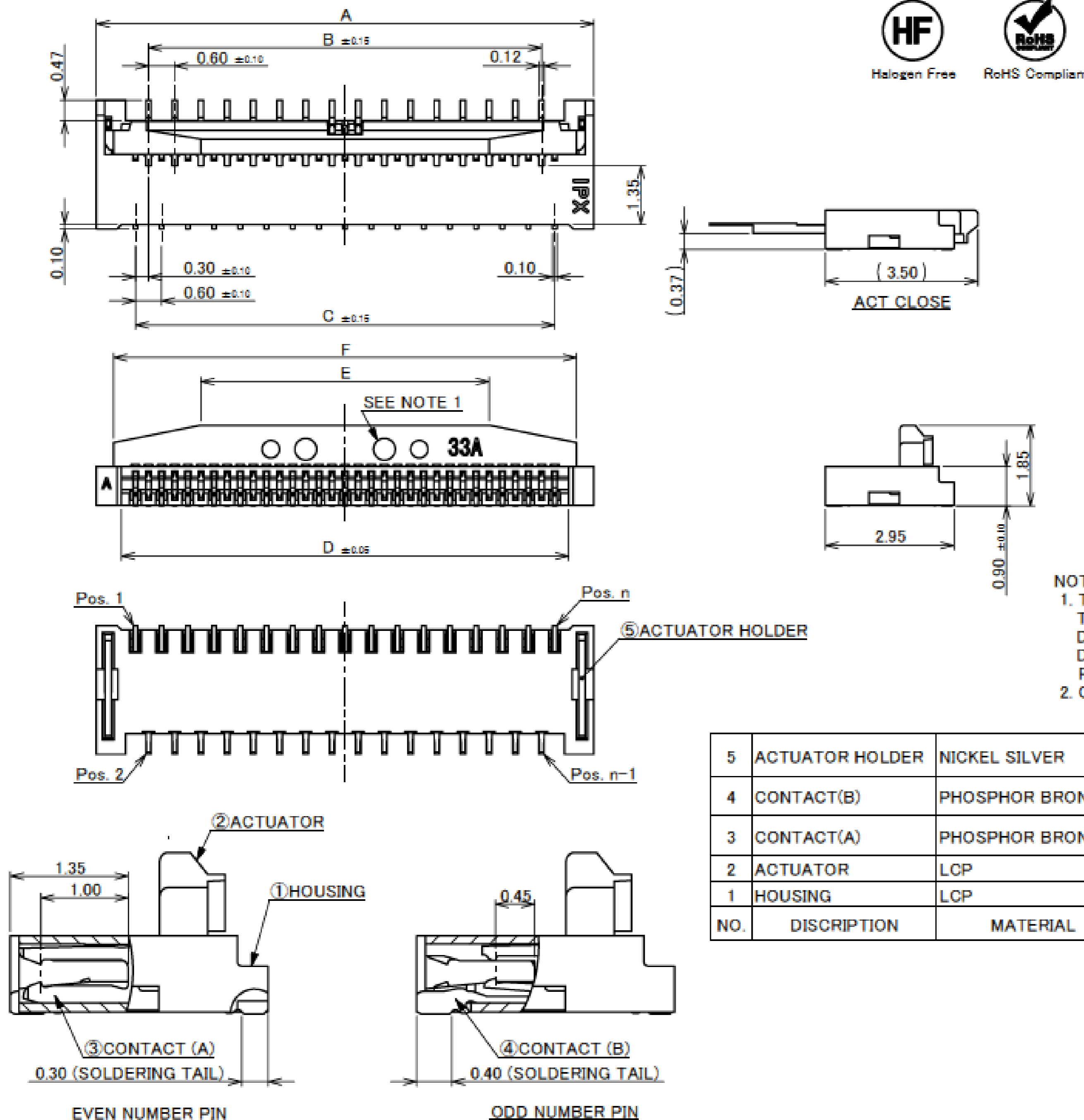
ITEMS	SPECIFICATION
RATING VOLTAGE	50V AC/DC (PER CONTACT PIN)
RATING AMPERAGE	0.3A DC (PER CONTACT PIN)
OPERATING TEMPERATURE	233~358K(-40°C~+85°C)
OPERATING HUMIDITY	85% MAX.(NON-CONDENSING)
CONTACT RESISTANCE	INITIAL : 60mohm MAX. / AFTER TEST : $\triangle$ 40mohm MAX.
INSULATION RESISTANCE	100Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	20TH CYCLES
ACTUATOR LOCKING FORCE (INITIAL / 20TH CYCLES)	INITIAL : 0.35N(31gf) $\times$ n MAX. / 20TH CYCLES : 0.35N(31gf) $\times$ n MAX.
ACTUATOR UNLOCKING FORCE (INITIAL / 20TH CYCLES)	INITIAL : 0.02N(2gf) $\times$ n MIN. / 20TH CYCLES : 0.02N(2gf) $\times$ n MIN.
FPC RETENTION FORCE (INITIAL / AFTER TEST)	INITIAL : 0.13N(13gf) $\times$ n MIN. / AFTER TEST : 0.10N(10gf) $\times$ n MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-1846
TEST REPORT	TR-13104
PACKING STANDARD	PST-13054
INSTRUCTION MANUAL	HIM-14004
APPEARANCE CRITERIA No.	QLS-A***

※ "n" IS THE NUMBER OF PIN

**CAUTION** PLEASE BE SURE TO READ AND UNDERSTAND "INSTRUCTION MANUAL" BEFORE YOU USE OUR PRODUCTS.

Rev.16

Recommended P/N 20605-0\*\*E-02



**HF** Halogen Free  
**RoHS** RoHS Compliant

PART No.	Pos.	A	B	C	D	E	F
◆20605-033E-02	33P	11.40	9.00	9.60	10.25	6.25	10.60
◆20605-035E-02	35P	12.00	9.60	10.20	10.85	6.85	11.20
◆20605-037E-02	37P	12.60	10.20	10.80	11.45	7.45	11.80
◆20605-039E-02	39P	13.20	10.80	11.40	12.05	8.05	12.40
◆20605-041E-02	41P	13.80	11.40	12.00	12.65	8.65	13.00
◆20605-043E-02	43P	14.40	12.00	12.60	13.25	9.25	13.60
◆20605-045E-02	45P	15.00	12.60	13.20	13.85	9.85	14.20
◆20605-047E-02	47P	15.60	13.20	13.80	14.45	10.45	14.80
◆20605-049E-02	49P	16.20	13.80	14.40	15.05	11.05	15.40
◆20605-051E-02	51P	16.80	14.40	15.00	15.65	11.65	16.00
◆20605-053E-02	53P	17.40	15.00	15.60	16.25	12.25	16.60
◆20605-055E-02	55P	18.00	15.60	16.20	16.85	12.85	17.20
◆20605-057E-02	57P	18.60	16.20	16.80	17.45	13.45	17.80
◆20605-059E-02	59P	19.20	16.80	17.40	18.05	14.05	18.40
◆20605-061E-02	61P	19.80	17.40	18.00	18.65	14.65	19.00
◆20605-071E-02	71P	22.80	20.40	21.00	21.65	17.65	22.00

◆ MARK MEANS NOT AVAILABLE

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

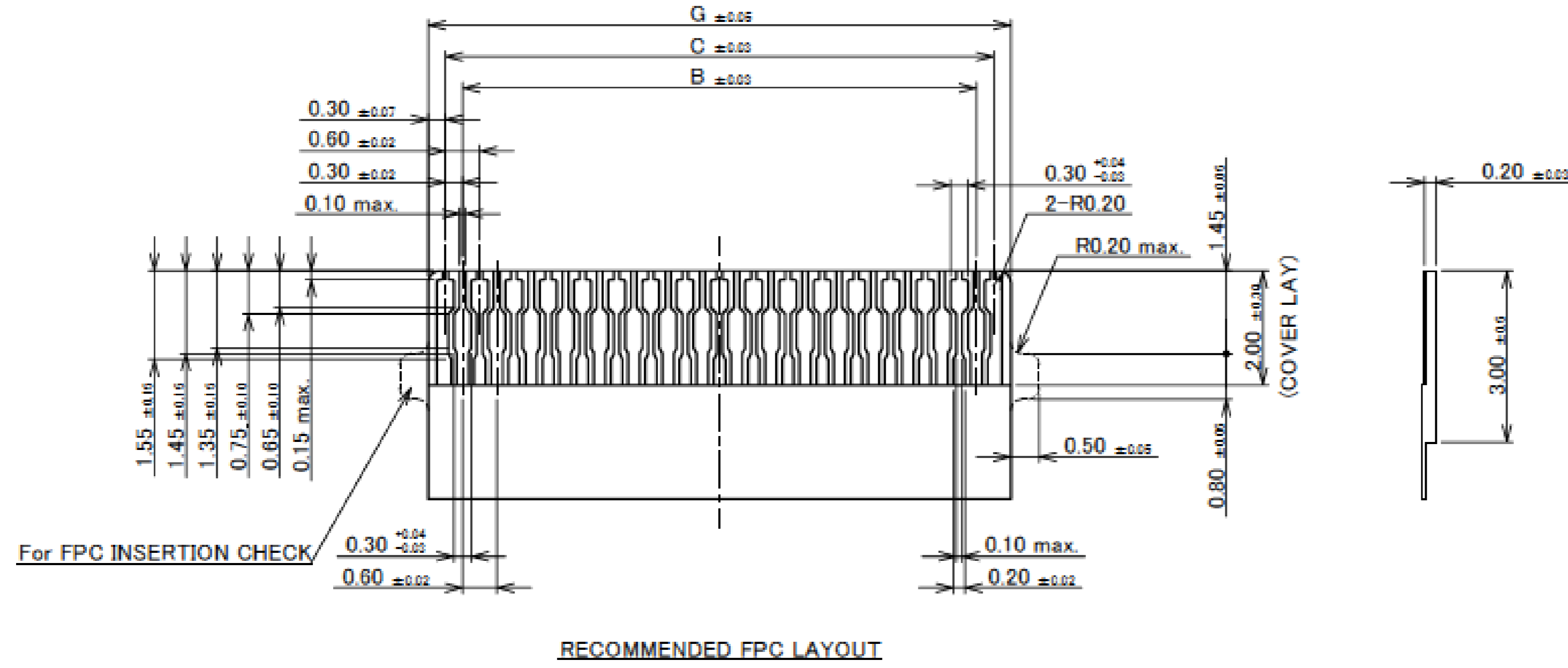
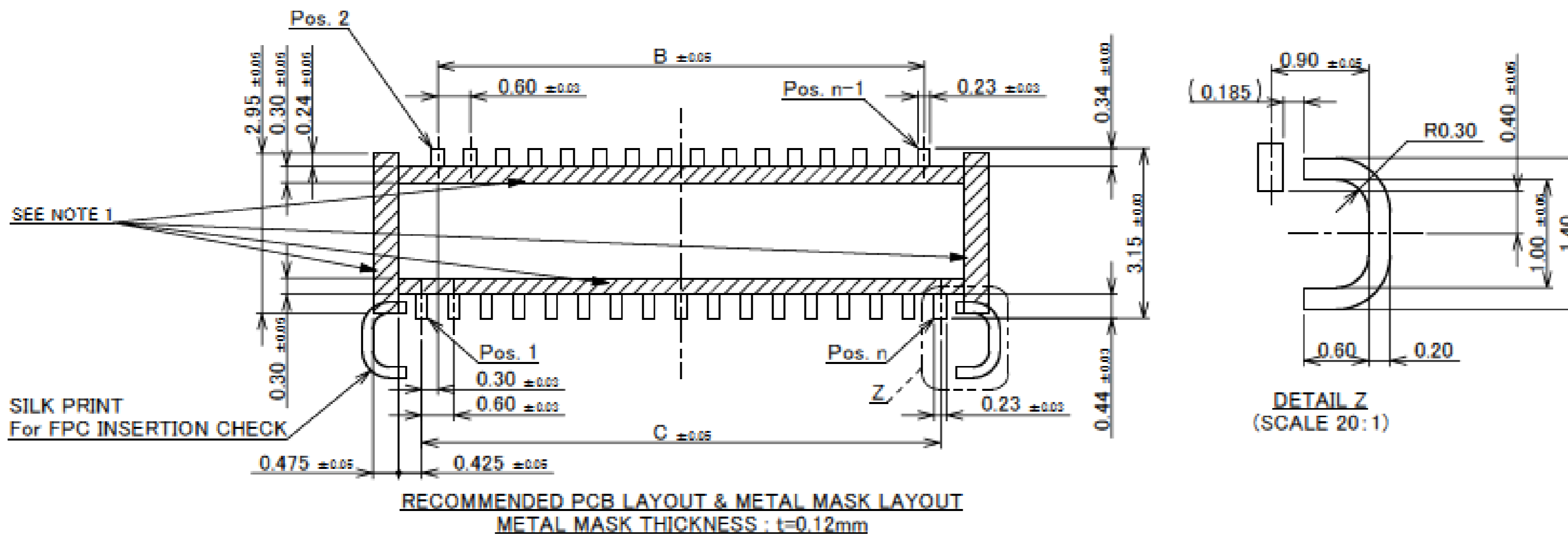
NO.	DISCRIPTION	MATERIAL	REMARKS
5	ACTUATOR HOLDER	NICKEL SILVER	
4	CONTACT(B)	PHOSPHOR BRONZE	CONTACT AREA : Au 0.1 $\mu$ m MIN. OVER Ni 1.0 $\mu$ m MIN. SOLDERING AREA : Au 0.03 $\mu$ m MIN. OVER Ni 1.0 $\mu$ m MIN.
3	CONTACT(A)	PHOSPHOR BRONZE	CONTACT AREA : Au 0.1 $\mu$ m MIN. OVER Ni 1.0 $\mu$ m MIN. SOLDERING AREA : Au 0.03 $\mu$ m MIN. OVER Ni 1.0 $\mu$ m MIN.
2	ACTUATOR	LCP	UL94V-0, BEIGE
1	HOUSING	LCP	UL94V-0, BEIGE

Rev.11

# Connector Assembly

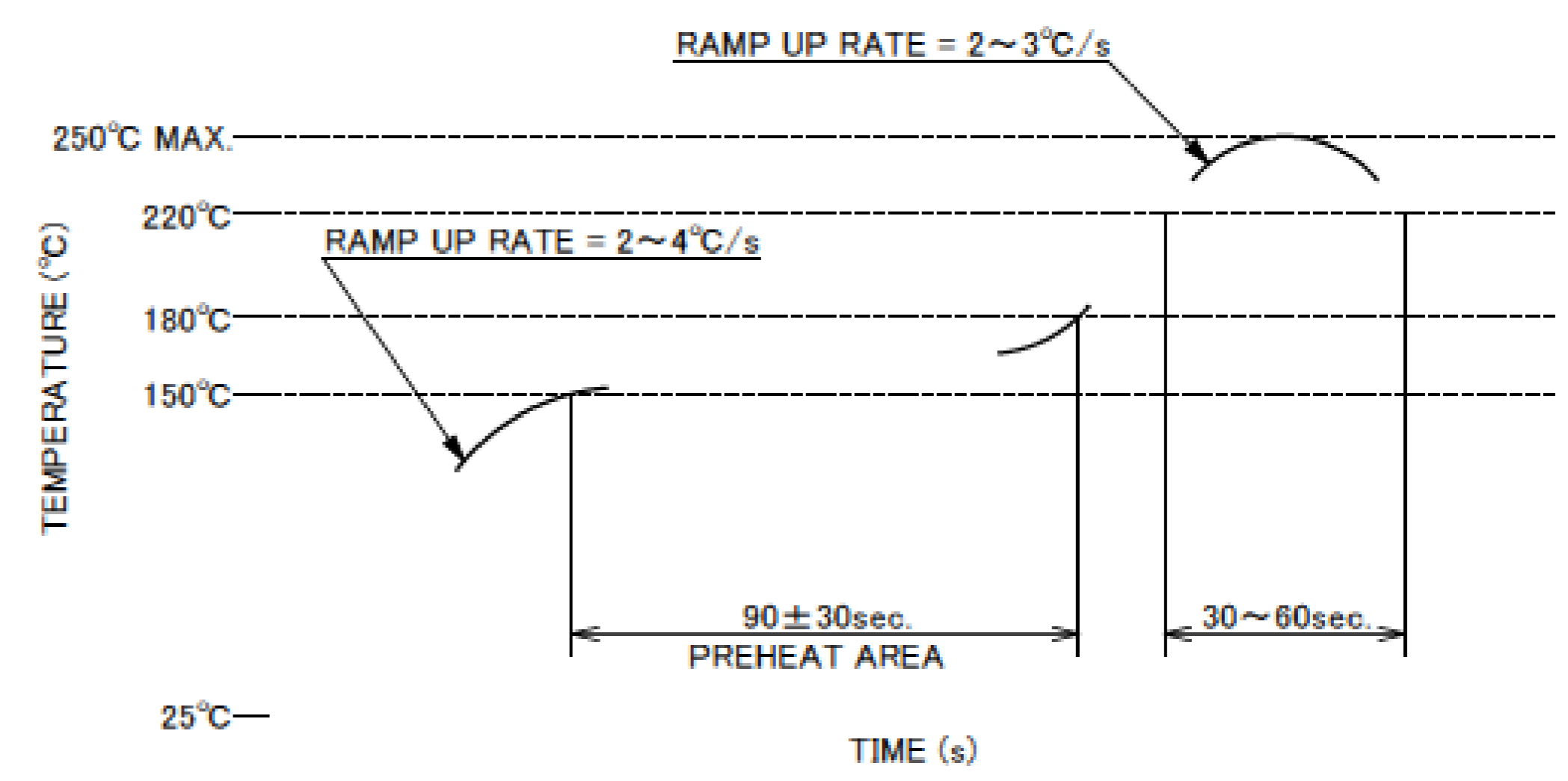
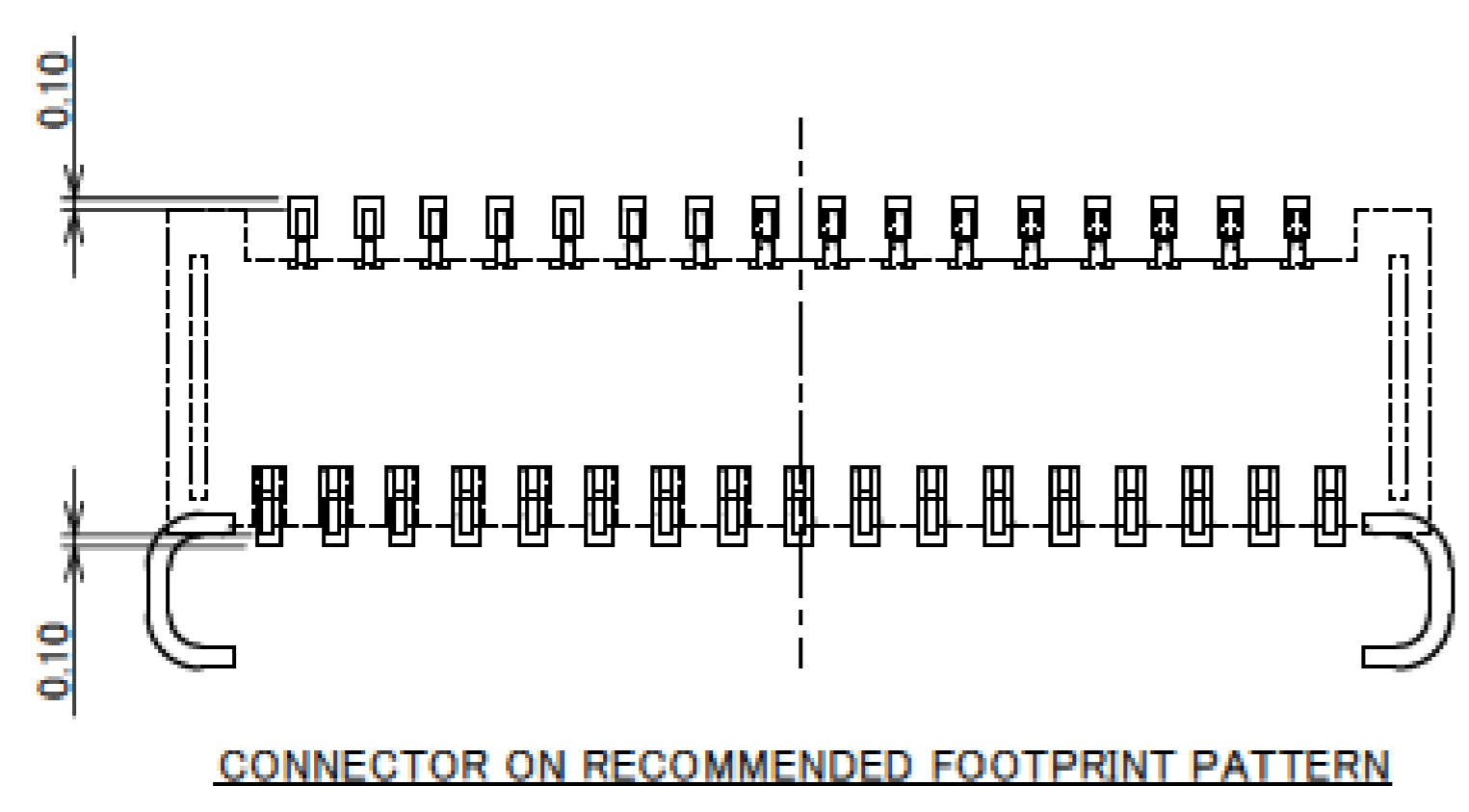
PART No.	Pos.	B	C	G
◆20605-033E-02	33P	9.00	9.60	10.20
◆20605-035E-02	35P	9.60	10.20	10.80
◆20605-037E-02	37P	10.20	10.80	11.40
◆20605-039E-02	39P	10.80	11.40	12.00
◆20605-041E-02	41P	11.40	12.00	12.60
◆20605-043E-02	43P	12.00	12.60	13.20
◆20605-045E-02	45P	12.60	13.20	13.80
◆20605-047E-02	47P	13.20	13.80	14.40
◆20605-049E-02	49P	13.80	14.40	15.00
◆20605-051E-02	51P	14.40	15.00	15.60
◆20605-053E-02	53P	15.00	15.60	16.20
◆20605-055E-02	55P	15.60	16.20	16.80
◆20605-057E-02	57P	16.20	16.80	17.40
◆20605-059E-02	59P	16.80	17.40	18.00
◆20605-061E-02	61P	17.40	18.00	18.60
◆20605-071E-02	71P	20.40	21.00	21.60

◆ MARK MEANS NOT AVAILABLE



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

Rev.11



# Connector Assembly

ITEMS	SPECIFICATION
RATING VOLTAGE	50V AC/DC (PER CONTACT PIN)
RATING AMPERAGE	0.3A DC (PER CONTACT PIN)
OPERATING TEMPERATURE	233~358K(-40°C~+85°C)
OPERATING HUMIDITY	85% MAX.(NON-CONDENSING)
CONTACT RESISTANCE	INITIAL : 60mohm MAX. / AFTER TEST : $\triangle$ 40mohm MAX.
INSULATION RESISTANCE	100Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	20TH CYCLES
ACTUATOR LOCKING FORCE (INITIAL / 20TH CYCLES)	INITIAL : 0.245N(24.5gf) $\times$ n MAX. / 20TH CYCLES : 0.245N(24.5gf) $\times$ n MAX.
ACTUATOR UNLOCKING FORCE (INITIAL / 20TH CYCLES)	INITIAL : 0.014N(1.4gf) $\times$ n MIN. / 20TH CYCLES : 0.014N(1.4gf) $\times$ n MIN.
FPC RETENTION FORCE (INITIAL / AFTER TEST)	INITIAL : 0.13N(13gf) $\times$ n MIN. / AFTER TEST : 0.10N(10gf) $\times$ n MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-1920
TEST REPORT	TR-14022
PACKING STANDARD	PST-14013
INSTRUCTION MANUAL	HIM-14004
APPEARANCE CRITERIA	QLS-A***

※ "n" IS THE NUMBER OF PIN



CAUTION

PLEASE BE SURE TO READ AND UNDERSTAND "INSTRUCTION MANUAL" BEFORE YOU USE OUR PRODUCTS.




# 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 FFC Connector

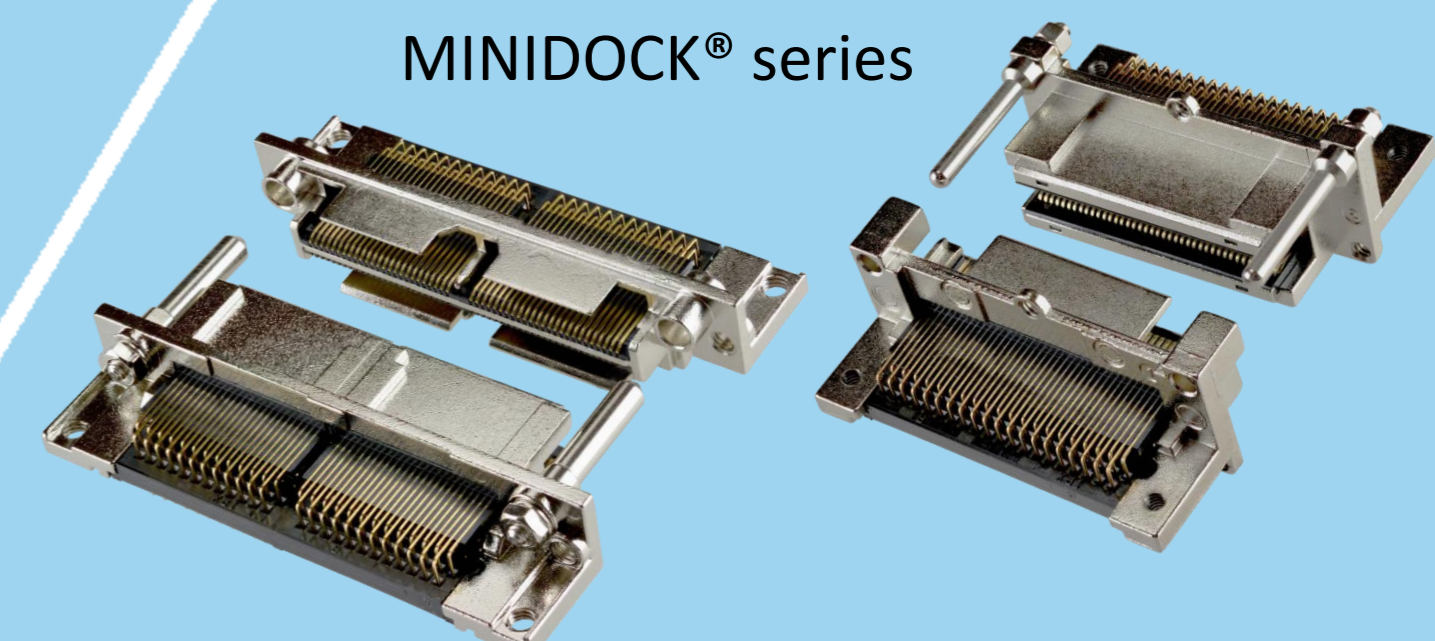


Inquiry



MINIDOCK® series

 I/O Connector



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Contact your sales representative or more detailed information.

[www.i-pex.com](http://www.i-pex.com)



# I-PEX

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