

MINIFLEX® 3-BFN LK

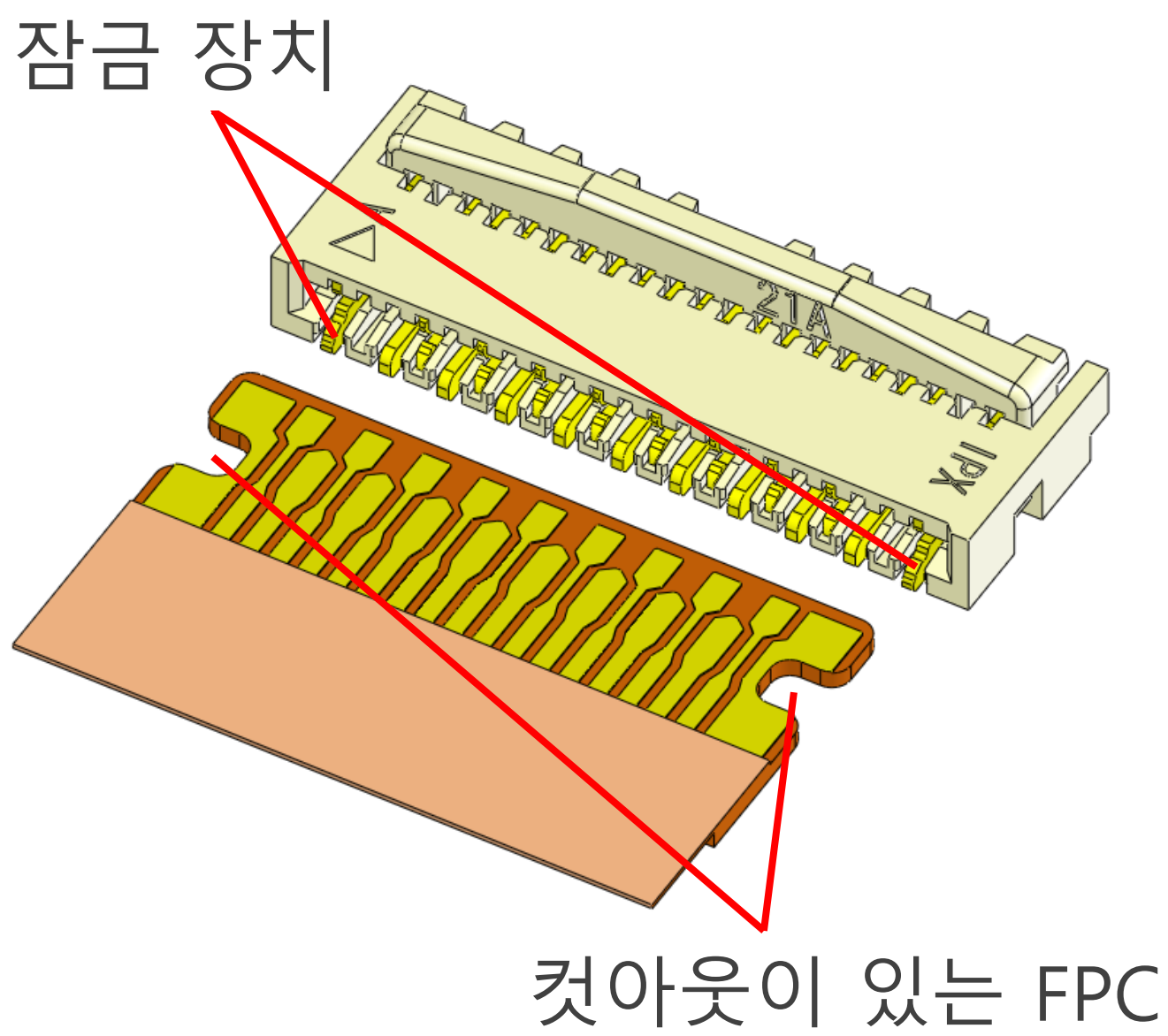
기계식 Lock 기능, 저배 (높이 = 0.9 mm), 0.3 mm Pitch, 수평 결합, 백플립

Product Specifications:		Short Actuator	Long Actuator	Applicable FPC/FFC:	
Board Pitch (mm)		0.3		FPC/FFC Contact Pitch	0.3
Wiping Length (mm)		Contact A: 0.9 Contact B: 0.45		FPC/FFC Contact Point	Top and Bottom
Size (mm)	Height	0.90 +/- 0.10		FPC/FFC Thickness (mm)	0.2 +/- 0.03
	Width	Formula: 2.1 + (0.3*p)			
	Depth	Open: 2.55 Close: 3			
Pin counts	Range	9-37 (odd)	29-71 (odd)		
	Available	9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37	51, 53, 57, 61, 71		

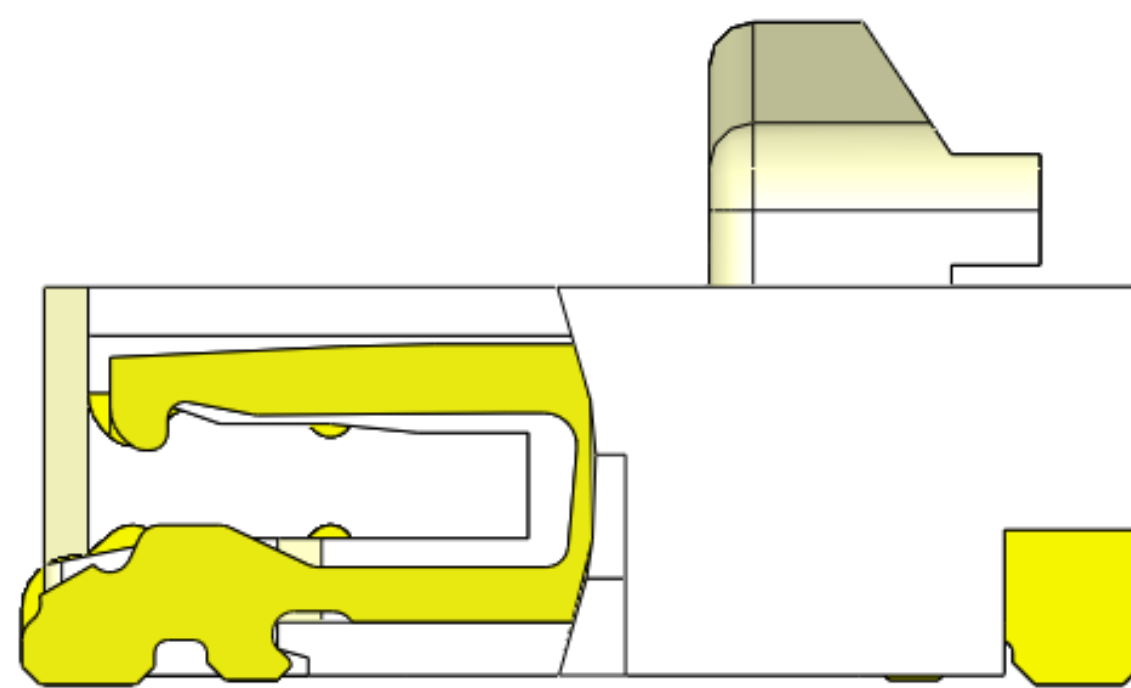
*기재가 되어있지 않은 핀 수의 대응 여부에 대해서는 문의해 부탁드립니다.



▶ 기계식 Lock 기능에 의한 높은 FPC 유지력



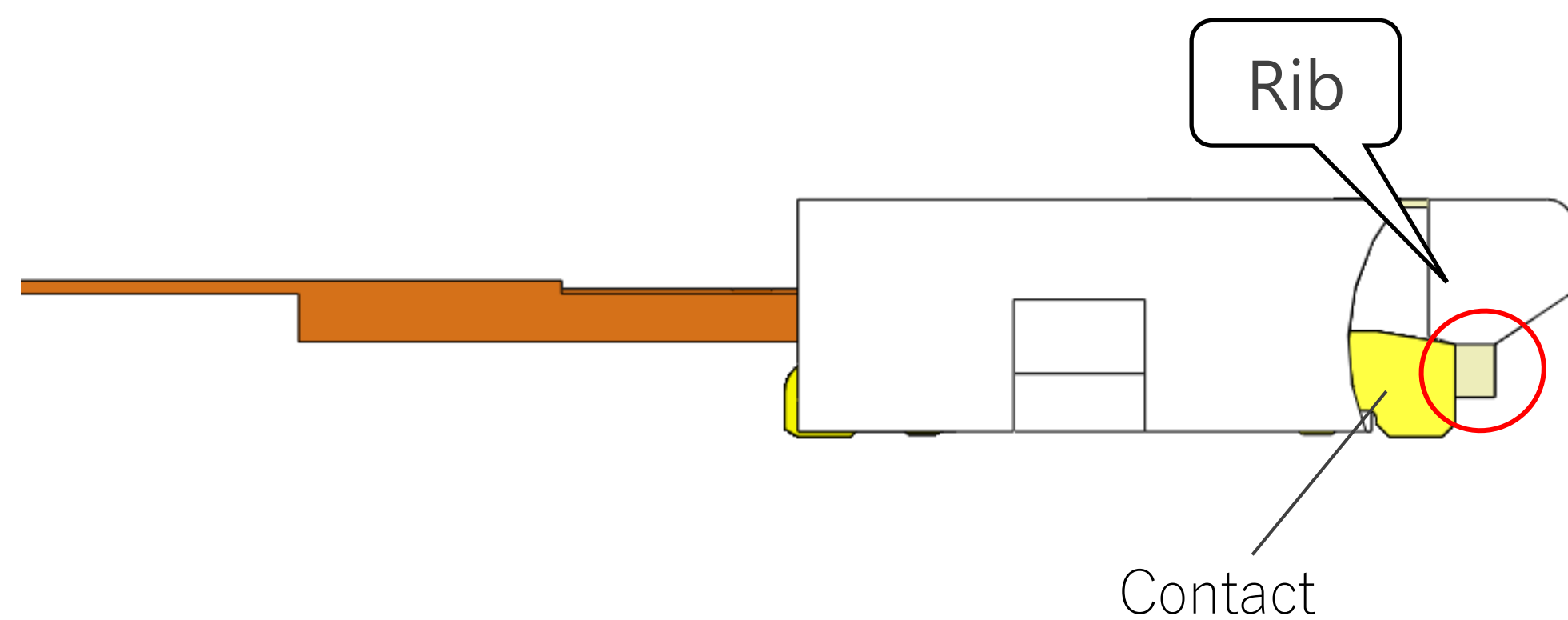
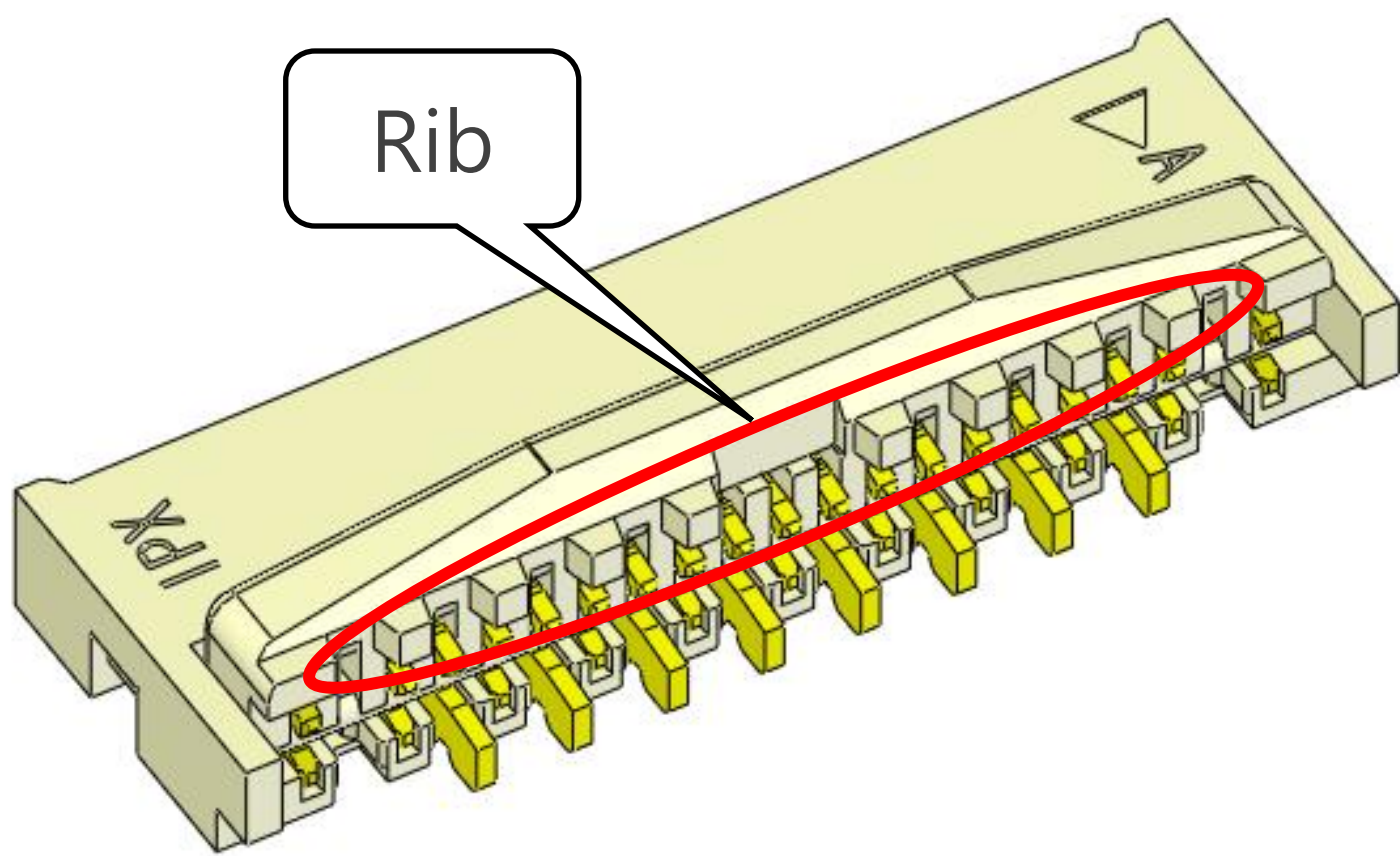
FPC 잠금 장치 메커니즘이 높은 FPC 고정력을 유지함



FPC 고정력 비교 (19 p)

MINIFLEX® 3-BFN LK	MINIFLEX® 3-BFN
11.34 N	6.7 N

▶ 단자 변형 방지 설계

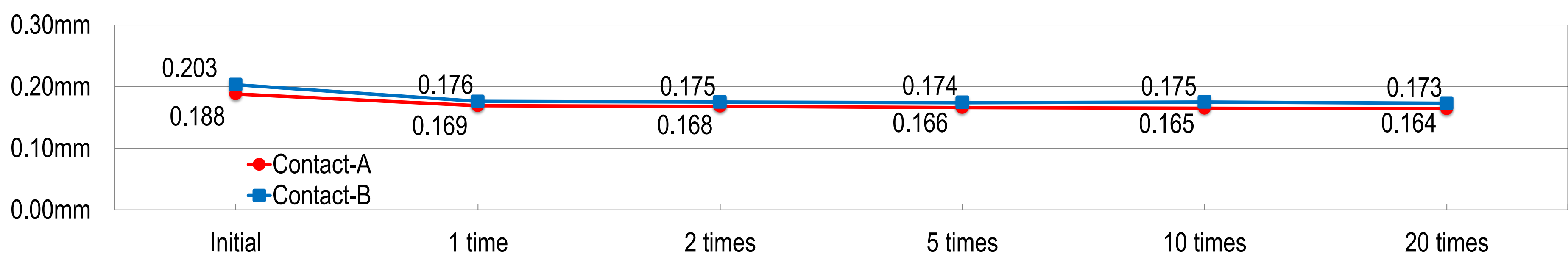


•액추에이터를 열때 Contact가 위로 당겨지는 것을 Rib가 방지합니다

▶ FPC 미삽입 상태에서도 액추에이터 닫기 조작 가능(단자 변형 최소화)

SMT 공정 후에 FPC를 삽입하지 않고 우연히 액추에이터를 닫은 경우에도 Contact 변형 최소화

■ 커넥터가 여전히 안정적으로 작동합니다(FPC를 삽입하지 않은 상태에서 액추에이터 작동 전후 접촉 간격 그래프 35핀)



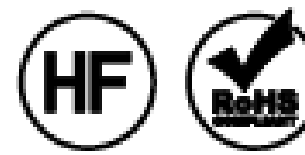
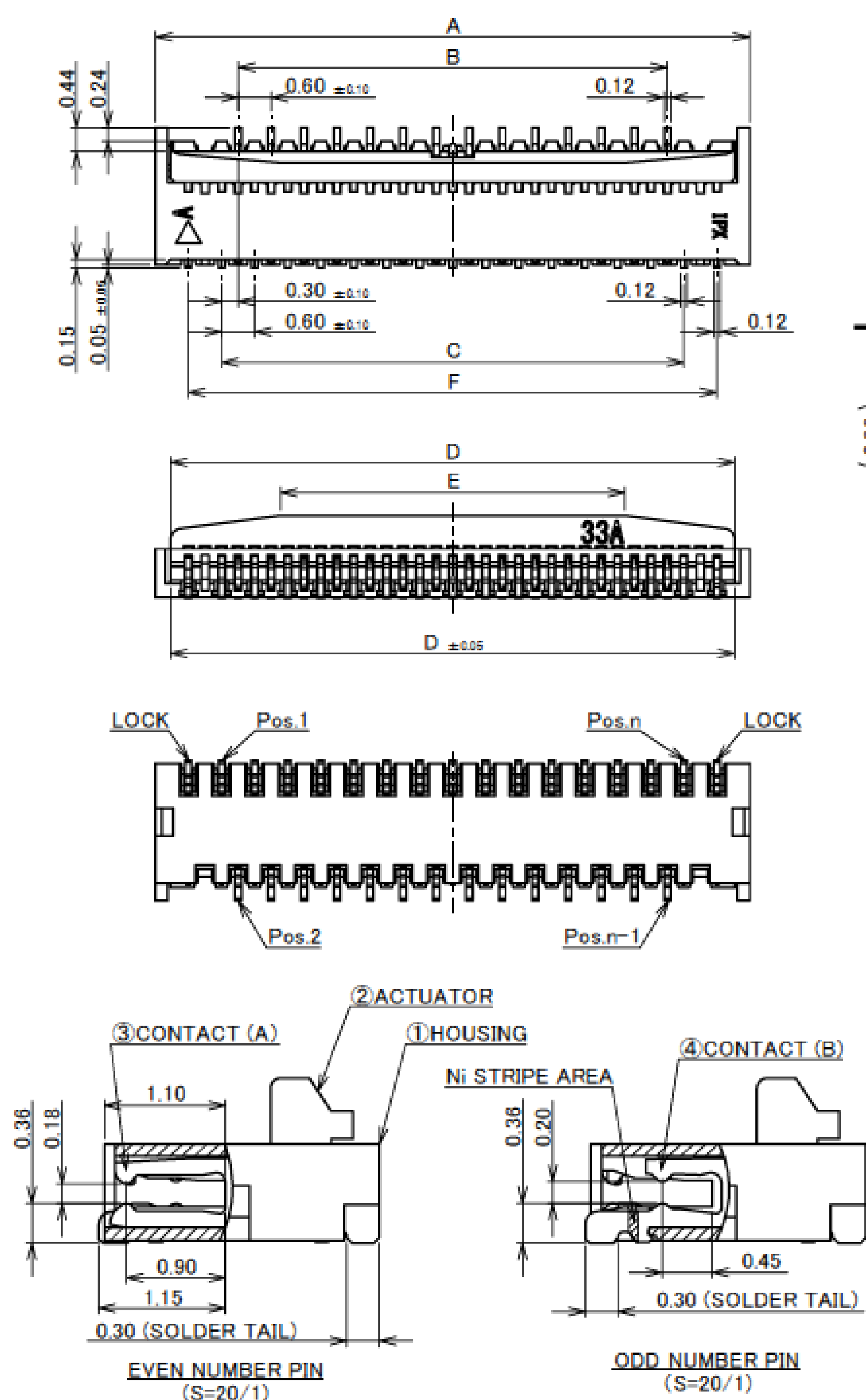
■ 커넥터의 삽입력 상승

■ 커넥터의 고정력은 큰 변화 없음

Component Parts Details

Connector Assembly

Recommended P/N 20599-0**E-01



PART NO.	Pos.	A	B	C	D	E	F
20599-009E-01	9P	4.80	1.80	2.40	4.25	2.25	3.60
20599-011E-01	11P	5.40	2.40	3.00	4.85	2.85	4.20
20599-013E-01	13P	6.00	3.00	3.60	5.45	3.45	4.80
20599-015E-01	15P	6.60	3.60	4.20	6.05	4.05	5.40
20599-017E-01	17P	7.20	4.20	4.80	6.65	4.65	6.00
20599-019E-01	19P	7.80	4.80	5.40	7.25	5.25	6.60
20599-021E-01	21P	8.40	5.40	6.00	7.85	5.85	7.20
20599-023E-01	23P	9.00	6.00	6.60	8.45	6.45	7.80
20599-025E-01	25P	9.60	6.60	7.20	9.05	7.05	8.40
20599-027E-01	27P	10.20	7.20	7.80	9.65	7.65	9.00
20599-029E-01	29P	10.80	7.80	8.40	10.25	8.25	9.60
20599-031E-01	31P	11.40	8.40	9.00	10.85	8.85	10.20
20599-033E-01	33P	12.00	9.00	9.60	11.45	9.45	10.80
20599-035E-01	35P	12.60	9.60	10.20	12.05	10.05	11.40
20599-037E-01	37P	13.20	10.20	10.80	12.65	10.65	12.00

NOTES
1. 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.

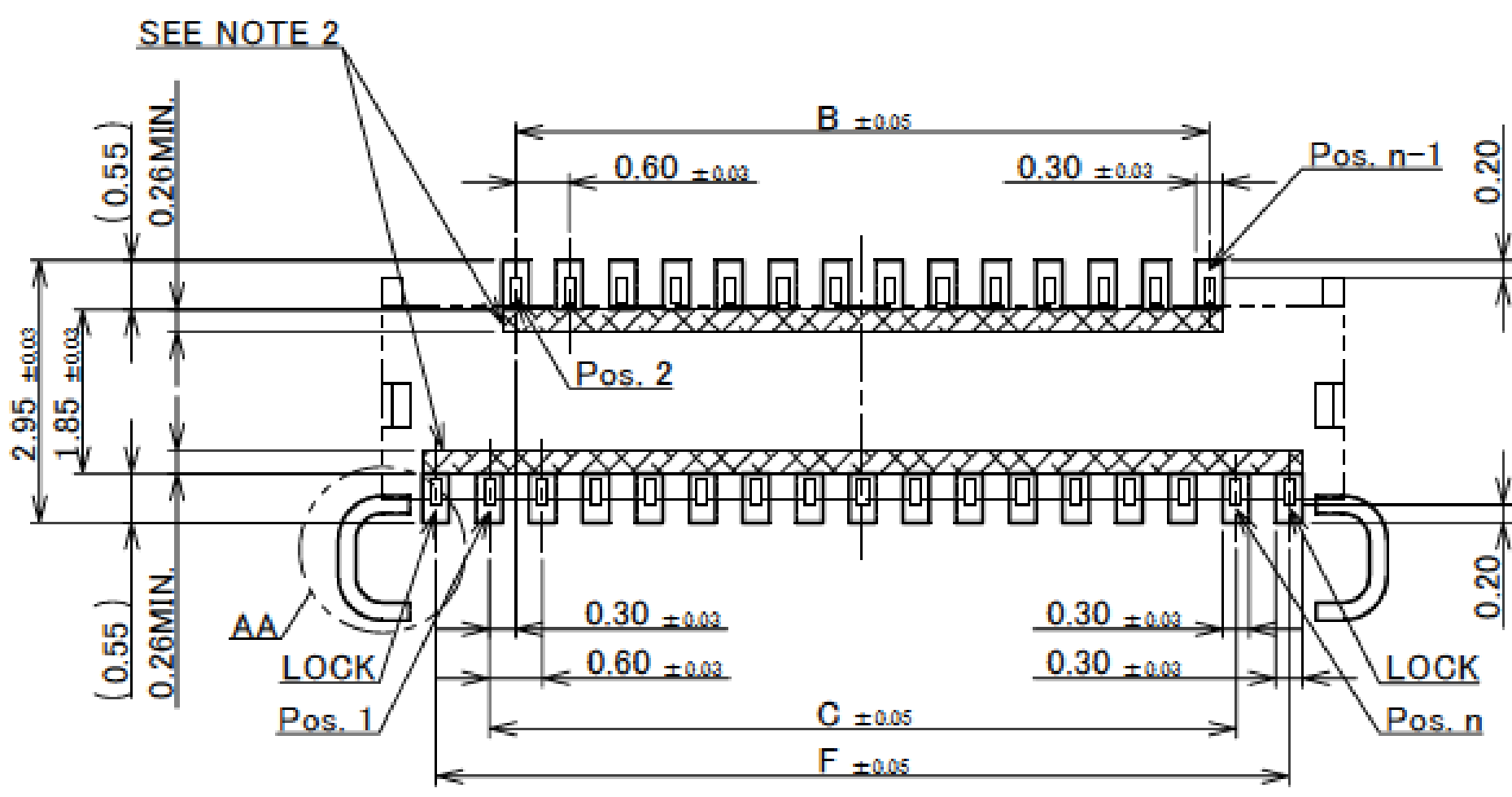
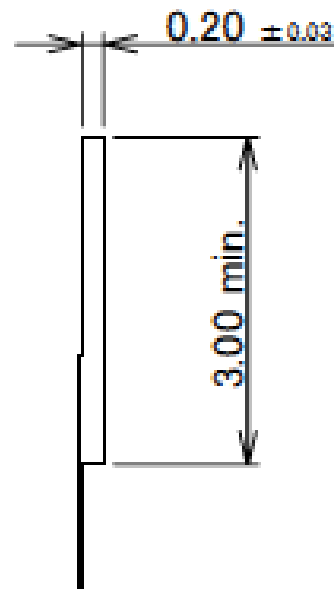
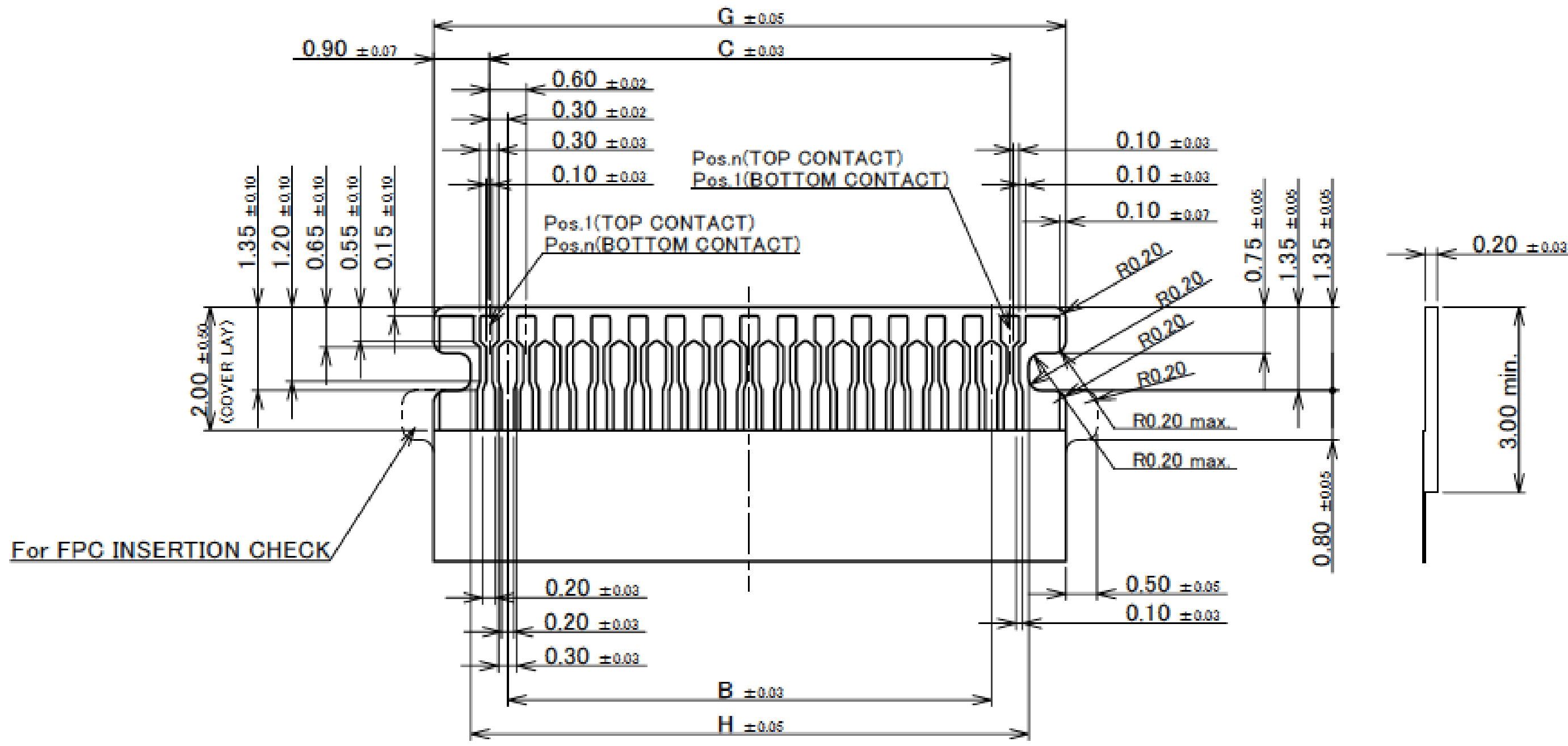
TABLE 1

PART NO.	FINISH		
20599-0**E-01	CONTACT AREA : Au 0.10 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.		
5	LOCK	PHOSPHOR BRONZE SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.	
4	CONTACT (B)	PHOSPHOR BRONZE SEE TABLE 1, WITH Ni STRIPE	
3	CONTACT (A)	PHOSPHOR BRONZE SEE TABLE 1	
2	ACTUATOR	LCP UL94V-0, BEIGE	
1	HOUSING	LCP UL94V-0, BEIGE	
NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS

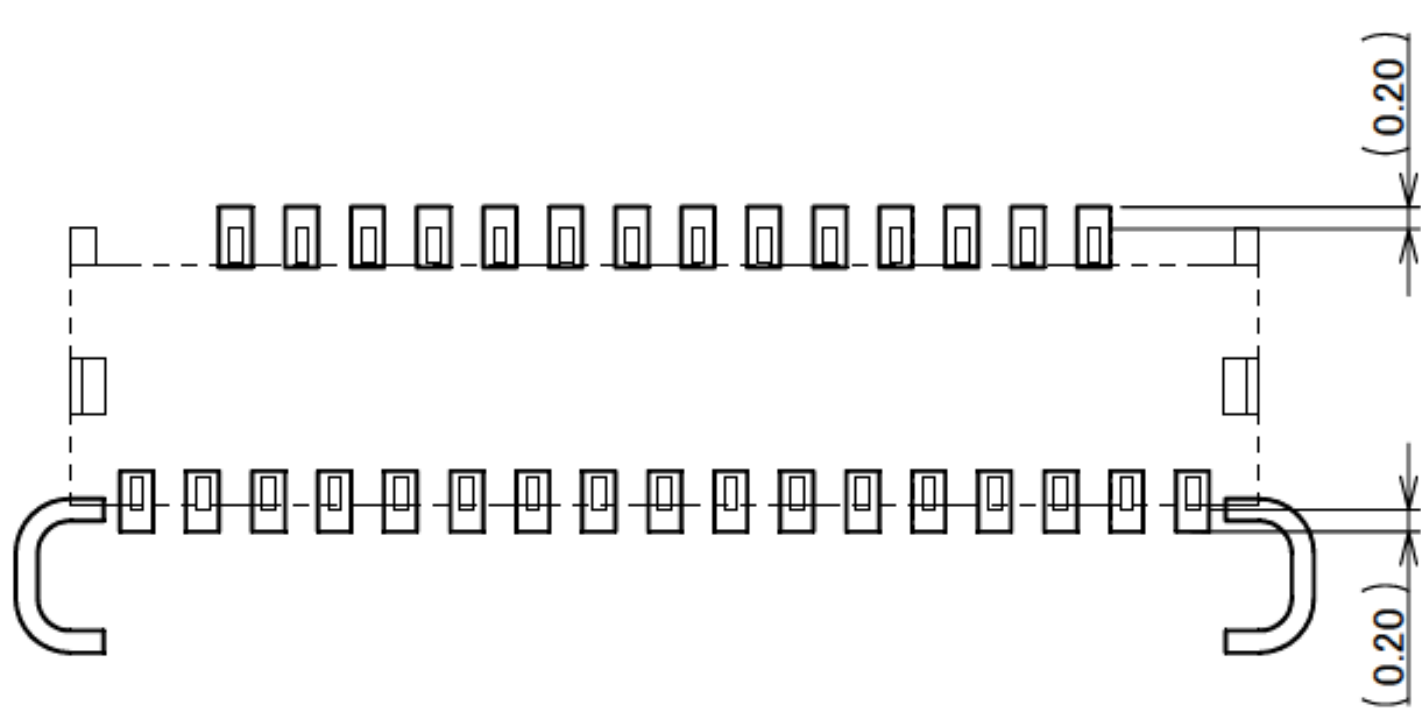
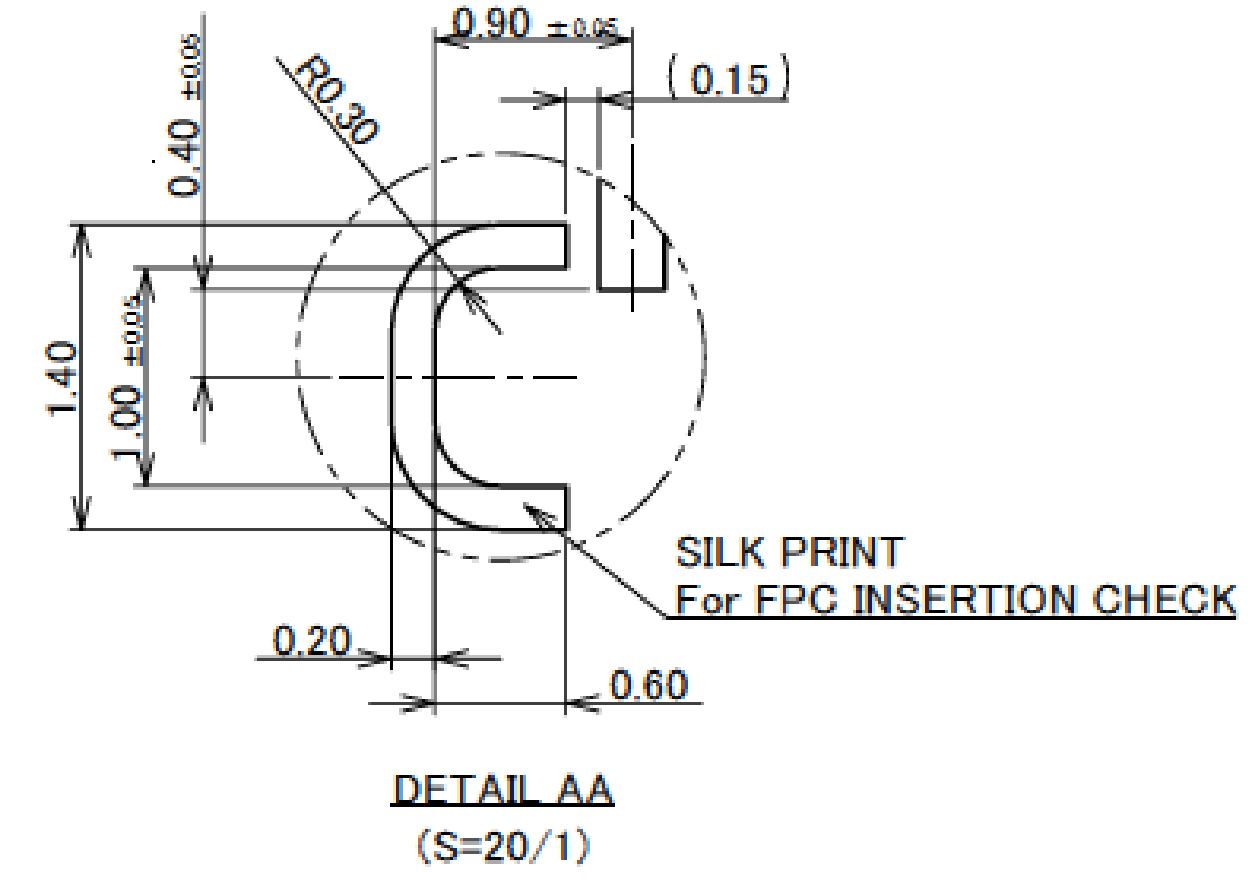
Connector Assembly

PART NO.	Pos.	B	C	F	G	H
20599-009E-01	9P	1.80	2.40	3.60	4.20	3.00
20599-011E-01	11P	2.40	3.00	4.20	4.80	3.60
20599-013E-01	13P	3.00	3.60	4.80	5.40	4.20
20599-015E-01	15P	3.60	4.20	5.40	6.00	4.80
20599-017E-01	17P	4.20	4.80	6.00	6.60	5.40
20599-019E-01	19P	4.80	5.40	6.60	7.20	6.00
20599-021E-01	21P	5.40	6.00	7.20	7.80	6.60
20599-023E-01	23P	6.00	6.60	7.80	8.40	7.20
20599-025E-01	25P	6.60	7.20	8.40	9.00	7.80
20599-027E-01	27P	7.20	7.80	9.00	9.60	8.40
20599-029E-01	29P	7.80	8.40	9.60	10.20	9.00
20599-031E-01	31P	8.40	9.00	10.20	10.80	9.60
20599-033E-01	33P	9.00	9.60	10.80	11.40	10.20
20599-035E-01	35P	9.60	10.20	11.40	12.00	10.80
20599-037E-01	37P	10.20	10.80	12.00	12.60	11.40

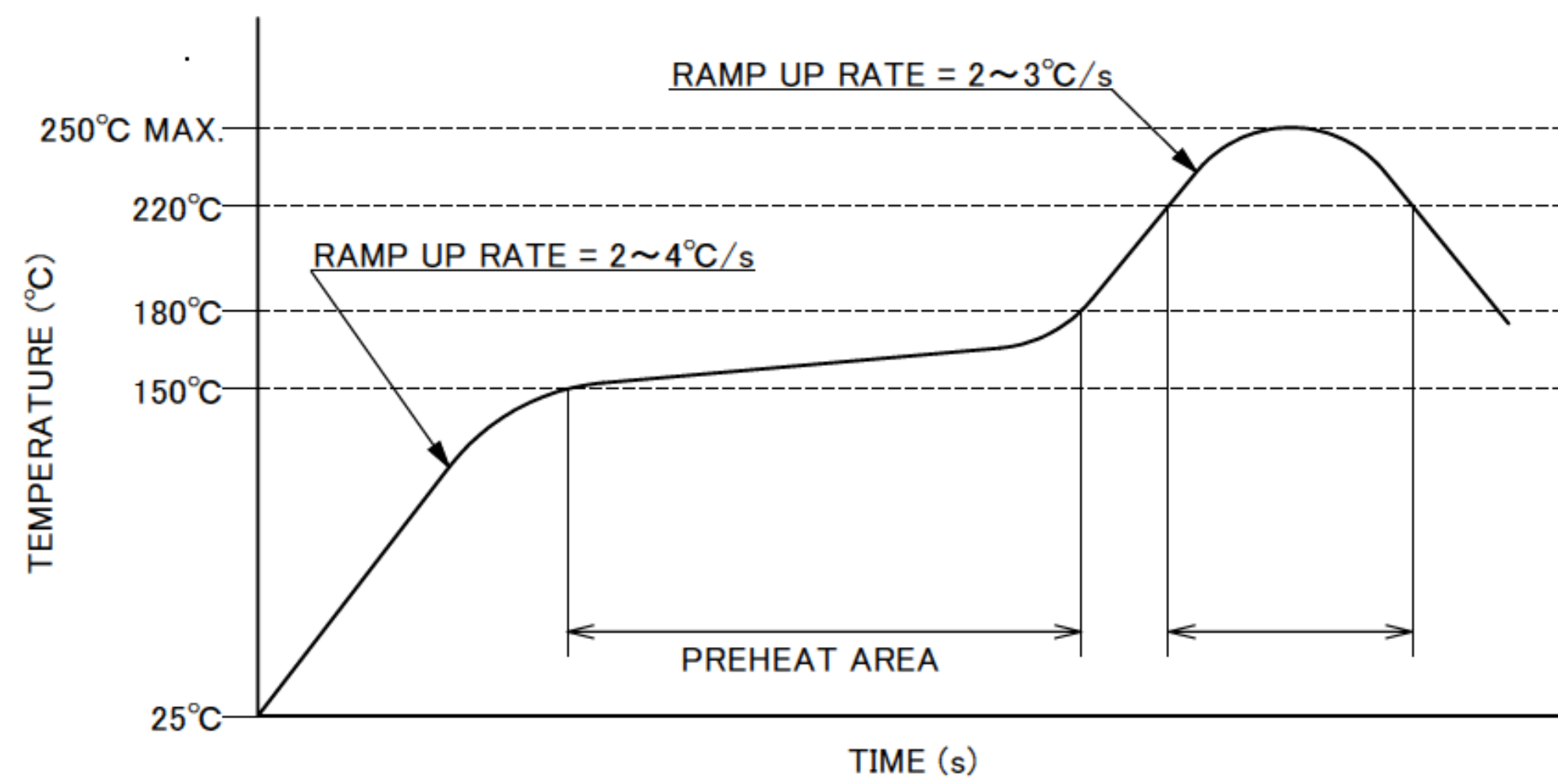
NOTES
2. SOLDER RESIST SHALL BE APPLIED TO PREVENT SHORT CIRCUITS WHEN PLACING SIGNAL LINES ON GROUND AREA.



RECOMMENDED PCB LAYOUT & METAL MASK LAYOUT
METAL MASK THICKNESS : $t=0.12\text{mm}$



CONNECTOR ON RECOMMENDED PCB LAYOUT



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

Rev.13

Rev.13

Connector Assembly

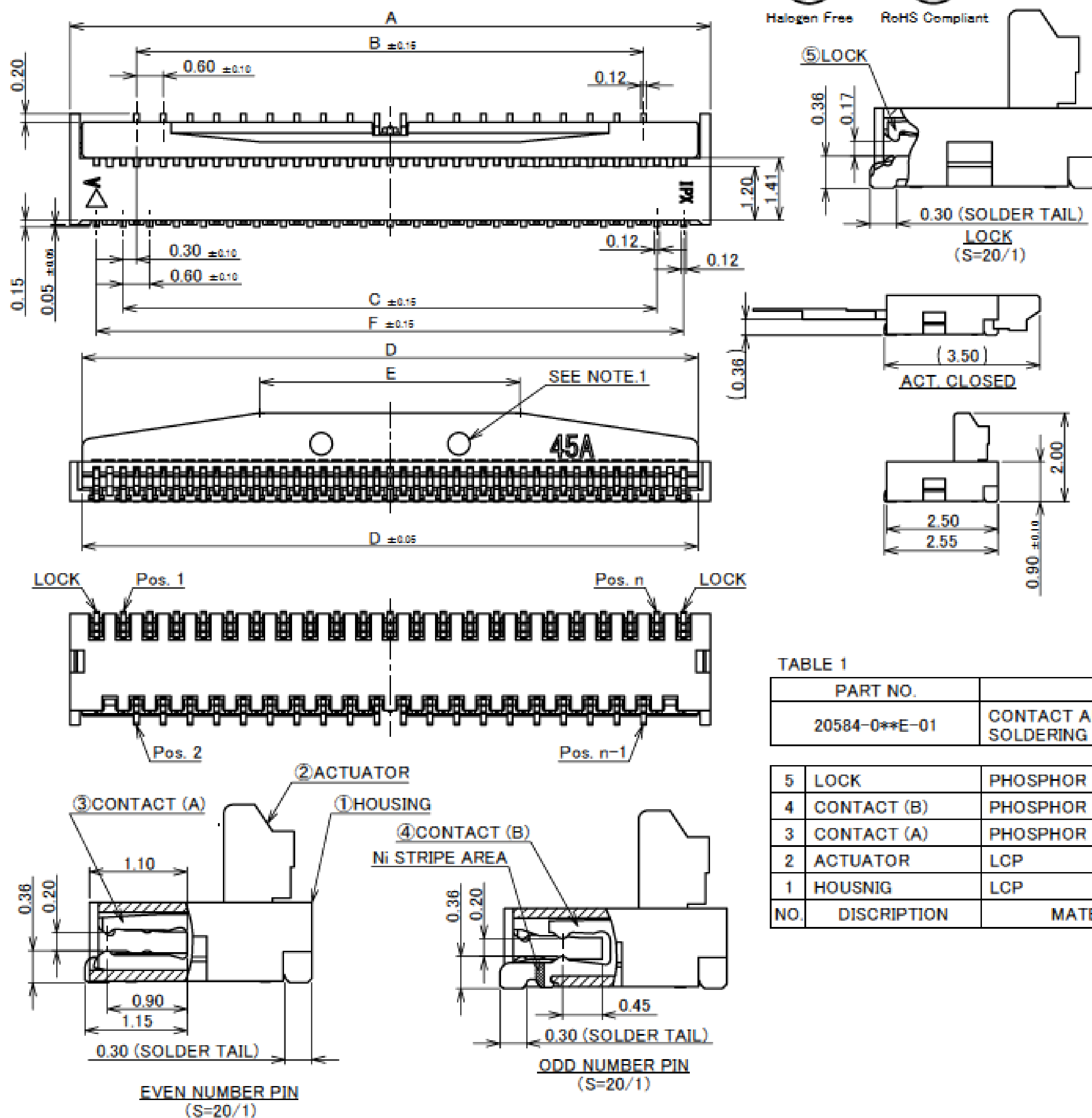
ITEMS	SPECIFICATION
RATING VOLTAGE	50V AC/DC (PER CONTACT)
RATING AMPERAGE	0.3A DC (PER CONTACT)
OPERATING TEMPERATURE	233~358K(-40°C~85°C)
OPERATING HUMIDITY	20~80%RH (NON-CONDENSING)
CONTACT RESISTANCE	INITIAL : 60mohm MAX. / AFTER TEST : \triangleleft 40mohm MAX.
INSULATION RESISTANCE	100Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	20TH CYCLES
ACTUATOR LOCKING FORCE (INITIAL / 20TH CYCLES)	INITIAL / 20TH CYCLES : 0.3N(31gf) \times (n + 2) MAX.
ACTUATOR UNLOCKING FORCE (INITIAL / 20TH CYCLES)	INITIAL / 20TH CYCLES : 0.02N(2gf) \times (n + 2) MIN.
FPC RETENTION FORCE (INITIAL / AFTER TEST)	INITIAL : 0.13N(13gf) \times n + 1.0N MIN. / AFTER TEST : 0.10N(10gf) \times n + 1.0N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-1861
TEST REPORT	TR-13085
PACKING STANDARD	PST-13035
INSTRUCTION MANUAL	HIM-12007
APPEARANCE CRITERIA No.	QLS-A***

※ "n" IS THE NUMBER OF PIN

Rev.13

Recommended P/N 20584-0**E-01

ODD NUMBER POS.



PART NO.	Pos.	A	B	C	D	E	F
◆ 20584-029E-01	29P	10.80	7.80	8.40	10.25	6.25	9.60
◆ 20584-031E-01	31P	11.40	8.40	9.00	10.85	6.85	10.20
◆ 20584-035E-01	35P	12.60	9.60	10.20	12.05	8.05	11.40
◆ 20584-037E-01	37P	13.20	10.20	10.80	12.65	4.65	12.00
◆ 20584-039E-01	39P	13.80	10.80	11.40	13.25	5.25	12.60
◆ 20584-041E-01	41P	14.40	11.40	12.00	13.85	5.85	13.20
◆ 20584-045E-01	45P	15.60	12.60	13.20	15.05	7.05	14.40
◆ 20584-047E-01	47P	16.20	13.20	13.80	15.65	7.65	15.00
◆ 20584-051E-01	51P	17.40	14.40	15.00	16.85	8.85	16.20
◆ 20584-053E-01	53P	18.00	15.00	15.60	17.45	9.45	16.80
◆ 20584-057E-01	57P	19.20	16.20	16.80	18.65	10.65	18.00
◆ 20584-061E-01	61P	20.40	17.40	18.00	19.85	11.85	19.20
◆ 20584-063E-01	63P	21.00	18.00	18.60	20.45	8.45	19.80
◆ 20584-071E-01	71P	23.40	20.40	21.00	22.85	10.85	22.20

◆ MARK MEANS NOT AVAILABLE.

NOTES:

- 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.
- 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.

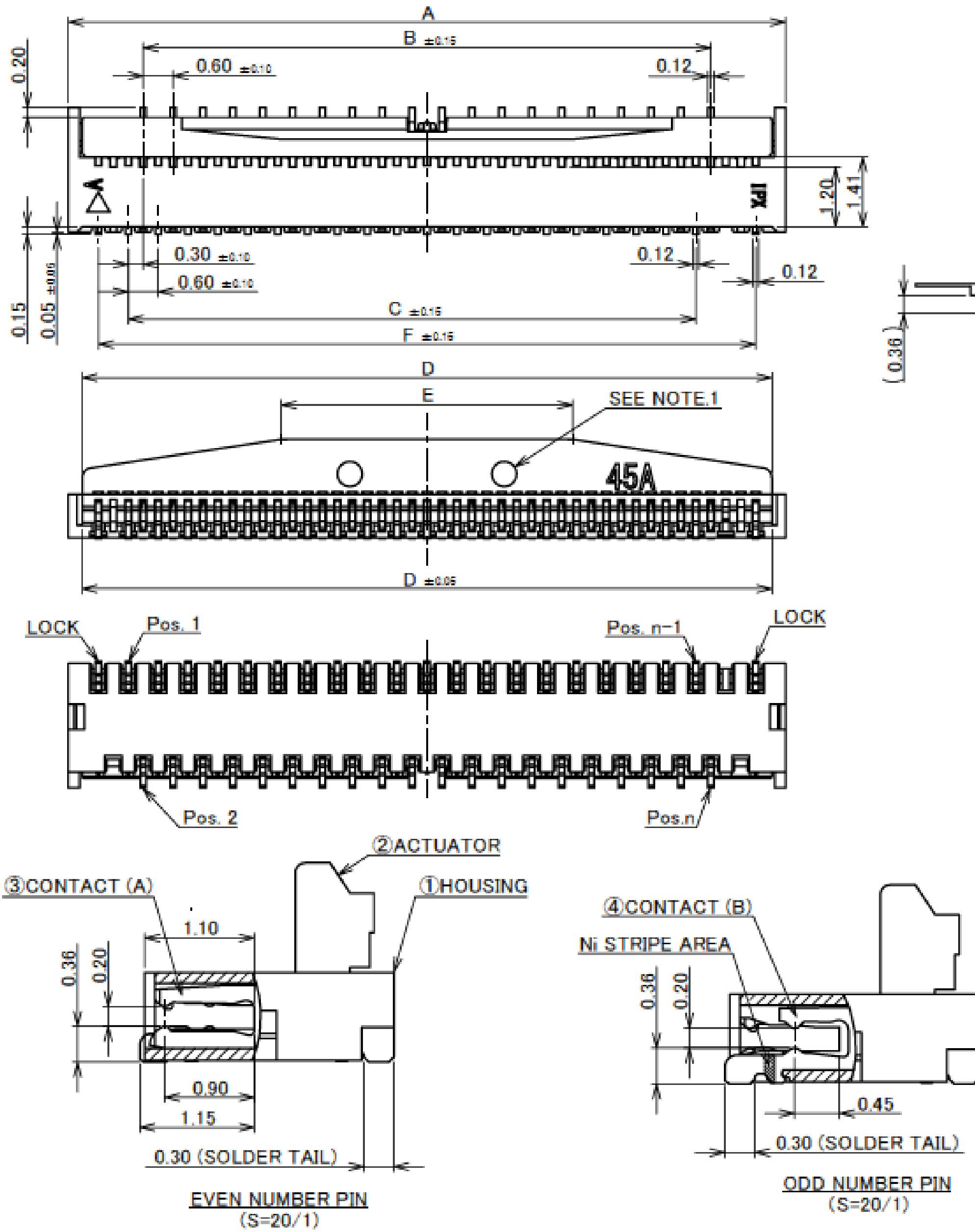
TABLE 1

PART NO.	FINISH	
20584-0**E-01	CONTACT AREA : Au 0.10 μ m MIN. OVER Ni 1.00 μ m MIN. SOLDERING AREA : Au 0.03 μ m MIN. OVER Ni 1.00 μ m MIN.	
5	LOCK	PHOSPHOR BRONZE SOLDERING AREA : Au 0.03 μ m MIN. OVER Ni 1.00 μ m MIN.
4	CONTACT (B)	PHOSPHOR BRONZE SEE TABLE 1, WITH Ni STRIPE
3	CONTACT (A)	PHOSPHOR BRONZE SEE TABLE 1
2	ACTUATOR	LCP UL94V-0, BEIGE
1	HOUSNIG	LCP UL94V-0, BEIGE
NO.	DISCRIPTION	MATERIAL FINISH , REMARKS

Rev.18

Connector Assembly

EVEN NUMBER POS.

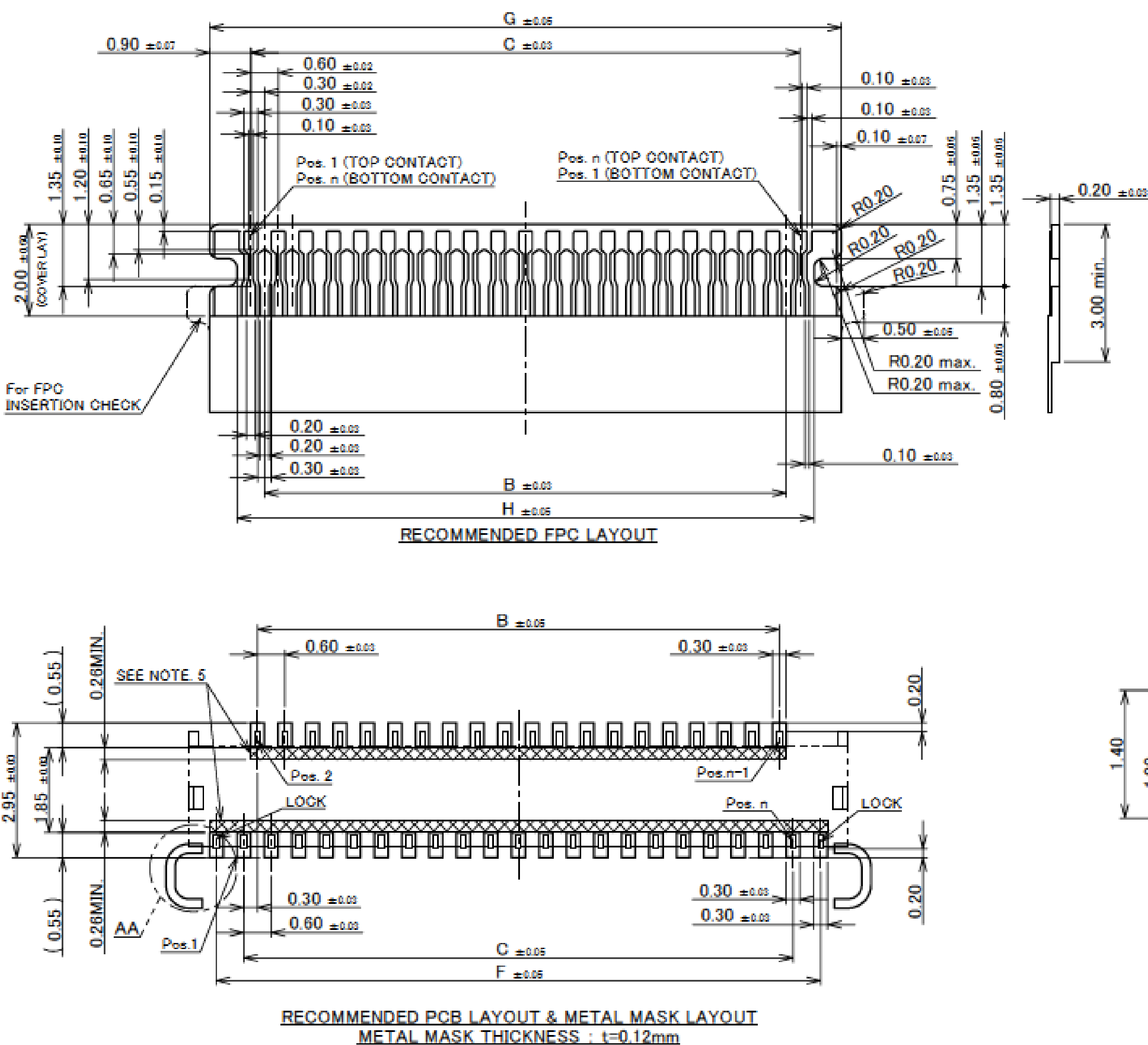


PART NO.	Pos.	A	B	C	D	E	F
◆ 20584-030E-01	30P	11.40	8.40	8.40	10.85	6.85	10.20
◆ 20584-034E-01	34P	12.60	9.60	9.60	12.05	8.05	11.40
◆ 20584-038E-01	38P	13.80	10.80	10.80	13.25	5.25	12.60
◆ 20584-040E-01	40P	14.40	11.40	11.40	13.85	5.85	13.20
◆ 20584-050E-01	50P	17.40	14.40	14.40	16.85	8.85	16.20
◆ 20584-056E-01	56P	19.20	16.20	16.20	18.65	10.65	18.00

◆ MARK MEANS NOT AVAILABLE.

Rev.18

ODD NUMBER POS.



PART NO.	Pos.	B	C	F	G	H
◆ 20584-029E-01	29P	7.80	8.40	9.60	10.20	9.00
◆ 20584-031E-01	31P	8.40	9.00	10.20	10.80	9.60
◆ 20584-035E-01	35P	9.60	10.20	11.40	12.00	10.80
◆ 20584-037E-01	37P	10.20	10.80	12.00	12.60	11.40
◆ 20584-039E-01	39P	10.80	11.40	12.60	13.20	12.00
◆ 20584-041E-01	41P	11.40	12.00	13.20	13.80	12.60
◆ 20584-045E-01	45P	12.60	13.20	14.40	15.00	13.80
◆ 20584-047E-01	47P	13.20	13.80	15.00	15.60	14.40
◆ 20584-051E-01	51P	14.40	15.00	16.20	16.80	15.60
◆ 20584-053E-01	53P	15.00	15.60	16.80	17.40	16.20
◆ 20584-057E-01	57P	16.20	16.80	18.00	18.60	17.40
◆ 20584-061E-01	61P	17.40	18.00	19.20	19.80	18.60
◆ 20584-063E-01	63P	18.00	18.60	19.80	20.40	18.60
◆ 20584-071E-01	71P	20.40	21.00	22.20	22.80	21.60

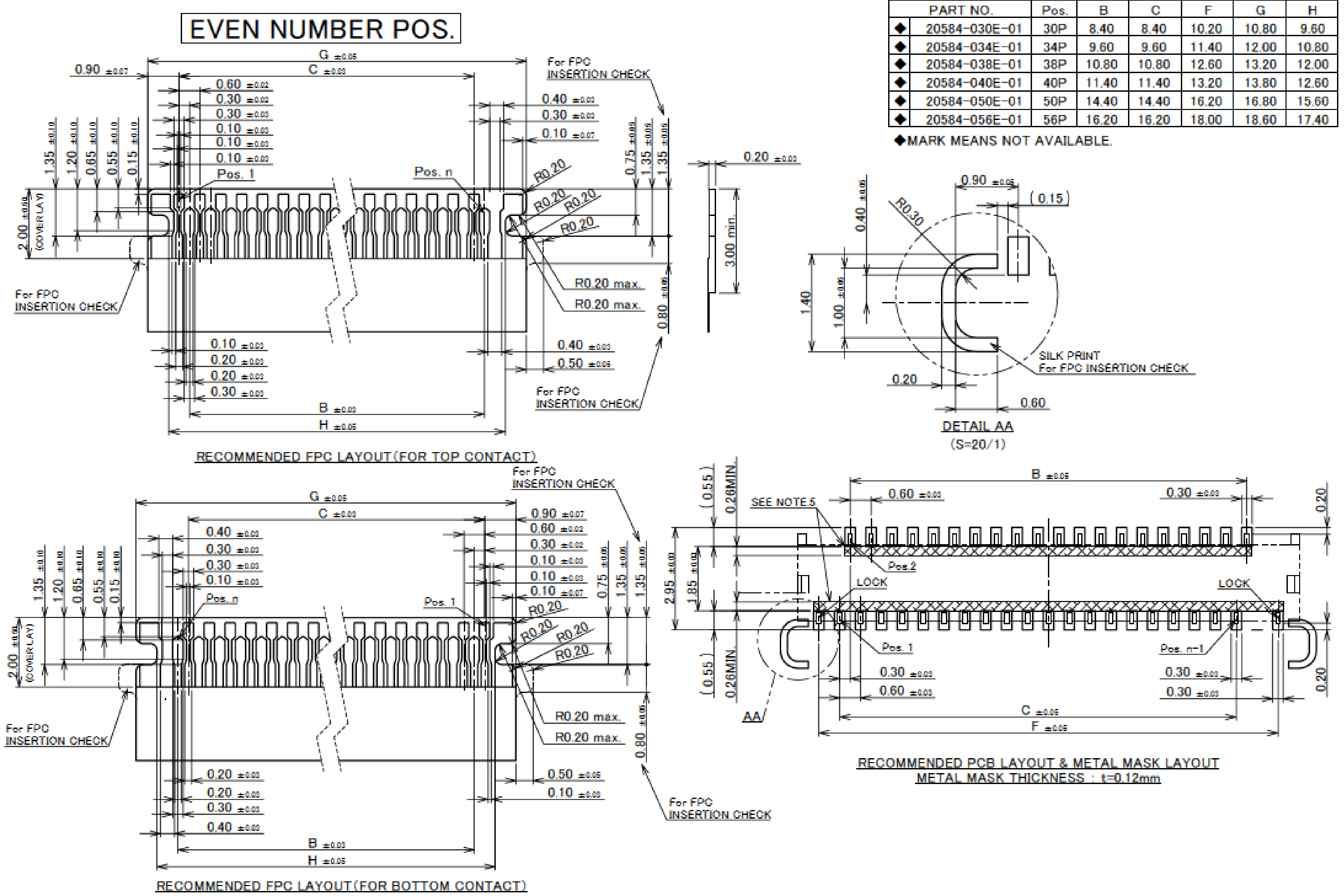
◆ MARK MEANS NOT AVAILABLE.

NOTES

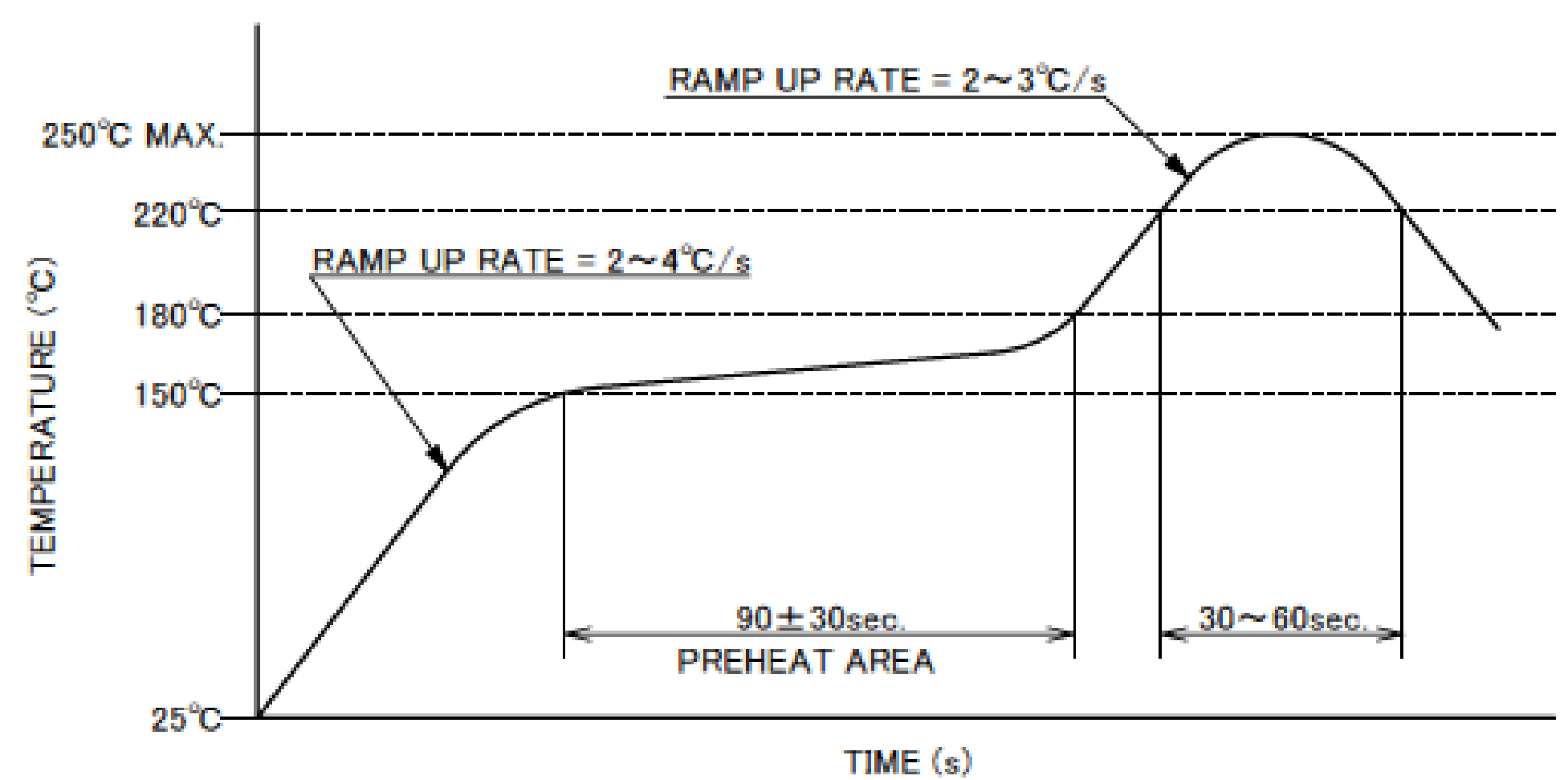
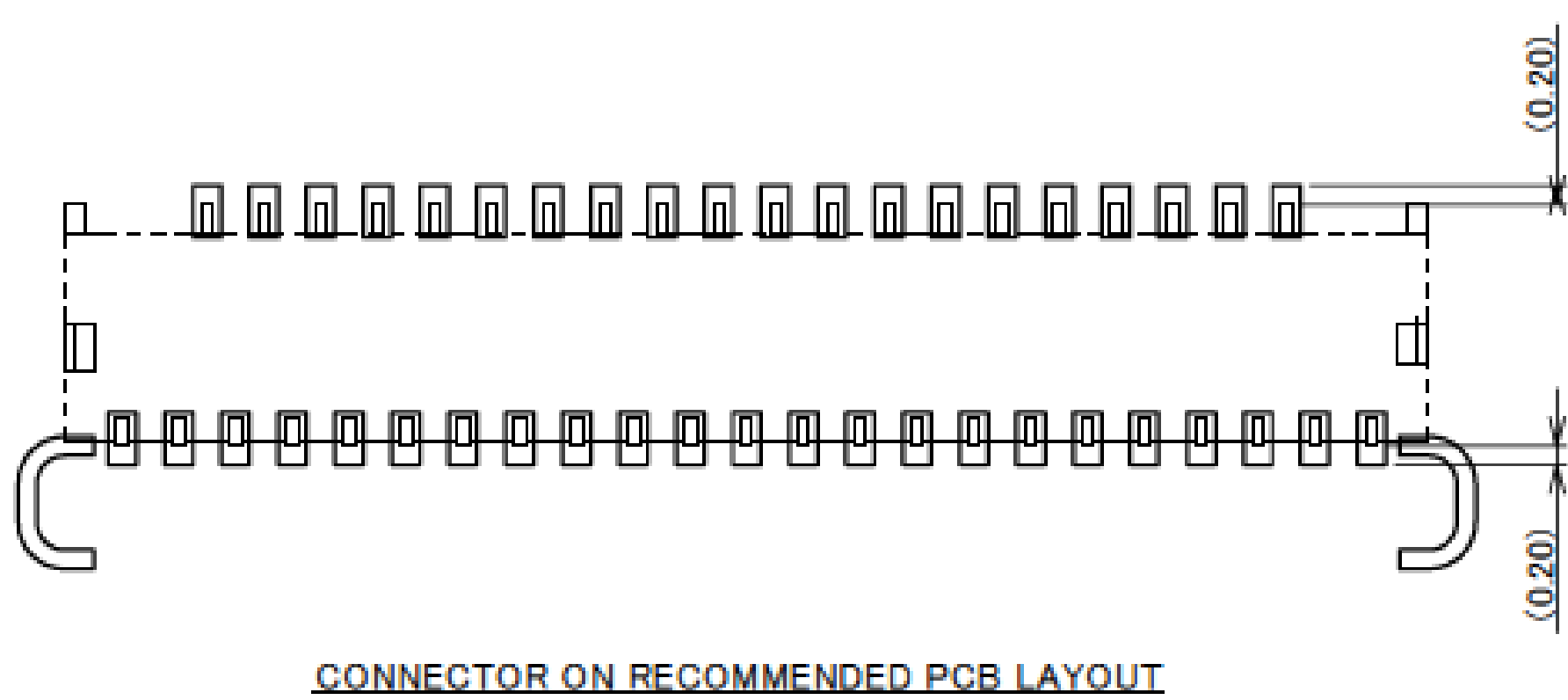
3. MATERIAL
COVER FILM : PI
CONDUCTOR : COPPER(RARE)
BASE FILM : PI
STIFFENER : PI
ADHESIVE : THERMOSETTING ADHESIVE
4. FINISH
Au OVER Ni UNDER PLATING.
5. SOLDER RESIST SHALL BE APPLIED TO PREVENT SHORT CIRCUITS WHEN PLACING SIGNAL LINES ON GROUND AREA.

Rev.18

Connector Assembly



Rev.18



Connector Assembly

ITEMS	SPECIFICATION
RATING VOLTAGE	50V AC (PER CONTACT)
RATING AMPERAGE	0.3A DC (PER CONTACT)
OPERATING TEMPERATURE	233~358K (-40°C~+85°C)
OPERATING HUMIDITY	20~80%RH
CONTACT RESISTANCE	INITIAL : 60mohm MAX. / AFTER TEST : \triangle 40mohm MAX.
INSULATION RESISTANCE	100Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	20 CYCLES
ACTUATOR LOCKING FORCE (INITIAL / 20 CYCLES)	INITIAL / 20 CYCLES 0.21N (21gf) \times (n + 2) MAX.
ACTUATOR UNLOCKING FORCE (INITIAL / 20 CYCLES)	INITIAL / 20 CYCLES 0.014N (1.4gf) \times (n + 2) MIN.
FPC RETENTION FORCE (INITIAL / AFTER TEST)	INITIAL: 0.13N (13gf) \times n + 1.0N MIN. / AFTER TEST: 0.10N (10gf) \times n + 1.0N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-1789
TEST REPORT	TR-13022
PACKING STANDARD	PST-13013
INSTRUCTION MANUAL	HIM-12007
APPEARANCE CRITERIA No.	QLS-A***

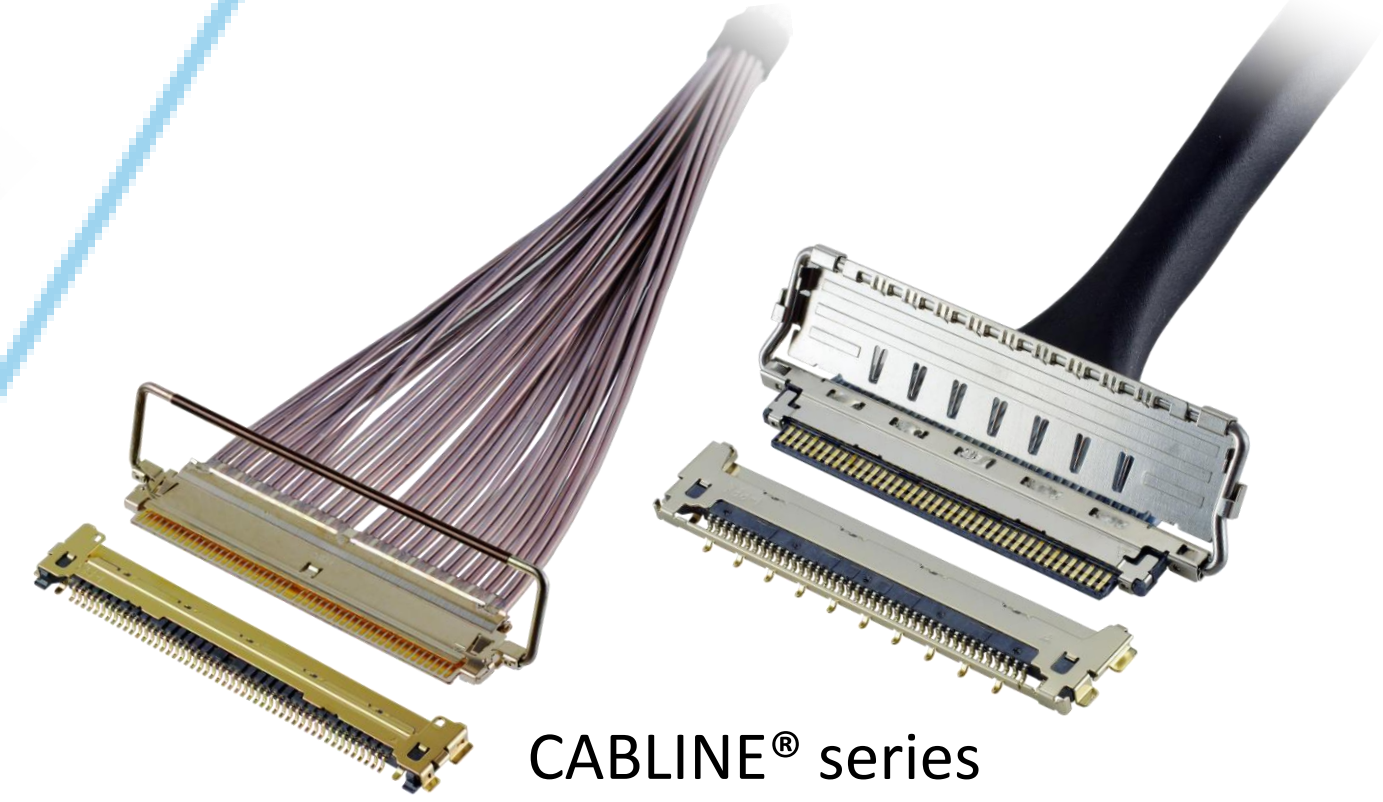
※ "n" IS THE NUMBER OF PIN

Rev.18

Custom Connectors Available

 RF Connectors

MHF® series



CABLINA® series



Micro-coaxial/Twinax Connectors

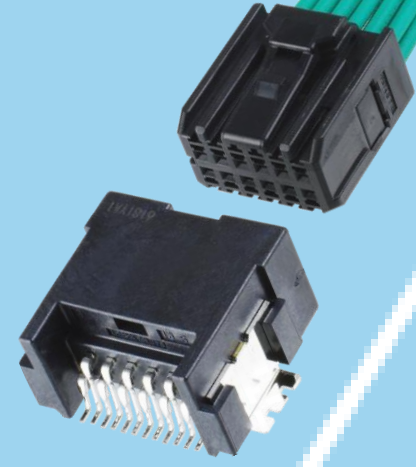


Wire-to-Board Connectors/Terminals

AP series



ISH® series



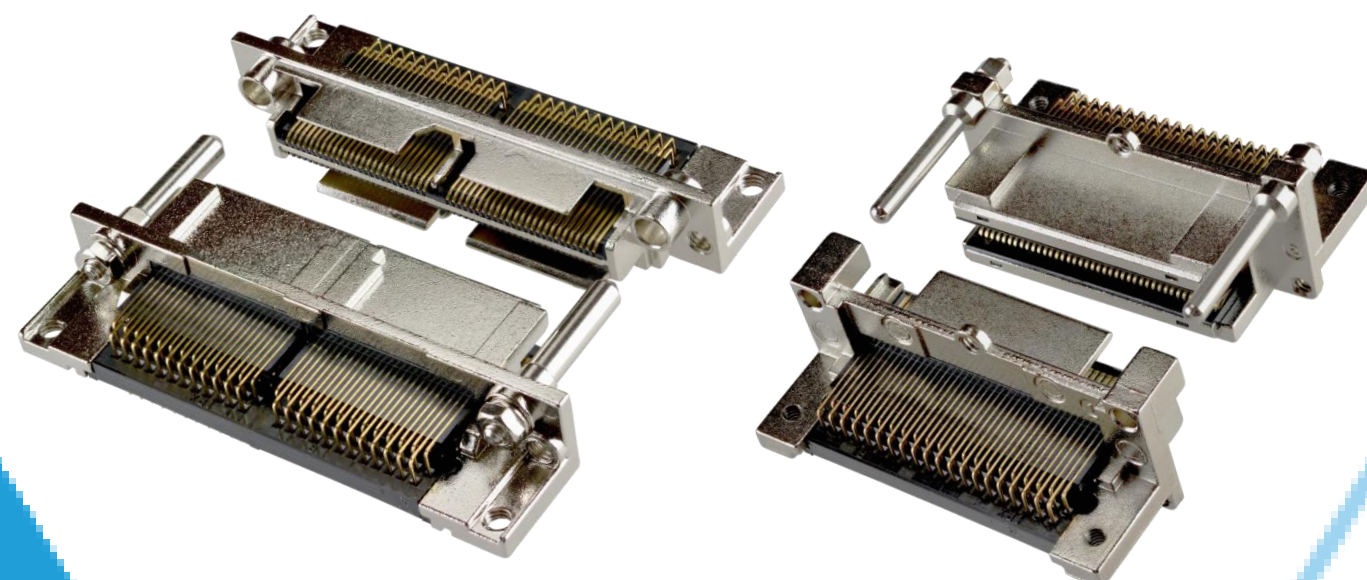
NOVASTACK® series



Board-to-Board Connectors



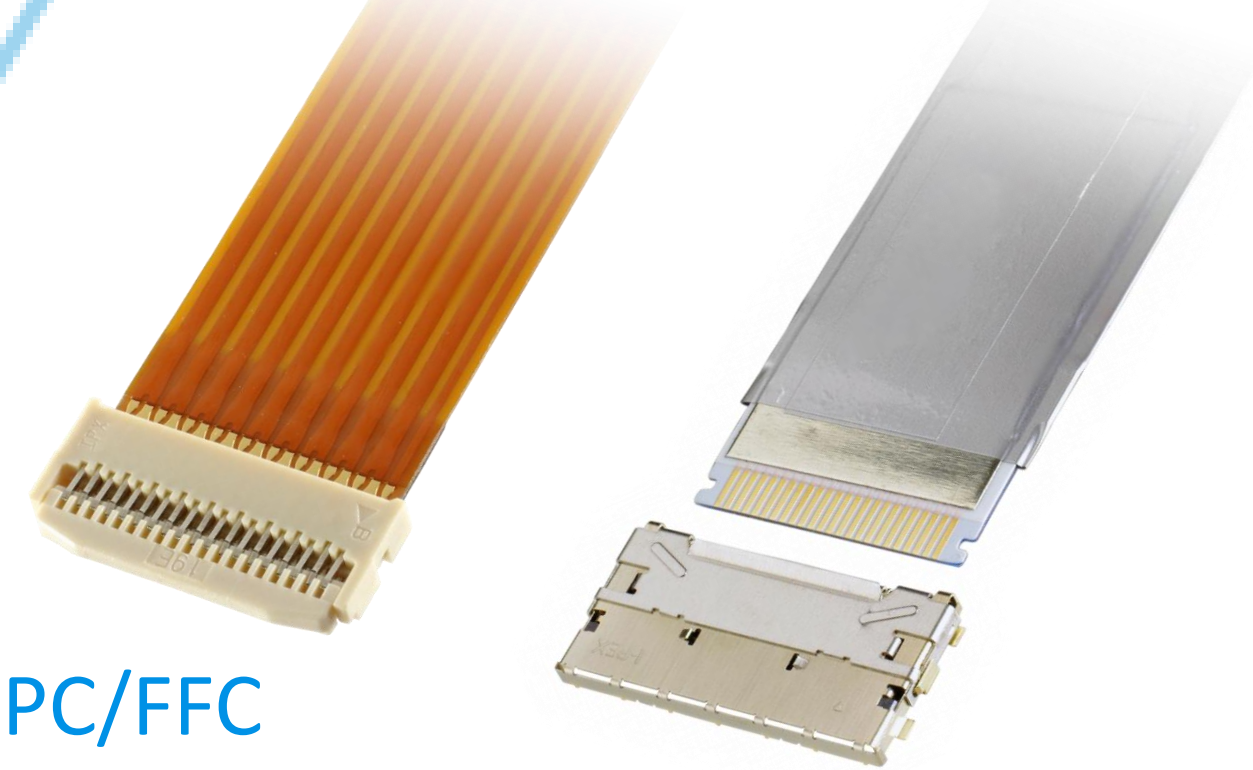
I/O Connectors



MINIDOCK™ series

MINIFLEX® series

EVAFLEX® series



FPC/FFC Connectors



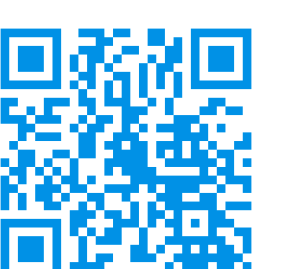
Inquiry



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