

MINIFLEX® 3-BFNH

保持力UP、他社互換性のあるフットパターン
0.3 mmピッチ、水平嵌合、バックフリップ

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	3.5
Pin counts	Range	7-71 (odd)	33-71 (odd)
	Available	7,9,11,21,23,25,31,33,35,39,41,45	51, 61, 71

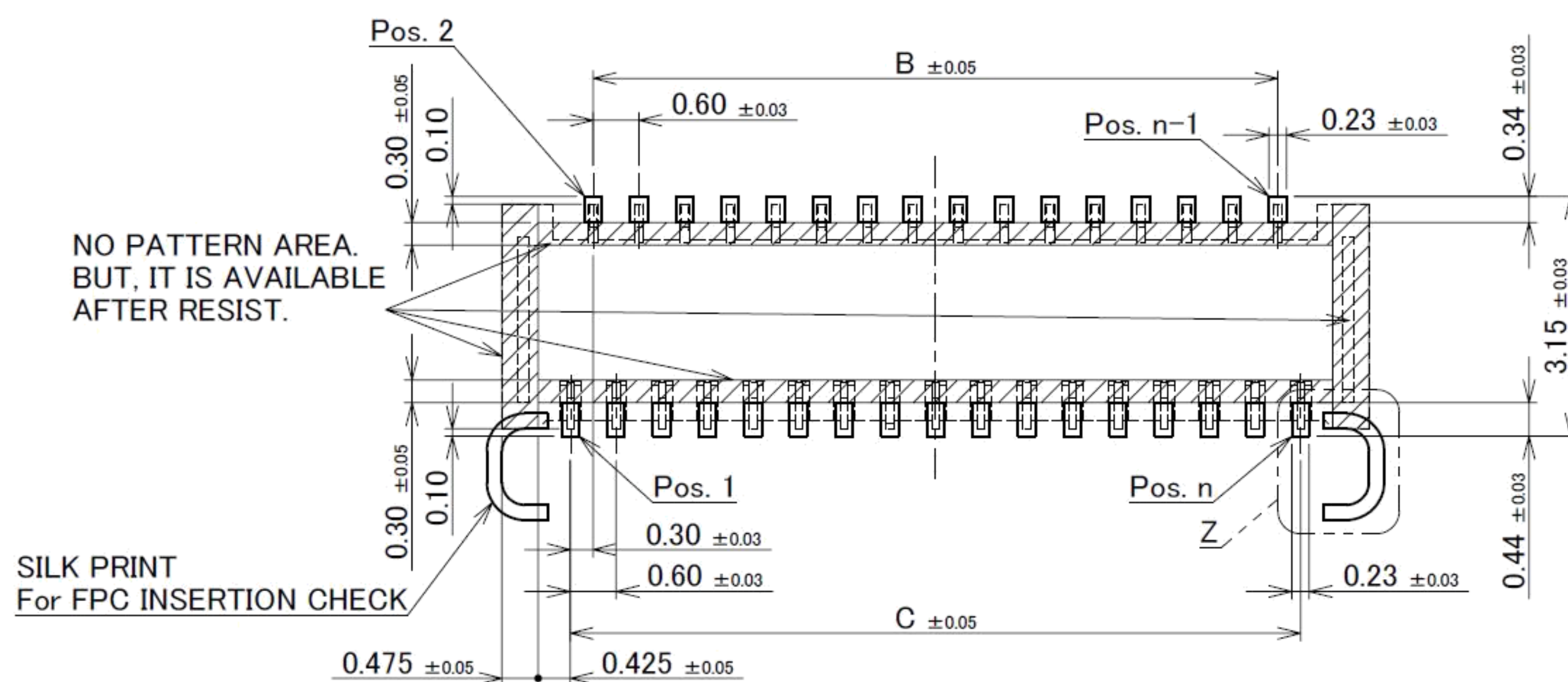
*記載のない極数の対応状況についてはお問い合わせください。

Applicable FPC/FFC:

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

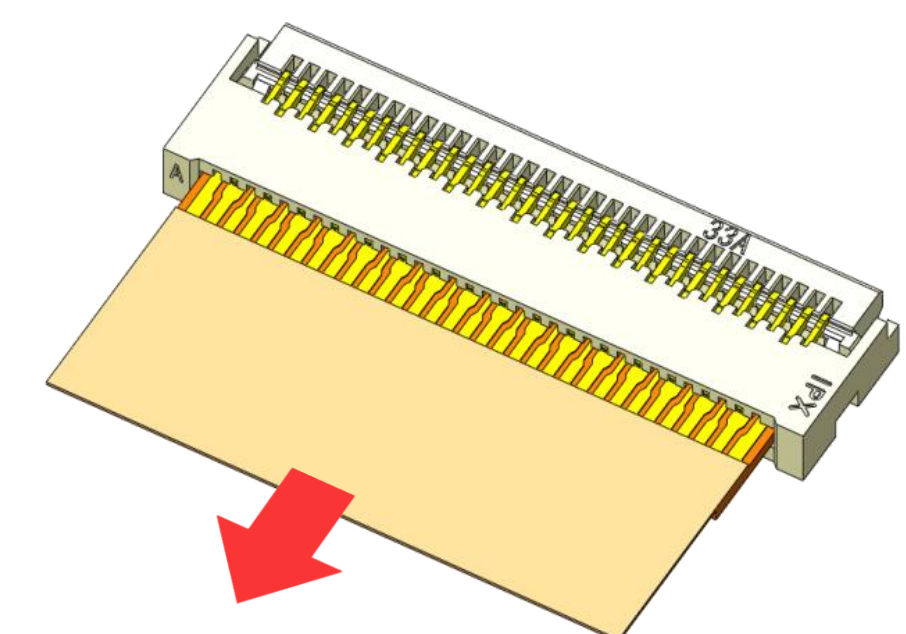
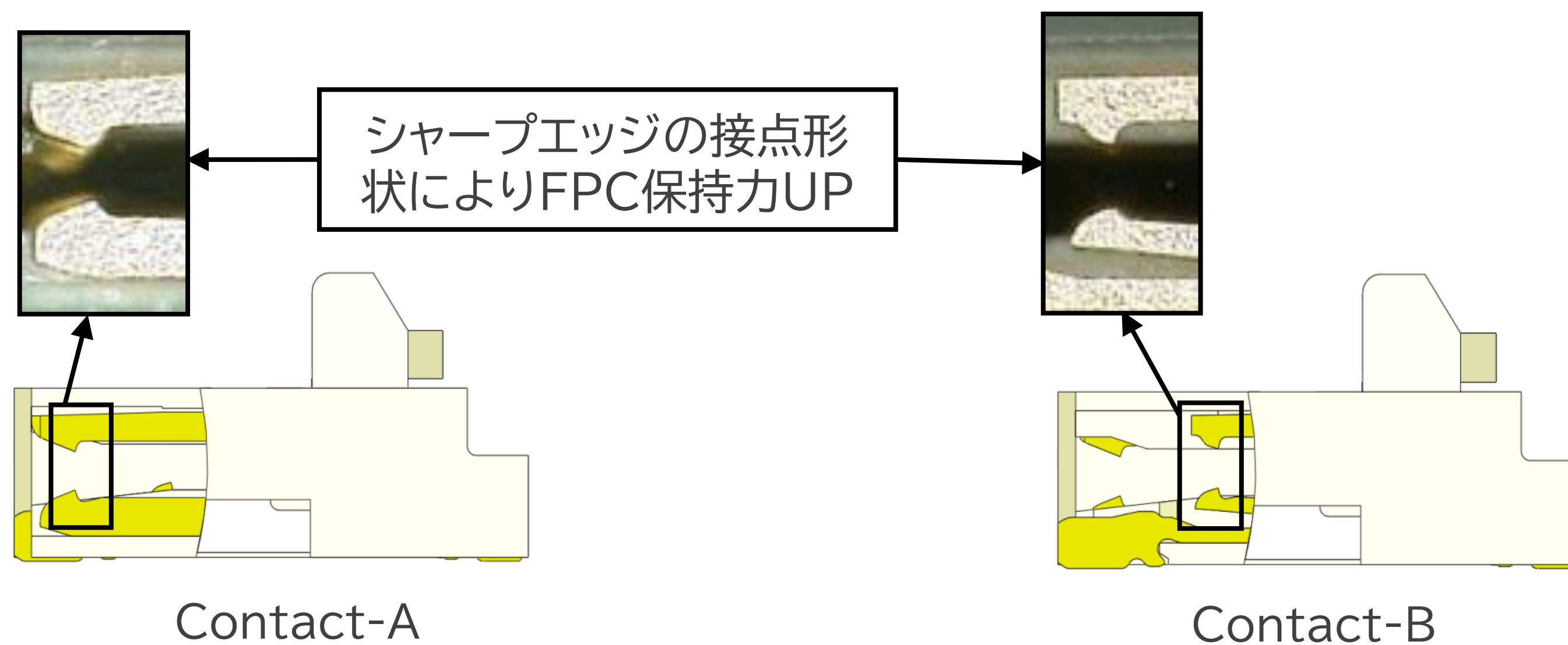


▶ 他社互換性のあるフットプリントとFPCパターン



ショートアクチュエータ			ロングアクチュエータ		
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			
25P	6.60	7.20			
31P	8.40	9.00			
33P	9.00	9.60			
35P	9.60	10.20			
39P	10.80	11.40			
41P	11.40	12.00			
45P	12.60	13.20			

▶ シャープエッジ形状による高FPC保持力



FPC 保持力 (39 p)

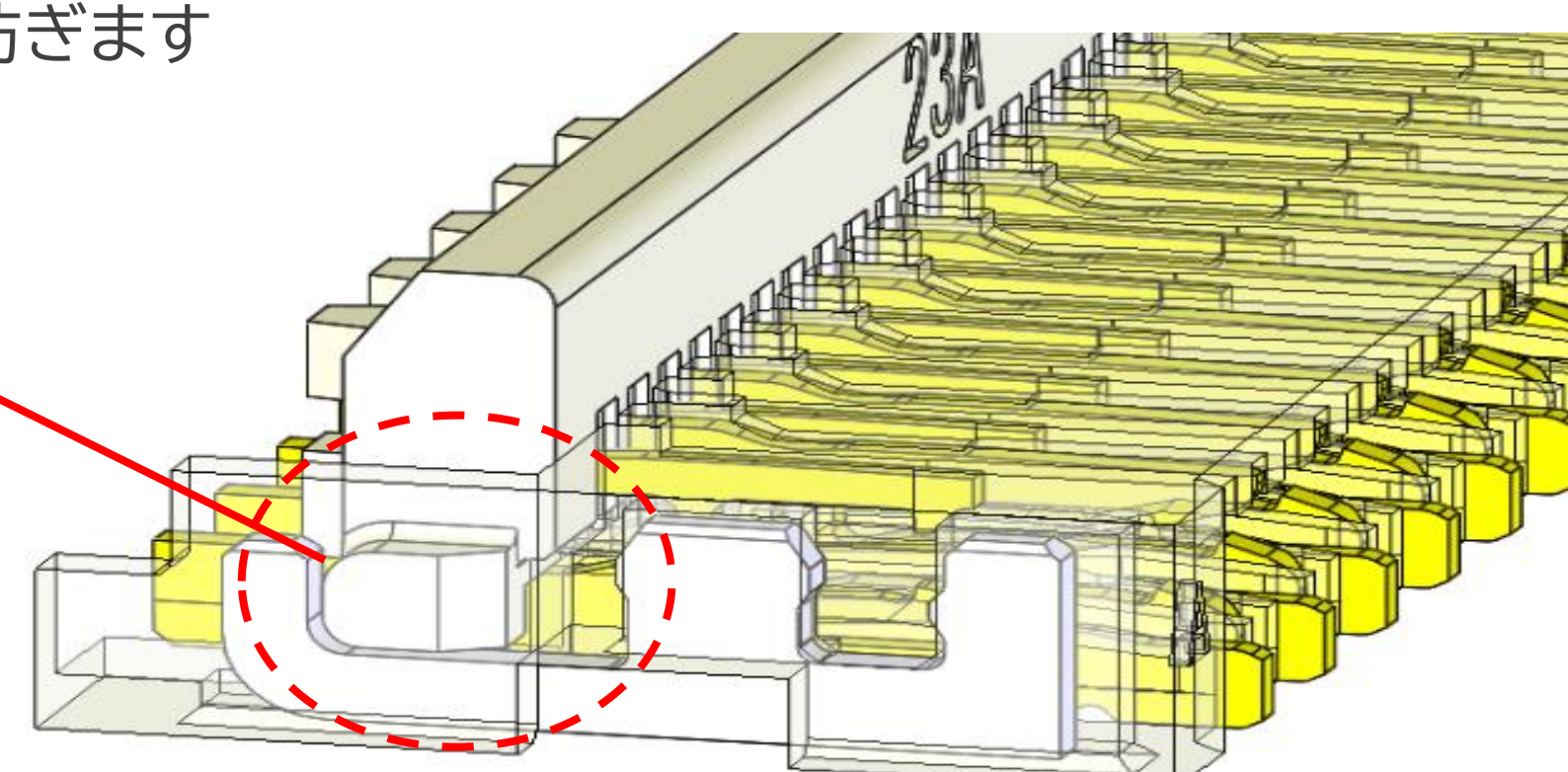
16.058 N

▶ 独自のホルダー形状によりアクチュエータの脱落を防止

アクチュエータホルダーが引き抜く力を受け止め、アクチュエータの脱落を防ぎます

アクチュエータ保持強度
(アクチュエータ端2mmの位置を後ろ向きに引っ張り測定)

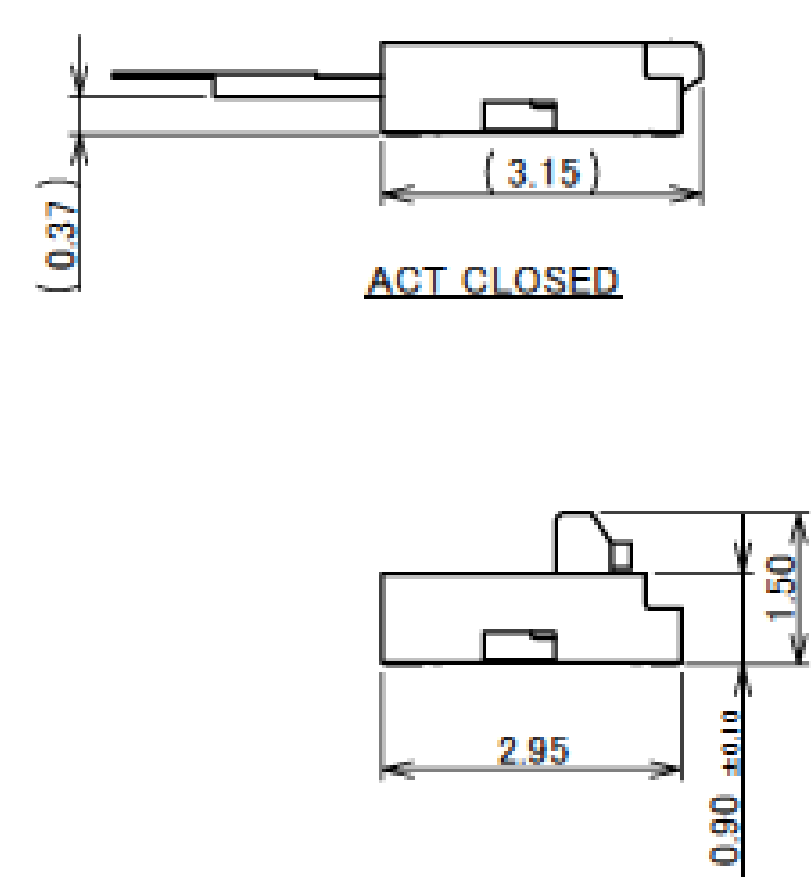
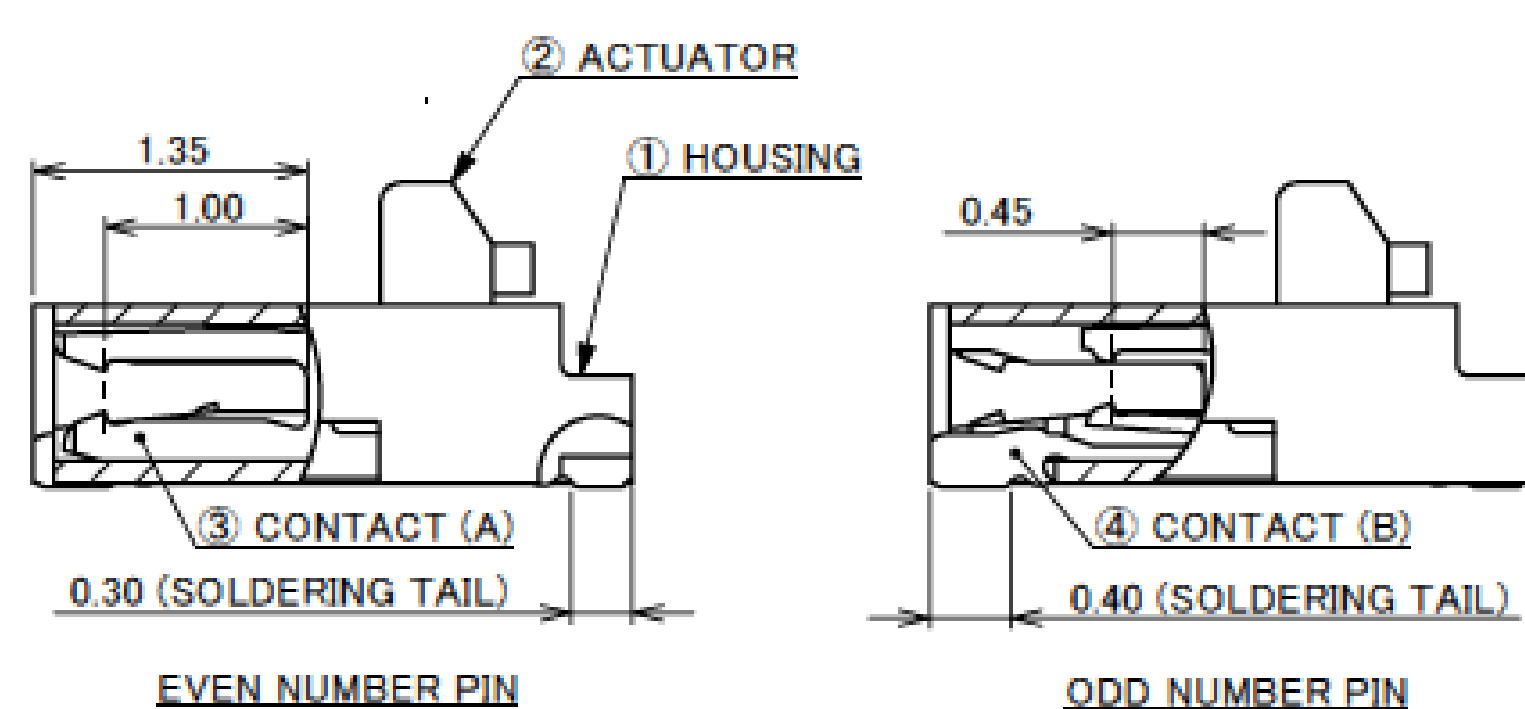
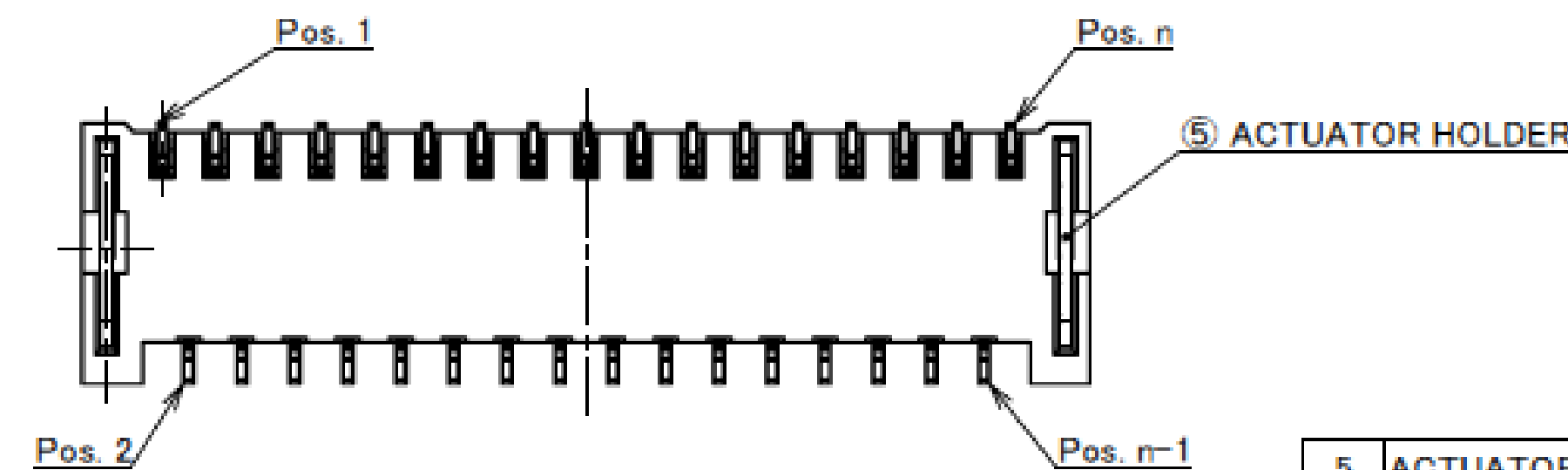
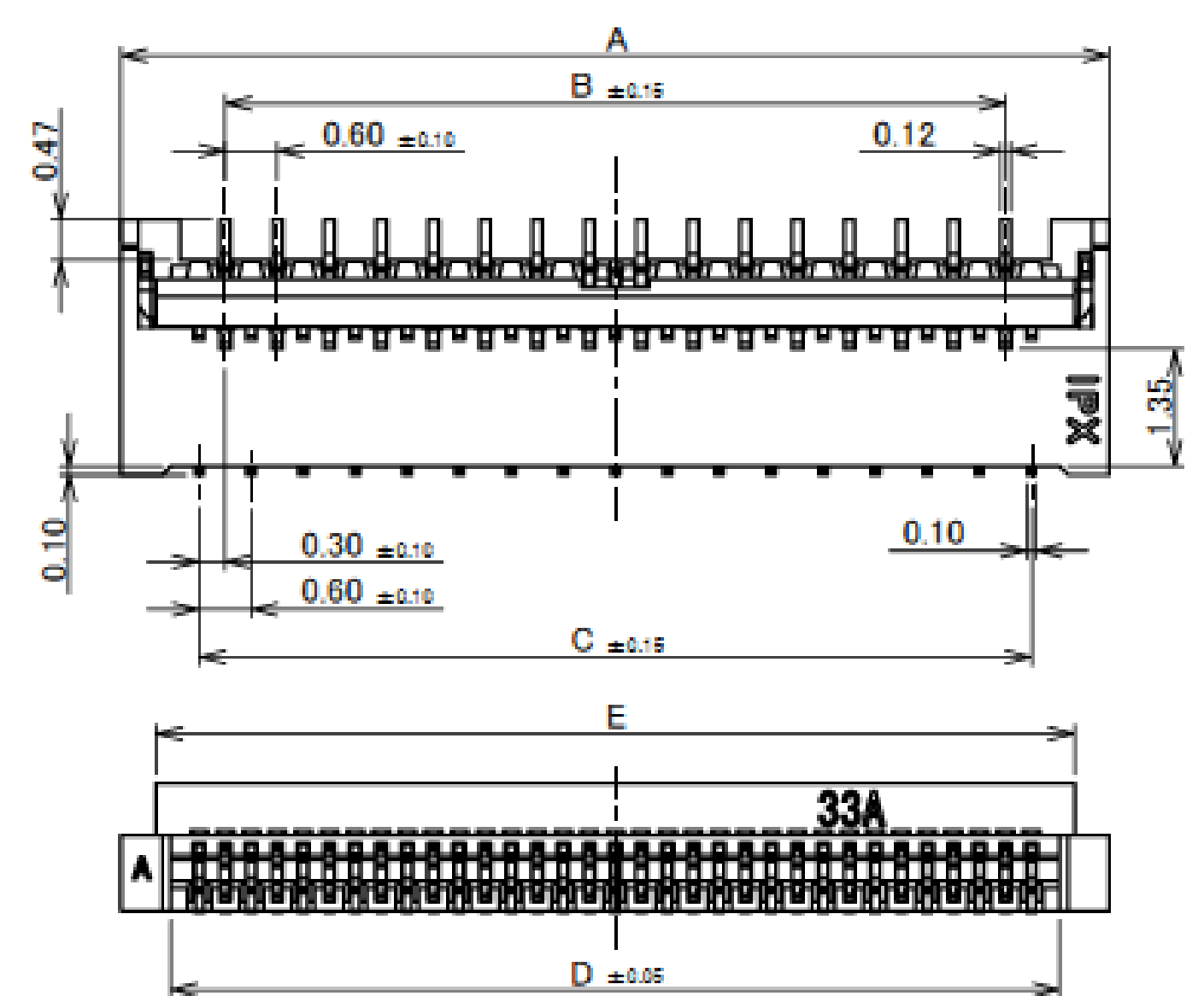
8.35 N



Component Parts Details

Connector Assembly

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



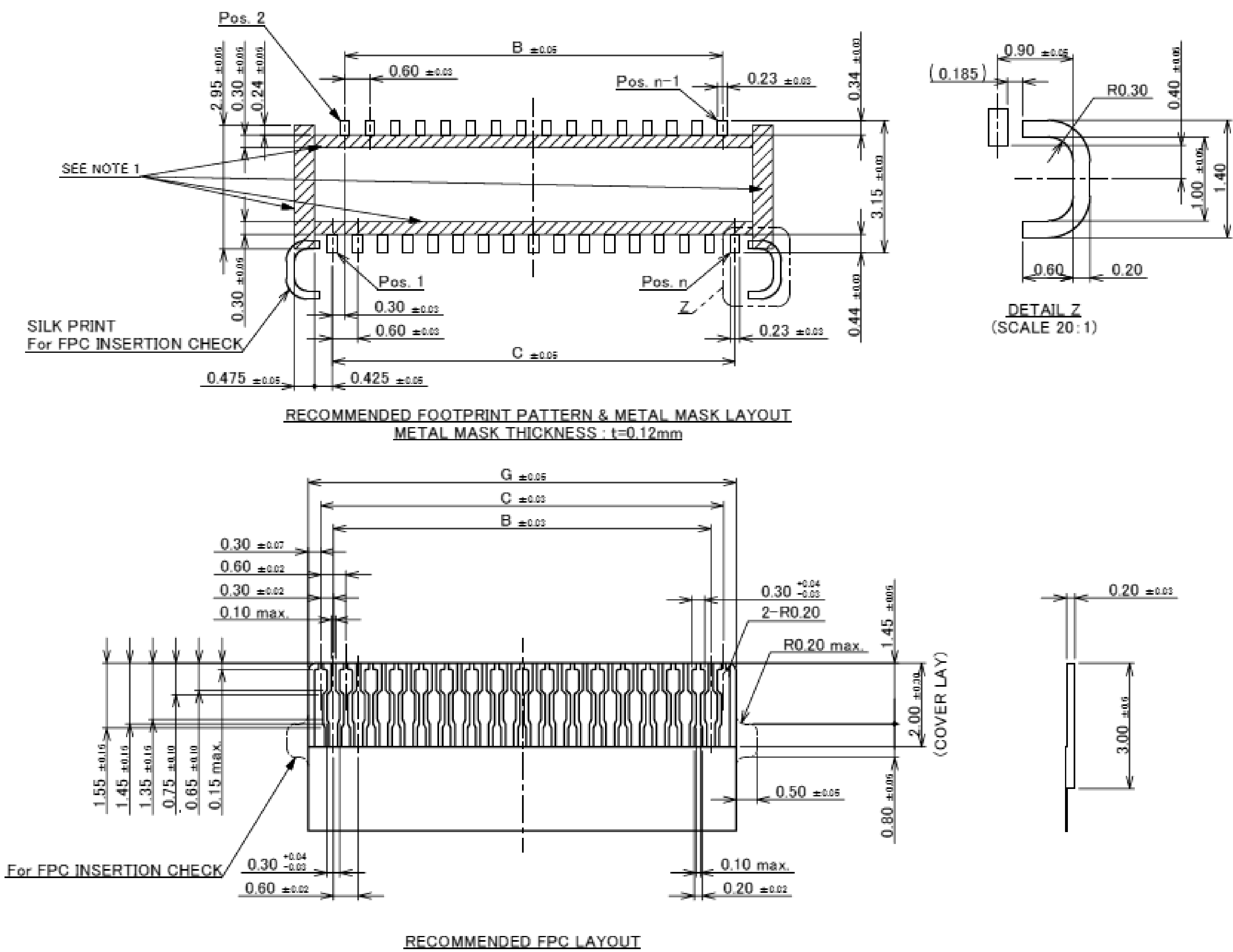
PART No.	Pos.	A	B	C	D	E
20613-007E-02	7P	3.60	1.20	1.80	2.45	2.80
20613-009E-02	9P	4.20	1.80	2.40	3.05	3.40
20613-011E-02	11P	4.80	2.40	3.00	3.65	4.00
◆20613-013E-02	13P	5.40	3.00	3.60	4.25	4.60
◆20613-015E-02	15P	6.00	3.60	4.20	4.85	5.20
◆20613-017E-02	17P	6.60	4.20	4.80	5.45	5.80
◆20613-019E-02	19P	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

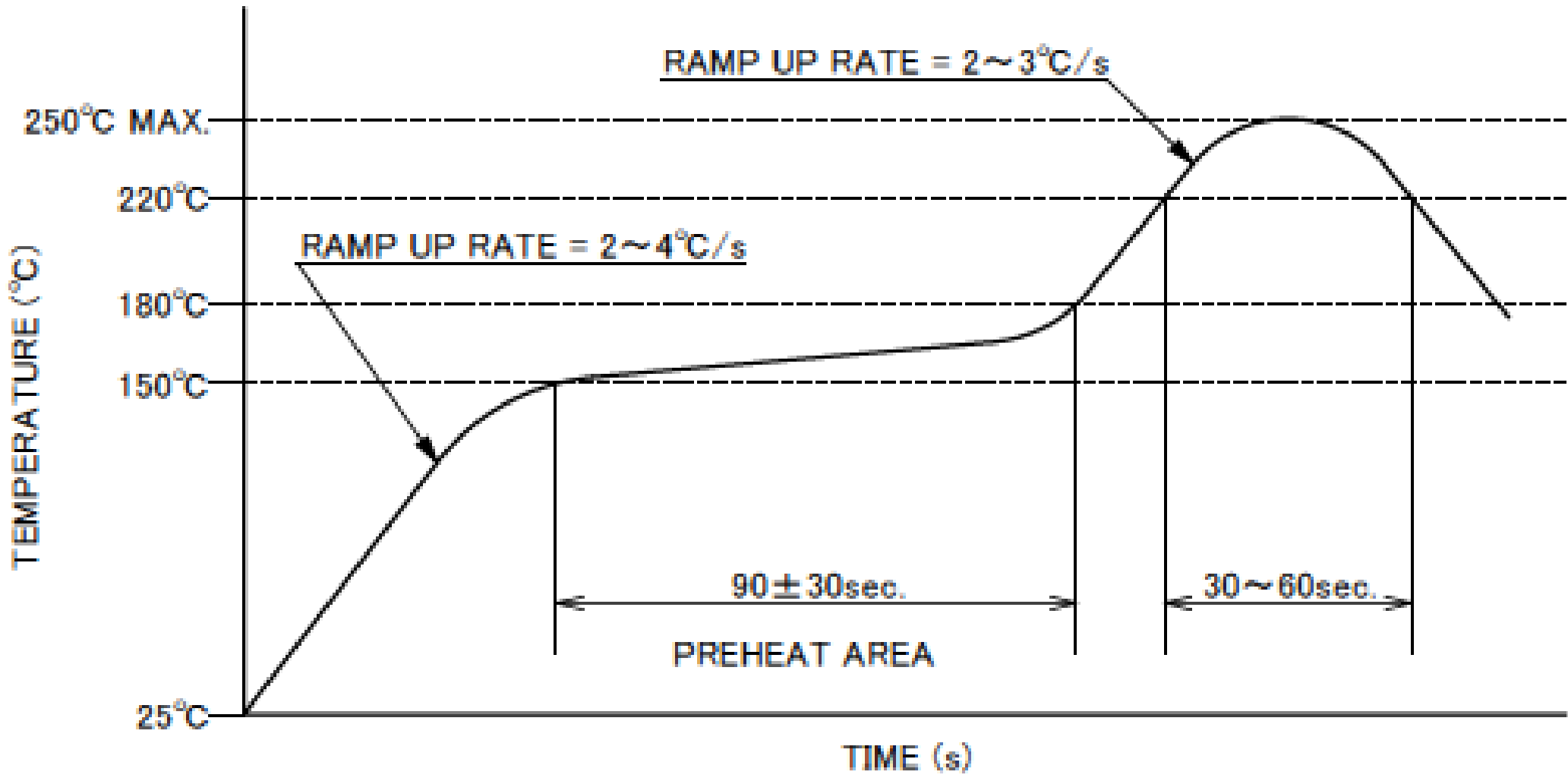
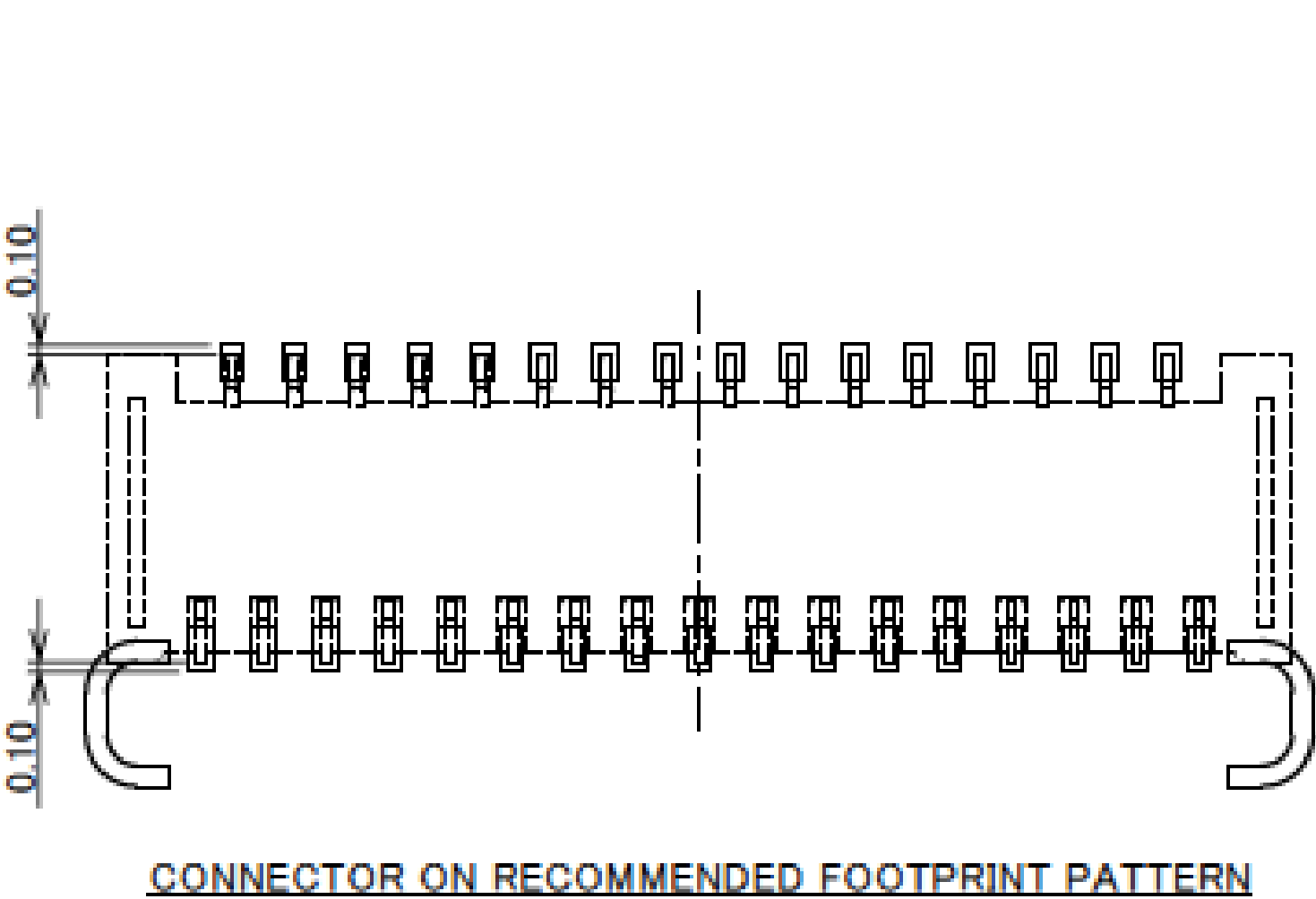


PART No.	Pos.	B	C	G
20613-007E-02	7P	1.20	1.80	2.40
20613-009E-02	9P	1.80	2.40	3.00
20613-011E-02	11P	2.40	3.00	3.60
◆20613-013E-02	13P	3.00	3.60	4.20
◆20613-015E-02	15P	3.60	4.20	4.80
◆20613-017E-02	17P	4.20	4.80	5.40
◆20613-019E-02	19P	4.80	5.40	6.00
20613-021E-02	21P	5.40	6.00	6.60
20613-023E-02	23P	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

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

Rev.16



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℃~+85℃)
OPERATING HUMIDITY	85% MAX.(NON-CONDENSING)
CONTACT RESISTANCE	INITIAL : 60mohm MAX. / AFTER TEST : ≦40mohm MAX.
INSULATION RESISTANCE	100Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	20TH CYCLES
ACTUATOR LOCKING FORCE (INITIAL / 20TH CYCLES)	INITIAL : 0.35N(31gf) × n MAX. / 20TH CYCLES : 0.35N(31gf) × n MAX.
ACTUATOR UNLOCKING FORCE (INITIAL / 20TH CYCLES)	INITIAL : 0.02N(2gf) × n MIN. / 20TH CYCLES : 0.02N(2gf) × n MIN.
FPC RETENTION FORCE (INITIAL / AFTER TEST)	INITIAL : 0.13N(13gf) × n MIN. / AFTER TEST : 0.10N(10gf) × 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***

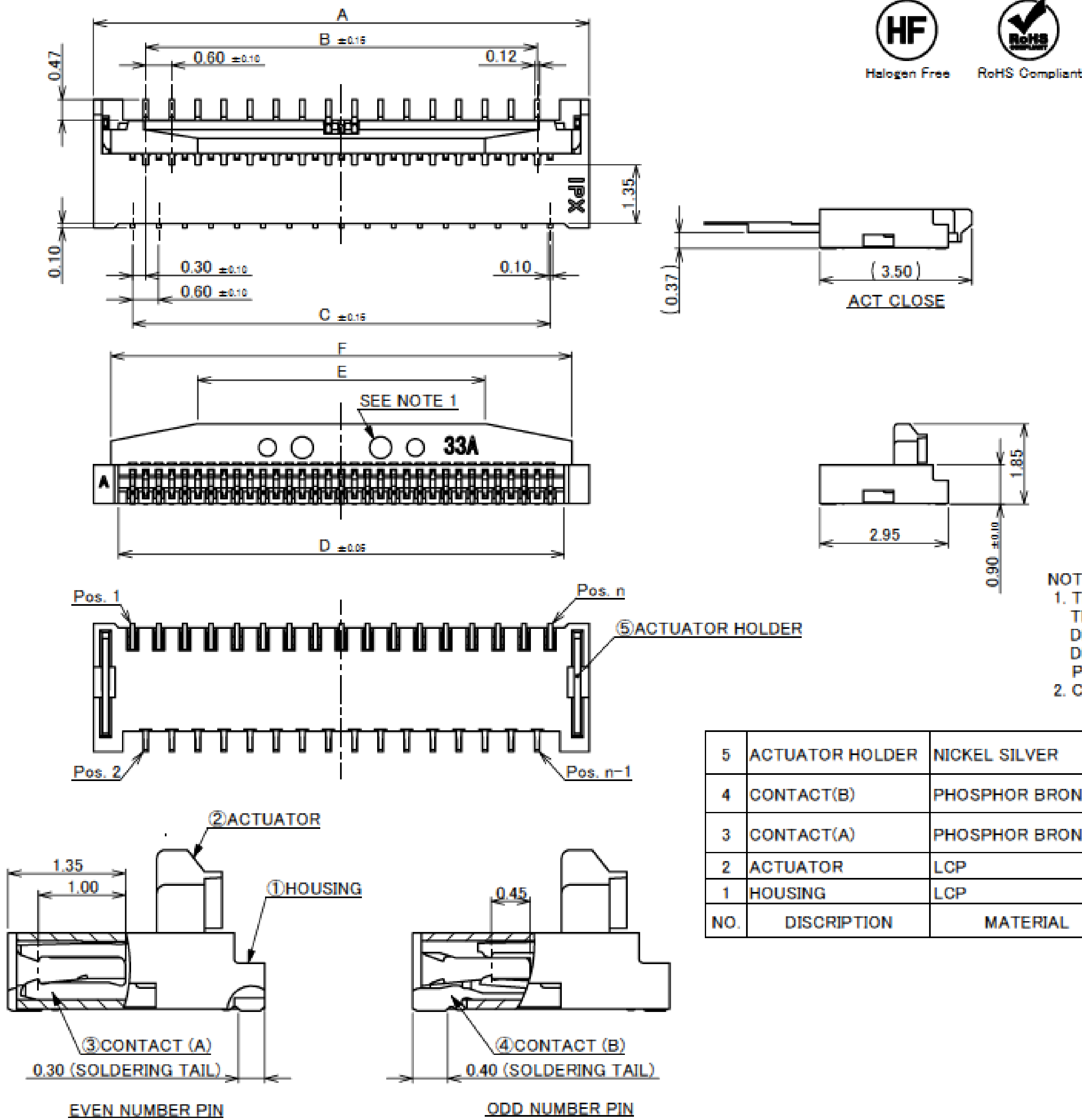
※ “n” IS THE NUMBER OF PIN



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

Rev.16

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



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	16.65	22.00

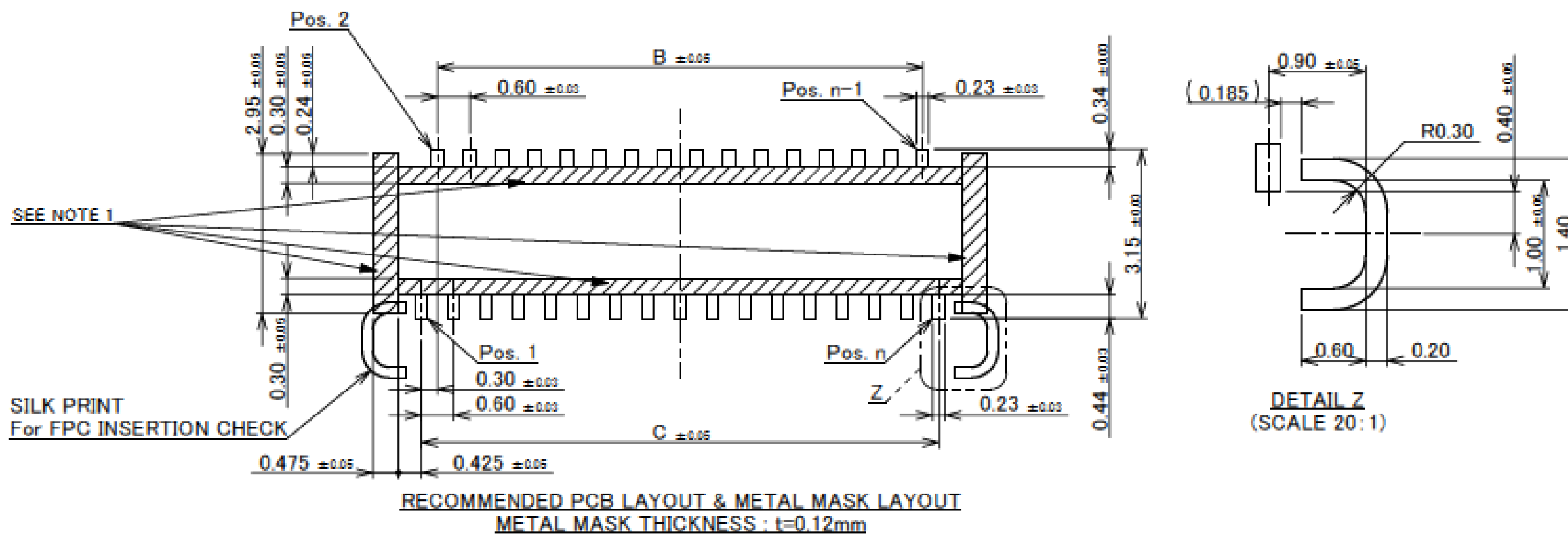
◆MARK MEANS NOT AVAILABLE

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

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
NO.	DISCRIPTION	MATERIAL	REMARKS

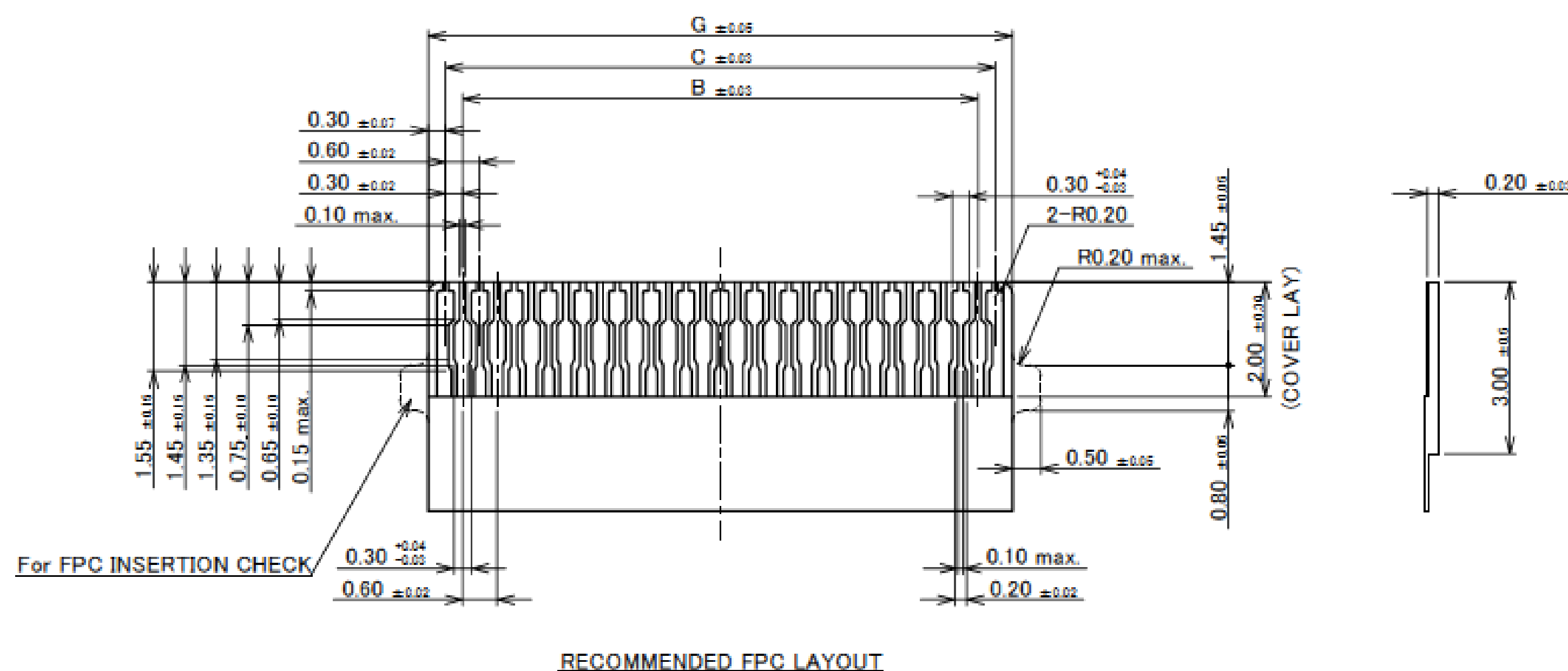
Rev.12

Connector Assembly



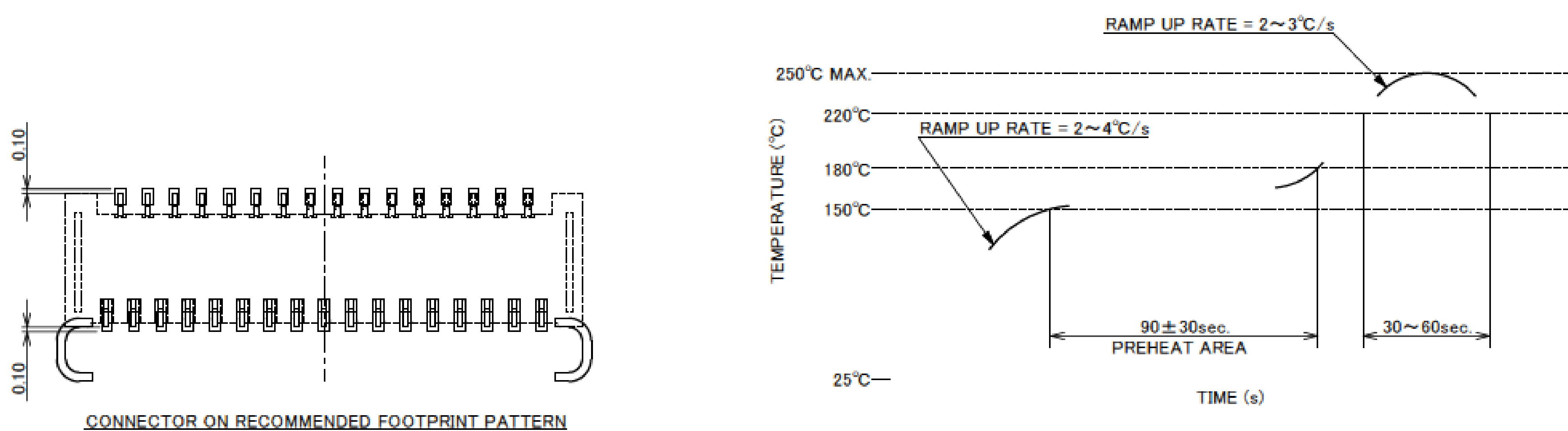
PART No.	Pos.	B	C	G
◆20605-033E-02	33P	9.00	9.60	10.20
◆20605-035E-02	35P	9.60	10.20	10.80
◆20605-037E-02	37P	10.20	10.80	11.40
◆20605-039E-02	39P	10.80	11.40	12.00
◆20605-041E-02	41P	11.40	12.00	12.60
◆20605-043E-02	43P	12.00	12.60	13.20
◆20605-045E-02	45P	12.60	13.20	13.80
◆20605-047E-02	47P	13.20	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.12



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.
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) × n MAX. / 20TH CYCLES : 0.245N(24.5gf) × n MAX.
ACTUATOR UNLOCKING FORCE (INITIAL / 20TH CYCLES)	INITIAL : 0.014N(1.4gf) × n MIN. / 20TH CYCLES : 0.014N(1.4gf) × n MIN.
FPC RETENTION FORCE (INITIAL / AFTER TEST)	INITIAL : 0.13N(13gf) × n MIN. / AFTER TEST : 0.10N(10gf) × 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
Connectors

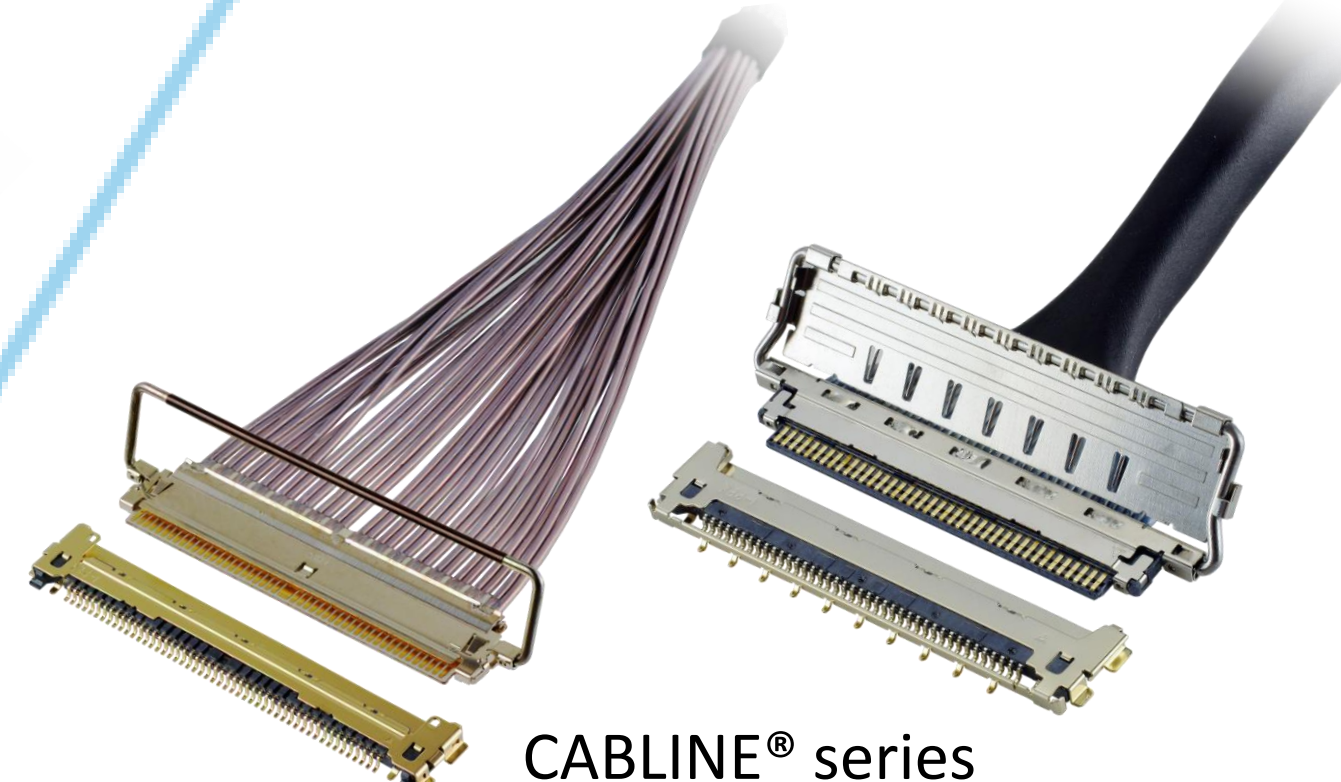
MHF® series



CABLINE® series



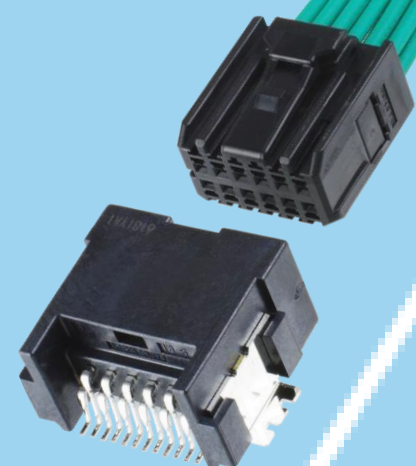
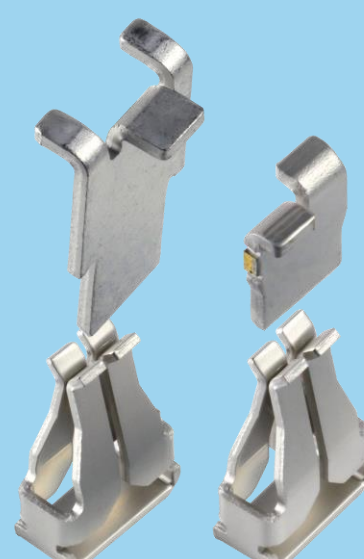
Micro-coaxial/Twinax
Connectors



Wire-to-Board
Connectors/
Terminals

AP series

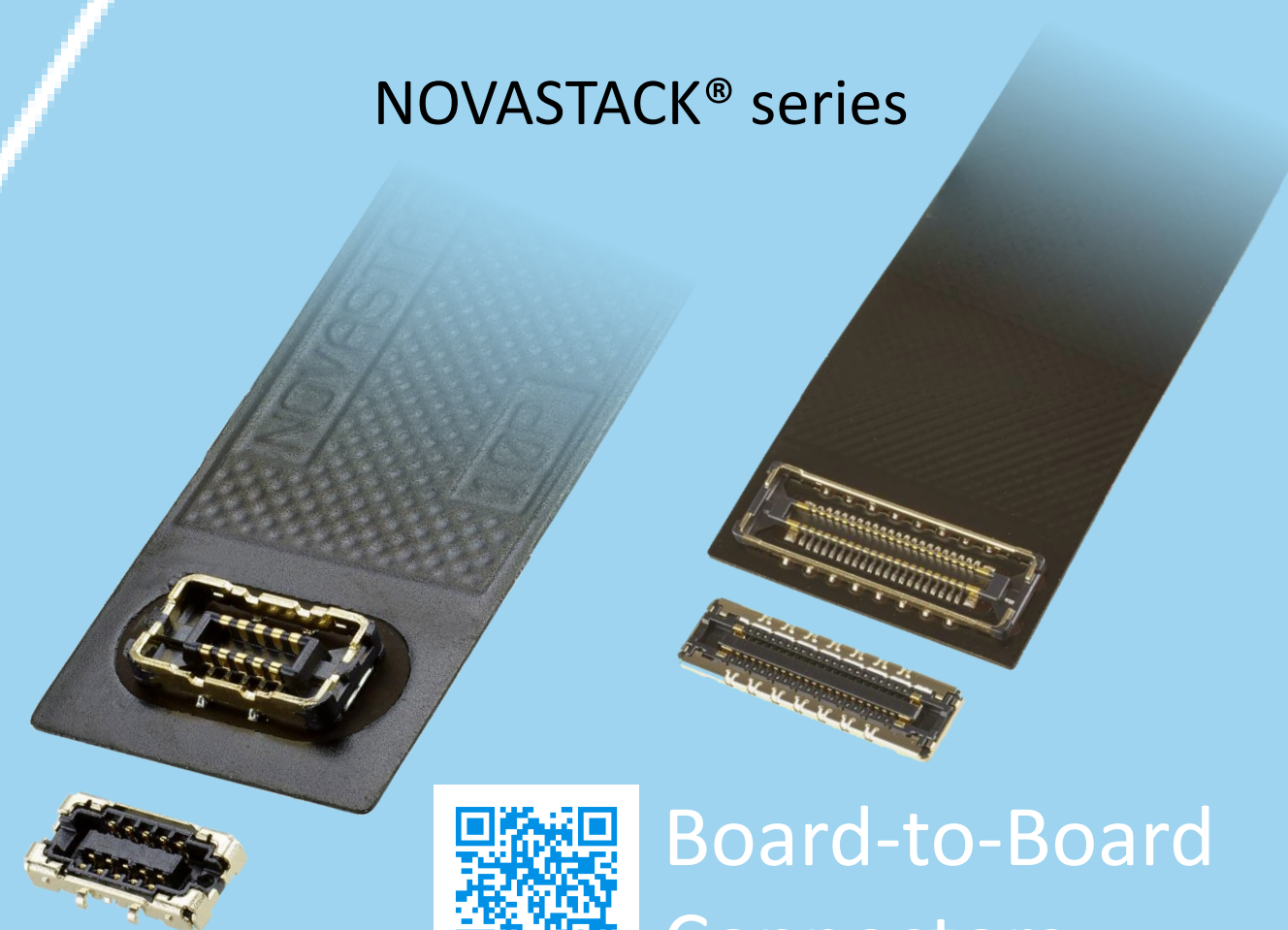
ISH® series



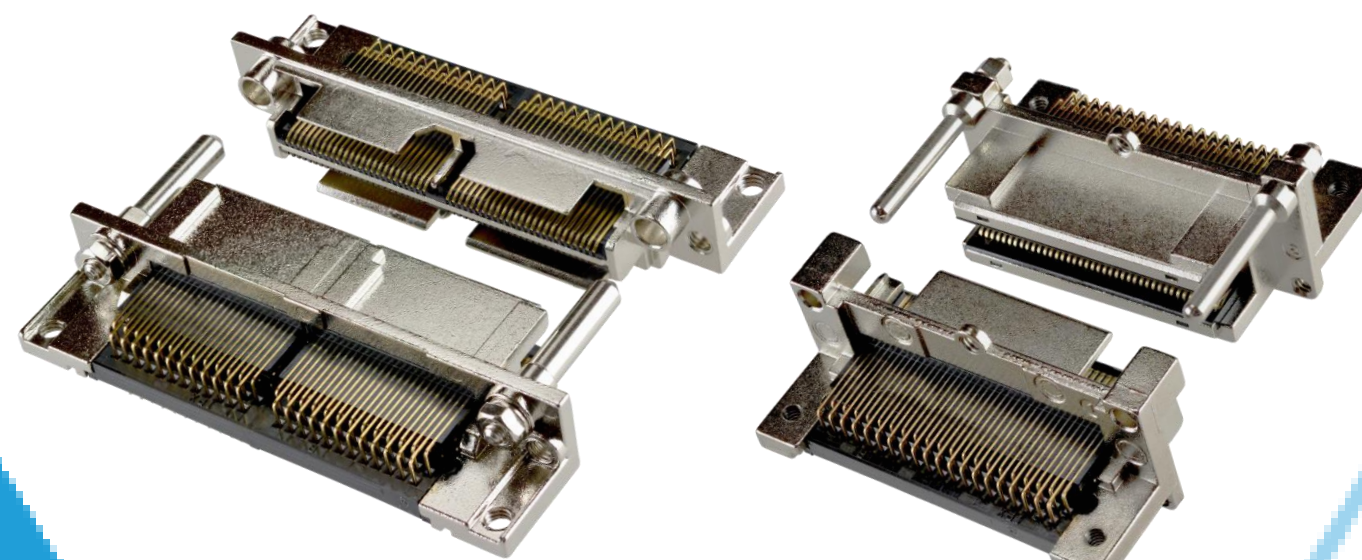
NOVASTACK® series



Board-to-Board
Connectors



I/O
Connectors



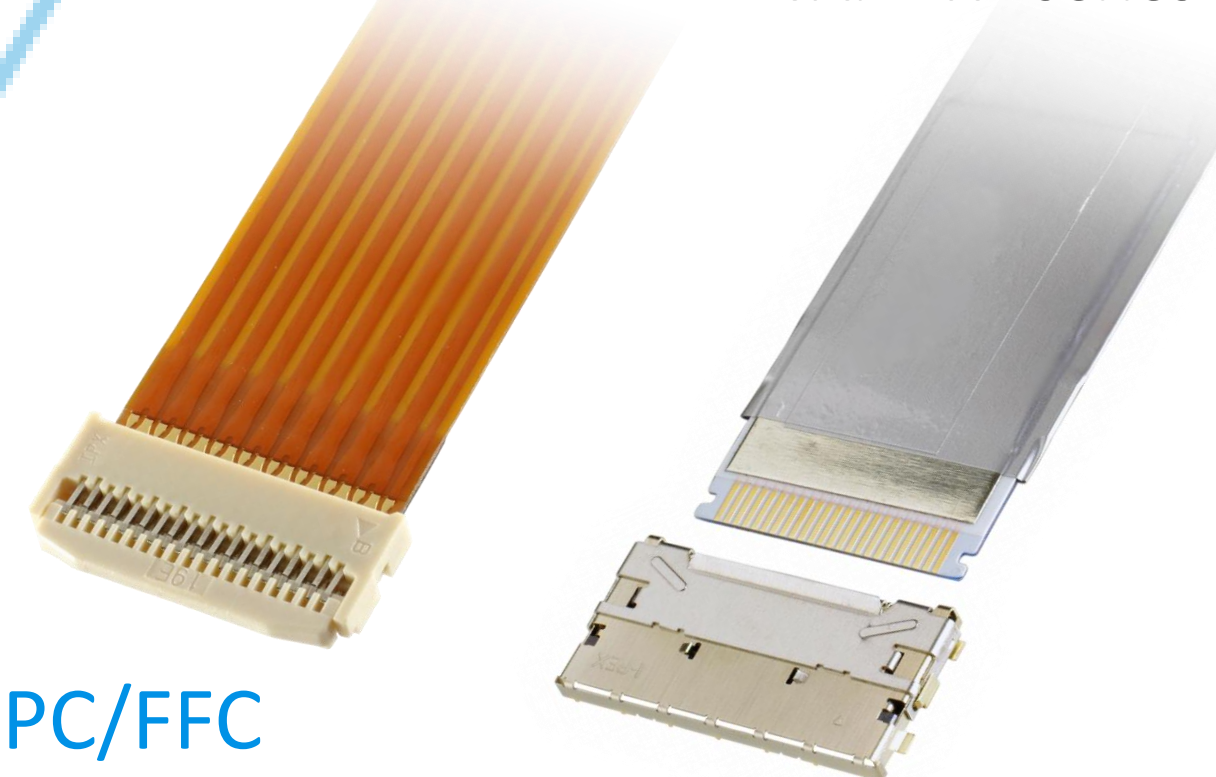
MINIDOCK™ series

MINIFLEX® series

EVAFLEX® series



FPC/FFC
Connectors



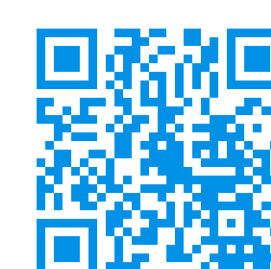
Inquiry



I-PEX, MHF, CABLINE, NOVASTACK, ISH, IARPB, MINIFLEX, EVAFLEX, MINIDOCK and ZenShield are registered trademarks of I-PEX Inc. Please note that the contents in the catalog might be changed without prior notification. I-PEX Inc. assumes no responsibility for any inaccuracies or obligation to update information on these documents. Please be sure to read and understand the latest "Precautions for Use" and "Instruction Manual" before you use our products. We shall not be responsible for any defects, damages or troubles in case you use our products without following the precautions for use. Please feel free to contact our sales representatives when you use our products for any applications that require very high reliability and safety, or that relate to human life (ex. nuclear power control, aerospace, transportation, medical equipment, safety equipment etc.).

Contact your sales representative
or more detailed information.

www.i-pex.com



I-PEX

© I-PEX Inc. 2025
All rights reserved