

# MINIFLEX® 5-BFN II

Robust design with hold-down feature, high temperature resistance (125°C), low profile (height = 1.0 mm), 0.5 mm pitch, horizontal, backflip

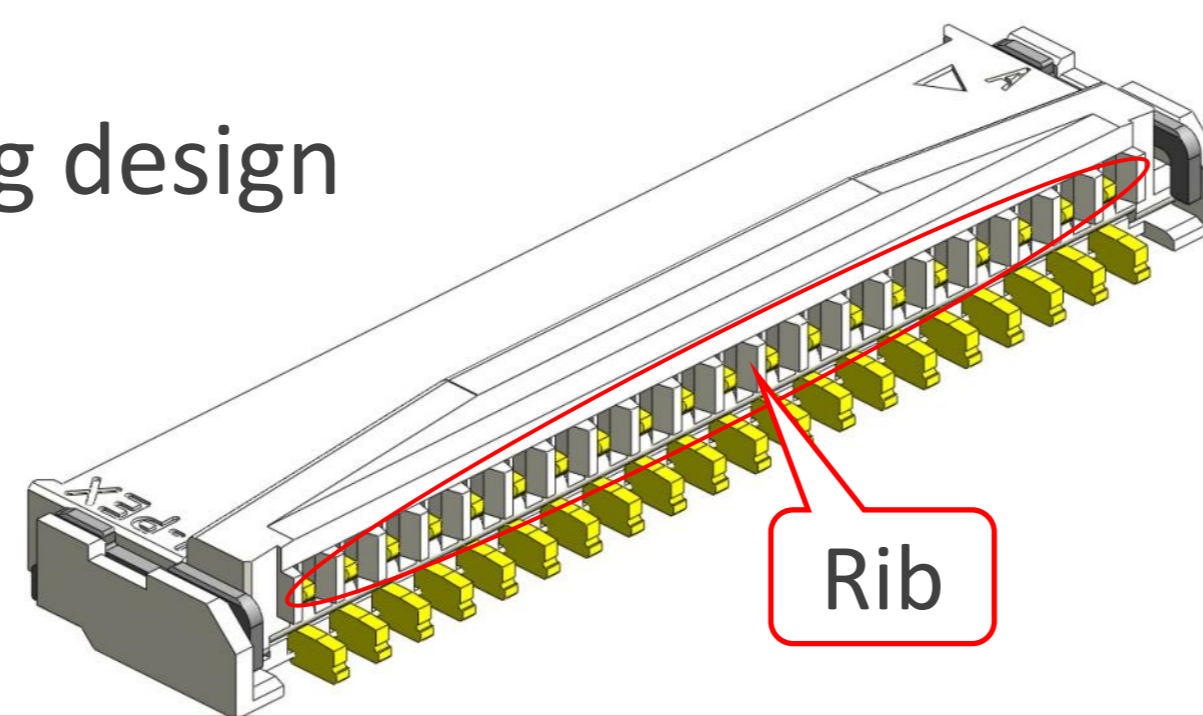


Product Specifications:		Short Actuator	Long Actuator	Applicable FPC/FFC:	
Board Pitch (mm)		0.5		FPC/FFC Contact Pitch	0.5
Wiping Length (mm)		1		FPC/FFC Contact Point	Top and Bottom
Size (mm)	Height	1.0 +/- 0.1		FPC/FFC Thickness (mm)	0.3 +/- 0.05
	Width	Formula: 1.7+(0.5*p)			
	Depth	Open: 3			
		Close: 3.5	Close: 4.0		
Pin counts	Range	4-30 (even)	32-60 (even)		
	Available	4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30	32, 34, 40, 50, 54		

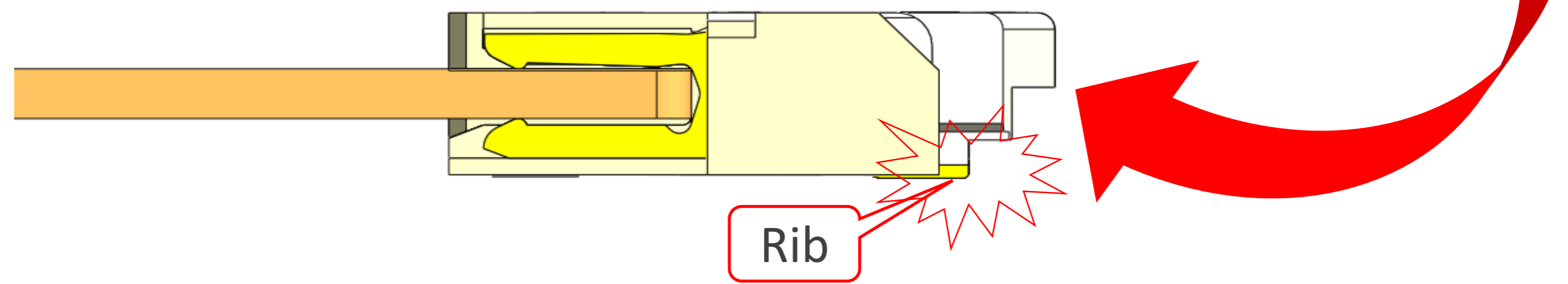
\* Please inquire for pin counts not listed or outside of the pin count range.

## ► Designed to prevent contact distortion

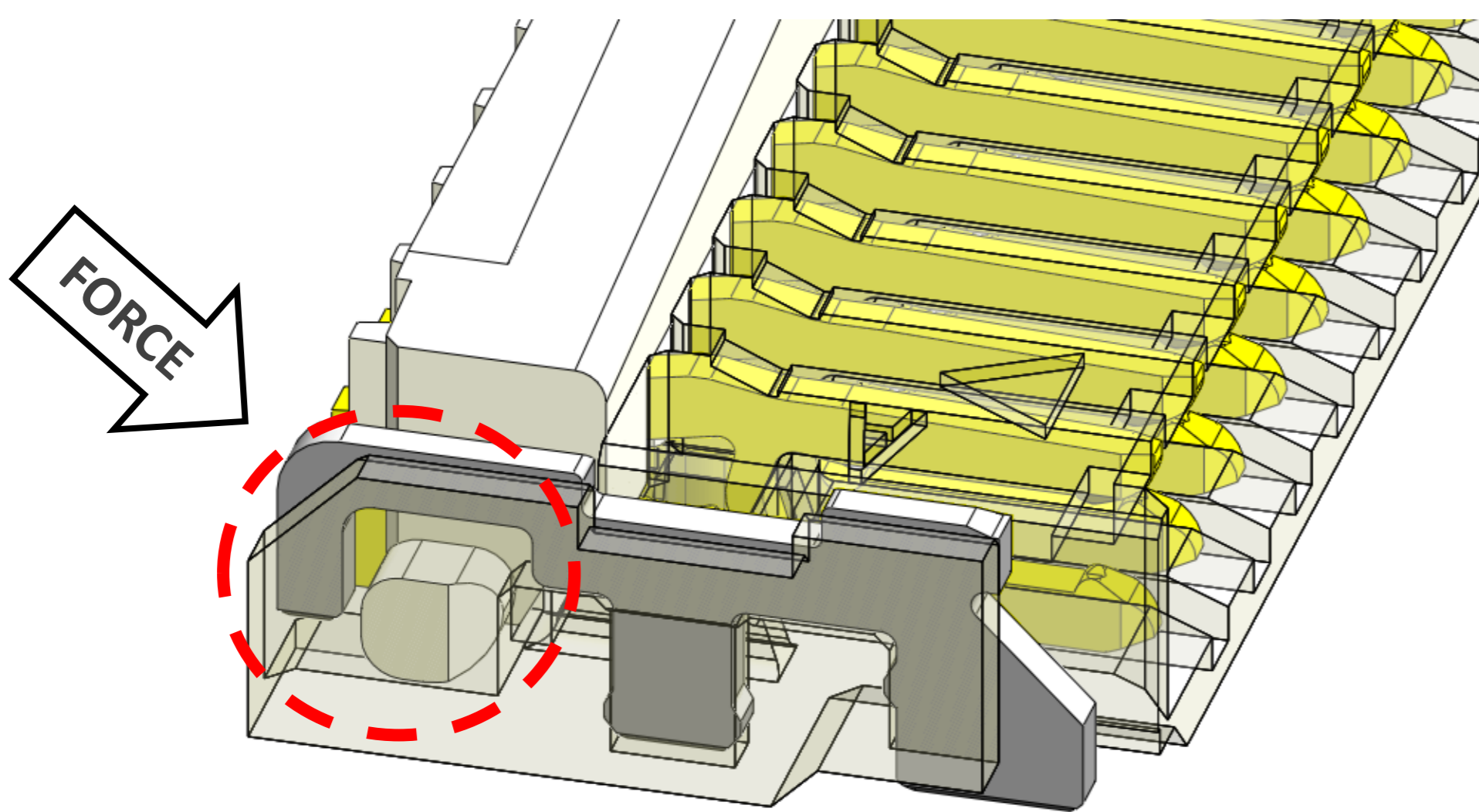
Contact distortion preventing design



When opening the actuator, the rib will prevent the contacts being pulled up



## ► Unique actuator holder design prevents actuator drop-off



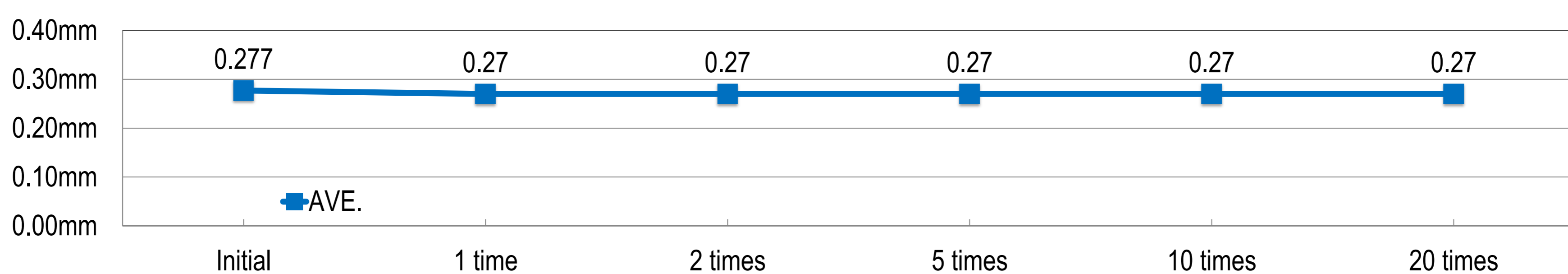
Actuator will not fall-off even at **100 N** force

- \*Housing destruction occurs first
- \*Force applied from 30 degrees backwards

## ► 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 22 pins before and after operating actuator without FPC inserted)

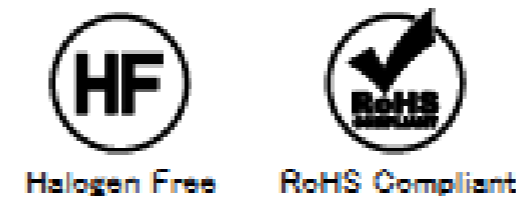
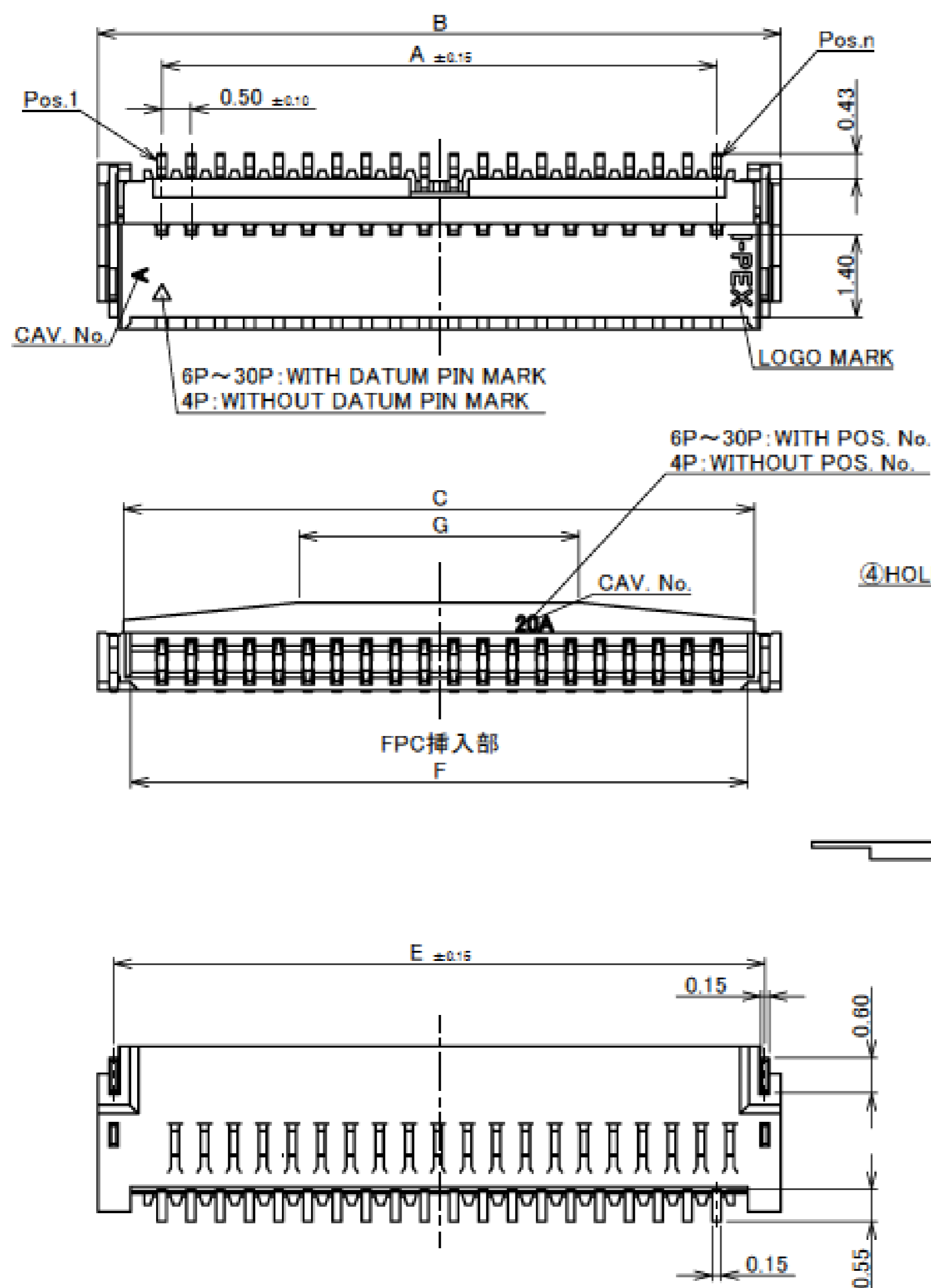


- Insertion force of connector goes up
- Retention force of connector does not change significantly

# Component Parts Details

## Connector Assembly

Recommended P/N 20542-0\*\*E-01



PART No.	POS.	A	B	C	D	E	F	G
20542-004E-01	4	1.50	3.70	2.80	2.50	3.15	2.56	1.80
20542-006E-01	6	2.50	4.70	3.80	3.50	4.15	3.56	2.80
20542-008E-01	8	3.50	5.70	4.80	4.50	5.15	4.56	3.80
20542-010E-01	10	4.50	6.70	5.80	5.50	6.15	5.56	4.80
20542-012E-01	12	5.50	7.70	6.80	6.50	7.15	6.56	5.80
20542-014E-01	14	6.50	8.70	7.80	7.50	8.15	7.56	6.80
20542-016E-01	16	7.50	9.70	8.80	8.50	9.15	8.56	7.80
20542-018E-01	18	8.50	10.70	9.80	9.50	10.15	9.56	8.80
20542-020E-01	20	9.50	11.70	10.80	10.50	11.15	10.56	9.80
20542-022E-01	22	10.50	12.70	11.80	11.50	12.15	11.56	10.80
20542-024E-01	24	11.50	13.70	12.80	12.50	13.15	12.56	11.80
20542-026E-01	26	12.50	14.70	13.80	13.50	14.15	13.56	12.80
20542-028E-01	28	13.50	15.70	14.80	14.50	15.15	14.56	13.80
20542-030E-01	30	14.50	16.70	15.80	15.50	16.15	15.56	14.80

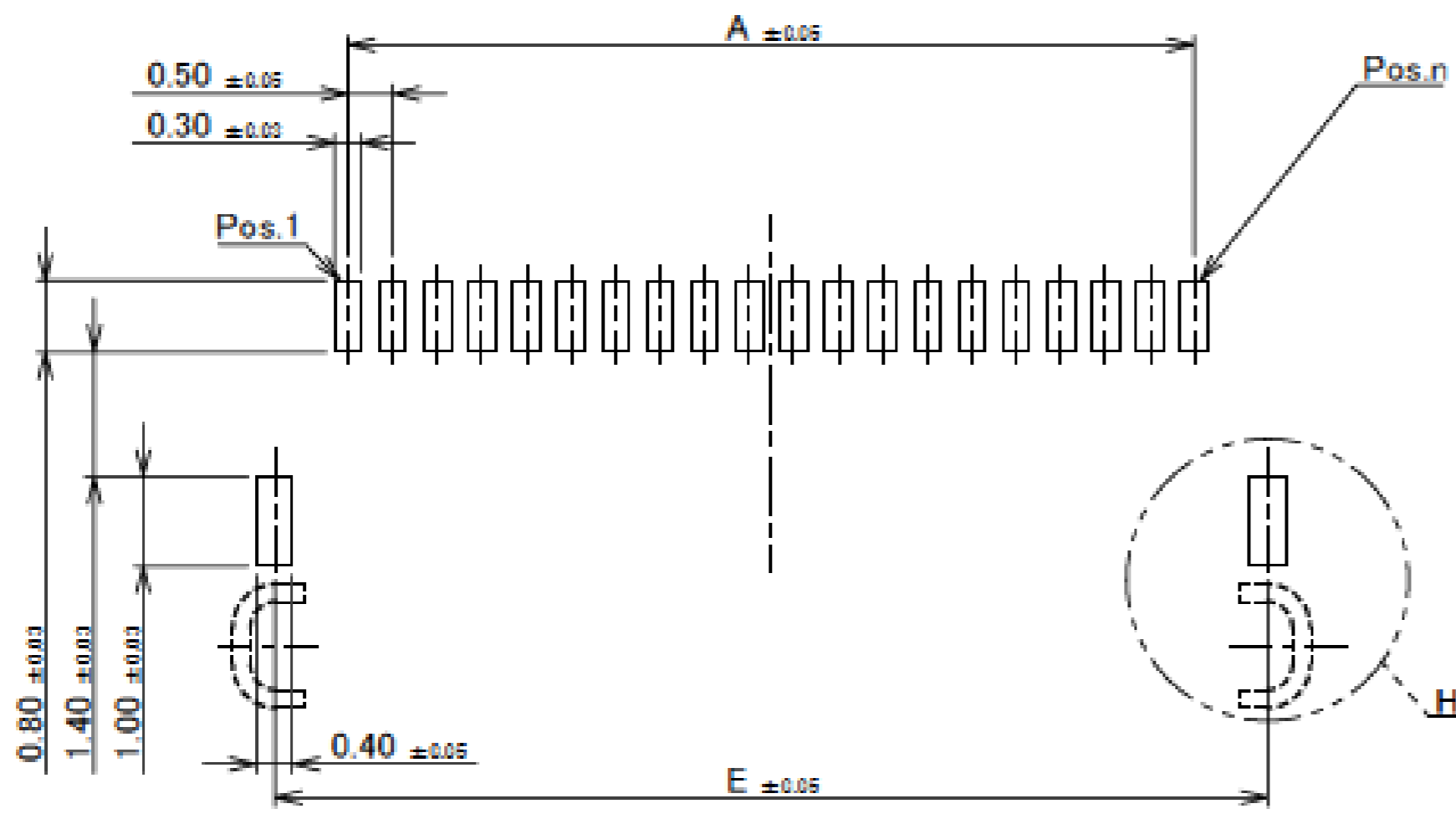
4	PHOSPHOR BRONZE	HOLD DOWN	Sn 2~6 μm MIN.OVER Ni 1.00 μm MIN.
3	PHOSPHOR BRONZE	CONTACT	CONTACT AREA : Au 0.1 μm MIN. OVER Ni 1.0 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.0 μm MIN.
2	LCP	ACTUATOR	UL94V-0, BEIGE
1	LCP	HOUSING	UL94V-0, BEIGE
NO.	MATERIAL	DISCRIPTION	FINISH , REMARKS

CAUTION VISIT OUR WEBSITE FOR LATEST VERSIONS OF INSTRUCTION MANUAL NO. HIM-12019 TO HANDLE THE PRODUCT PROPERLY AND SAFELY.

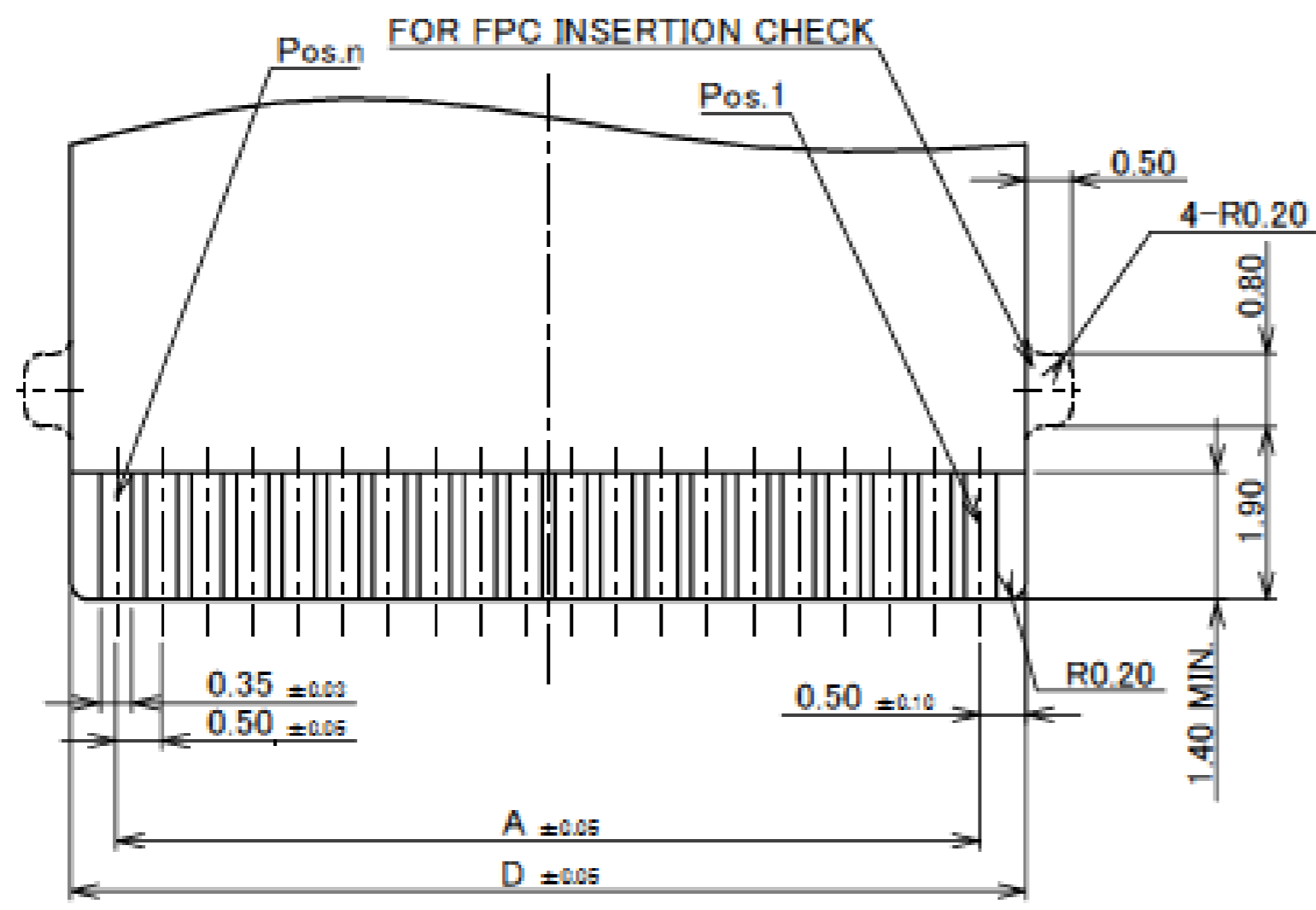
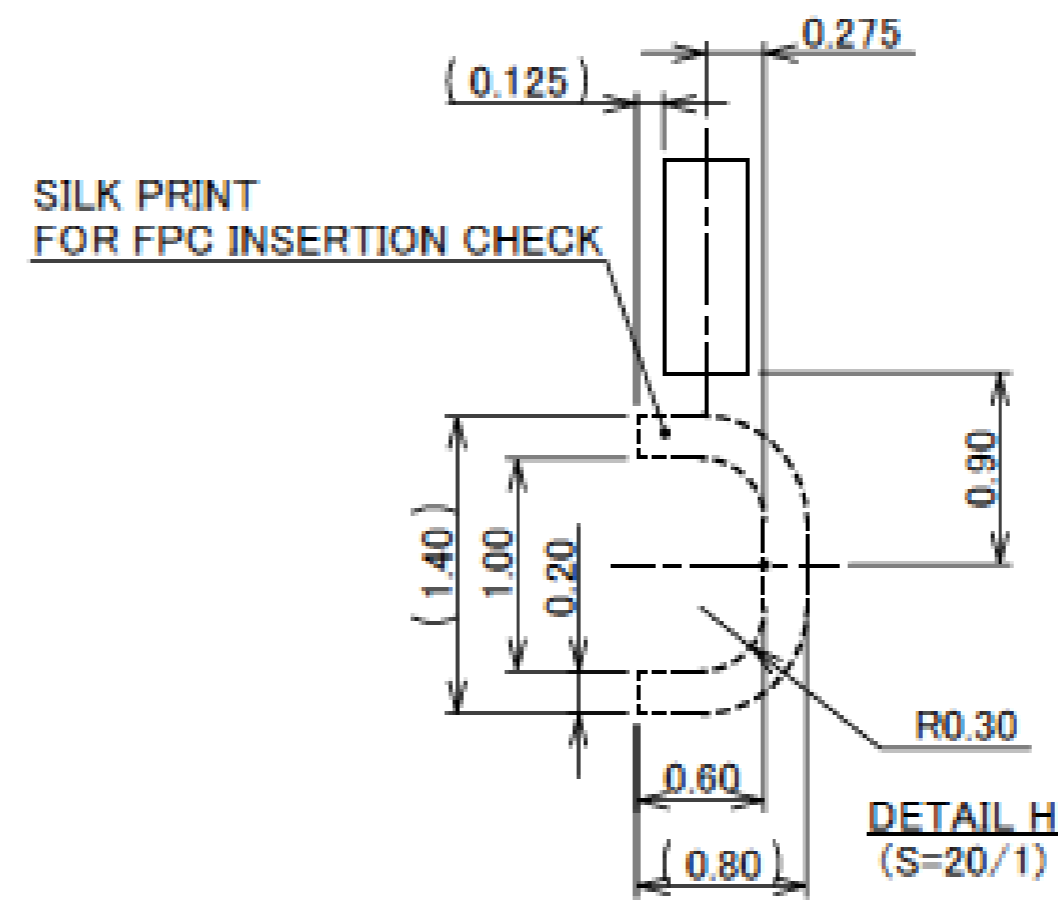
NOTES  
1. CONTACT TAIL IS PROJECTION FROM HOUSING IN THE + DIRECTION. (0~0.06)

# Connector Assembly

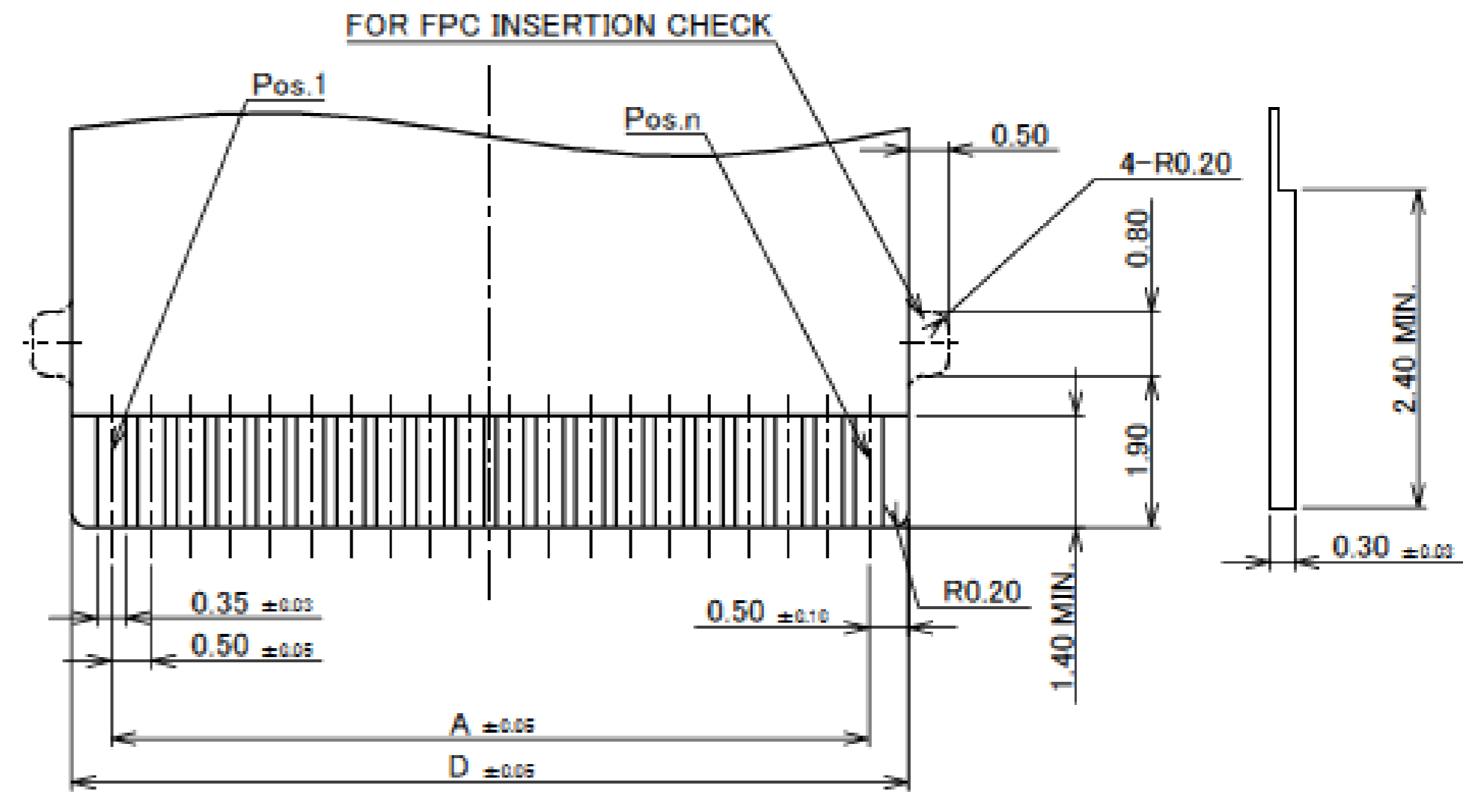
PART No.	POS.	A	D	E
20542-004E-01	4	1.50	2.50	3.15
20542-006E-01	6	2.50	3.50	4.15
20542-008E-01	8	3.50	4.50	5.15
20542-010E-01	10	4.50	5.50	6.15
20542-012E-01	12	5.50	6.50	7.15
20542-014E-01	14	6.50	7.50	8.15
20542-016E-01	16	7.50	8.50	9.15
20542-018E-01	18	8.50	9.50	10.15
20542-020E-01	20	9.50	10.50	11.15
20542-022E-01	22	10.50	11.50	12.15
20542-024E-01	24	11.50	12.50	13.15
20542-026E-01	26	12.50	13.50	14.15
20542-028E-01	28	13.50	14.50	15.15
20542-030E-01	30	14.50	15.50	16.15



RECOMMENDED PCB LAYOUT & METAL MASK LAYOUT  
METAL MASK THICKNESS : t=0.12mm



RECOMMENDED FPC LAYOUT (UPPER CONTACT TYPE)



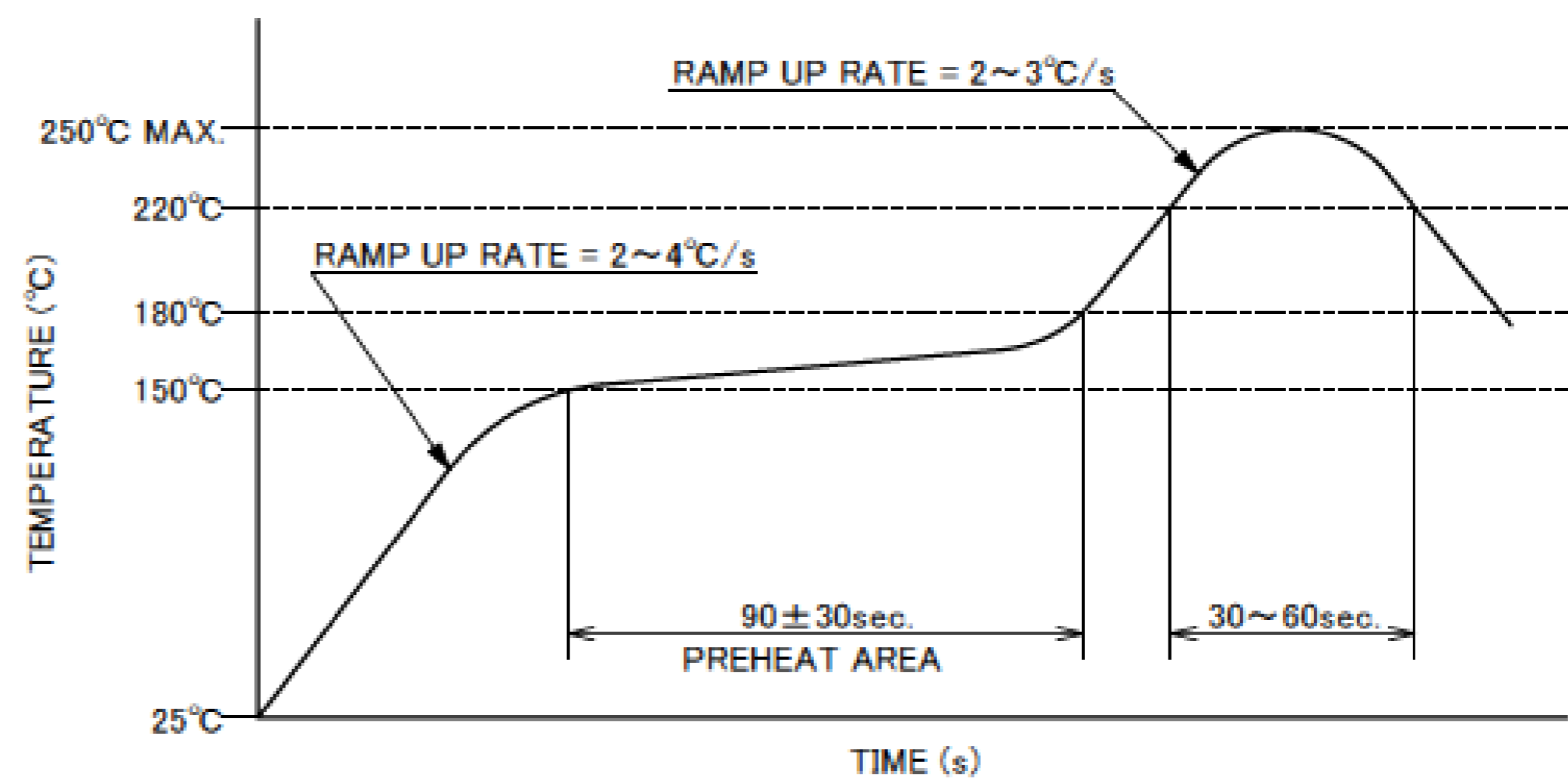
RECOMMENDED FPC LAYOUT (LOWER CONTACT TYPE)

- NOTES  
2.MATERIAL  
COVER FILM : PI  
CONDUCTOR : COPPER(RARE)  
BASE FILM : PI  
STIFFENER : PI  
ADHESIVE : THERMOSETTING ADHESIVE  
3.FINISH  
Au OVER Ni PLATING.

Rev.9



CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN



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

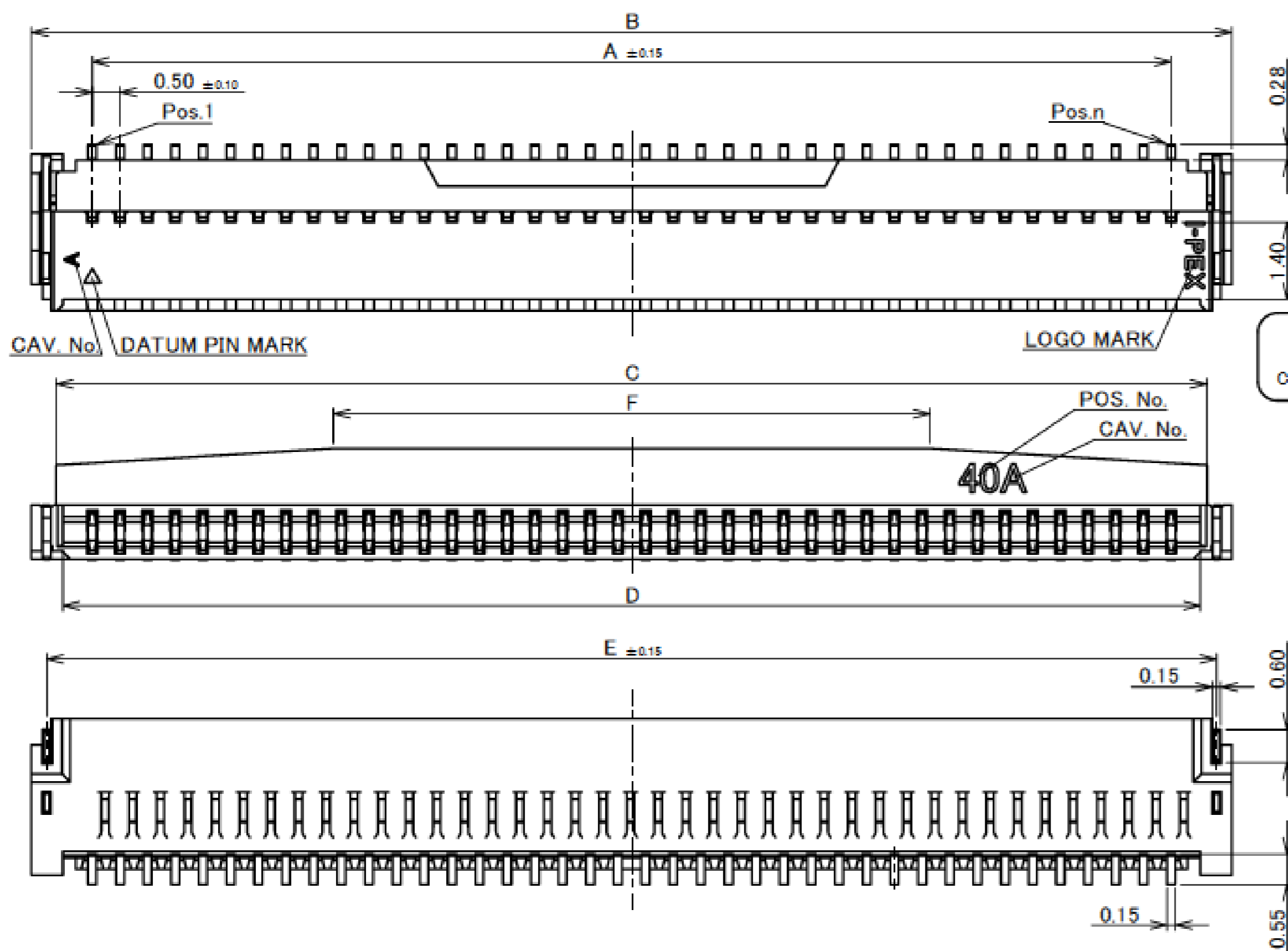
# Connector Assembly

ITEMS	SPECIFICATION
RATING VOLTAGE	50V AC (PER CONTACT PIN)
RATING AMPERAGE	0.5A DC (PER CONTACT PIN) 7.0A DC (PER CONNECTOR)
OPERATING TEMPERATURE	233~398K(-40°C~125°C)
OPERATING HUMIDITY	80% MAX.(NON-CONDENSING)
CONTACT RESISTANCE	INITIAL : 40mohm MAX. / AFTER TEST : $\surd$ 120mohm MAX.
INSULATION RESISTANCE	100Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC200V 1min
DURABILITY	20TH CYCLES
ACTUATOR LOCKING FORCE (INITIAL / 20TH CYCLES)	INITIAL / 20TH CYCLES : 0.6N(61gf) $\times$ n MAX.
ACTUATOR UNLOCKING FORCE (INITIAL / 20TH CYCLES)	INITIAL / 20TH CYCLES : 0.05N(5gf) $\times$ n MIN.
FPC RETENTION FORCE (INITIAL / AFTER TEST)	INITIAL / AFTER TEST : 0.15N(15gf) $\times$ n MIN.
COPLANARITY	0.08 MAX.
PRODUCT SPECIFICATION	PRS-1619
TEST REPORT	TR-12124
PACKING STANDARD	300-963
INSTRUCTION MANUAL	HIM-12019
APPEARANCE CRITERIA No.	QLS-A***

※ "n" IS THE NUMBER OF PIN

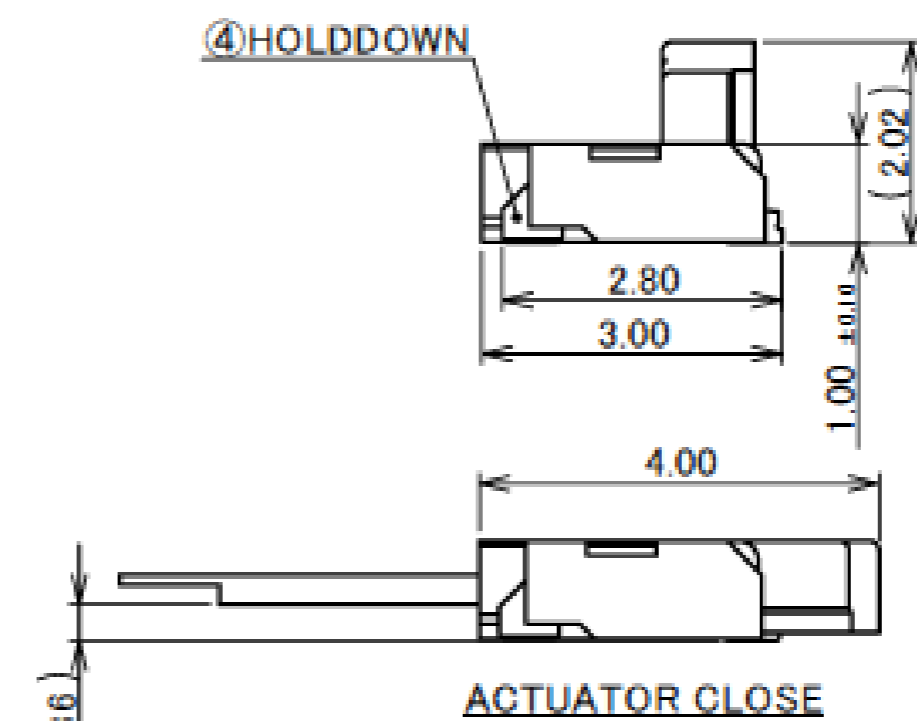
Rev.9

Recommended P/N 20586-0\*\*E-01

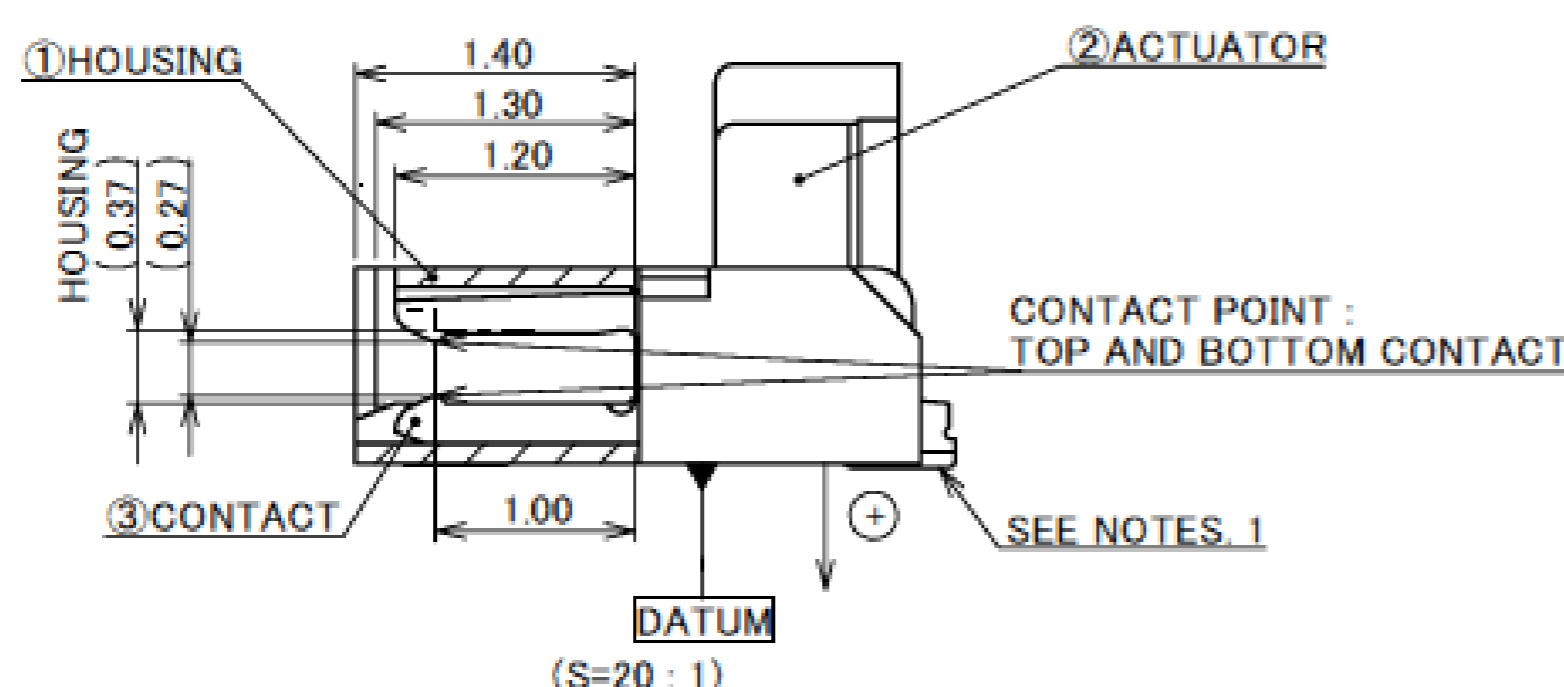


PART No.	POS.	A	B	C	D	E	F
20586-032E-01	32	15.50	17.70	16.80	16.56	17.15	10.80
20586-034E-01	34	16.50	18.70	17.80	17.56	18.15	11.80
◆20586-036E-01	36	17.50	19.70	18.80	18.56	19.15	8.80
20586-040E-01	40	19.50	21.70	20.80	20.56	21.15	10.80
◆20586-044E-01	44	21.50	23.70	22.80	22.56	23.15	12.80
◆20586-048E-01	48	23.50	25.70	24.80	24.56	25.15	9.80
20586-050E-01	50	24.50	26.70	25.80	25.56	26.15	10.80
20586-054E-01	54	26.50	28.70	27.80	27.56	28.15	12.80
◆20586-060E-01	60	29.50	31.70	30.80	30.56	31.15	15.80

CAUTION VISIT OUR WEBSITE FOR LATEST VERSIONS OF INSTRUCTION MANUAL NO. HIM-12019 TO HANDLE THE PRODUCT PROPERLY AND SAFELY.



HF Halogen Free RoHS Compliant

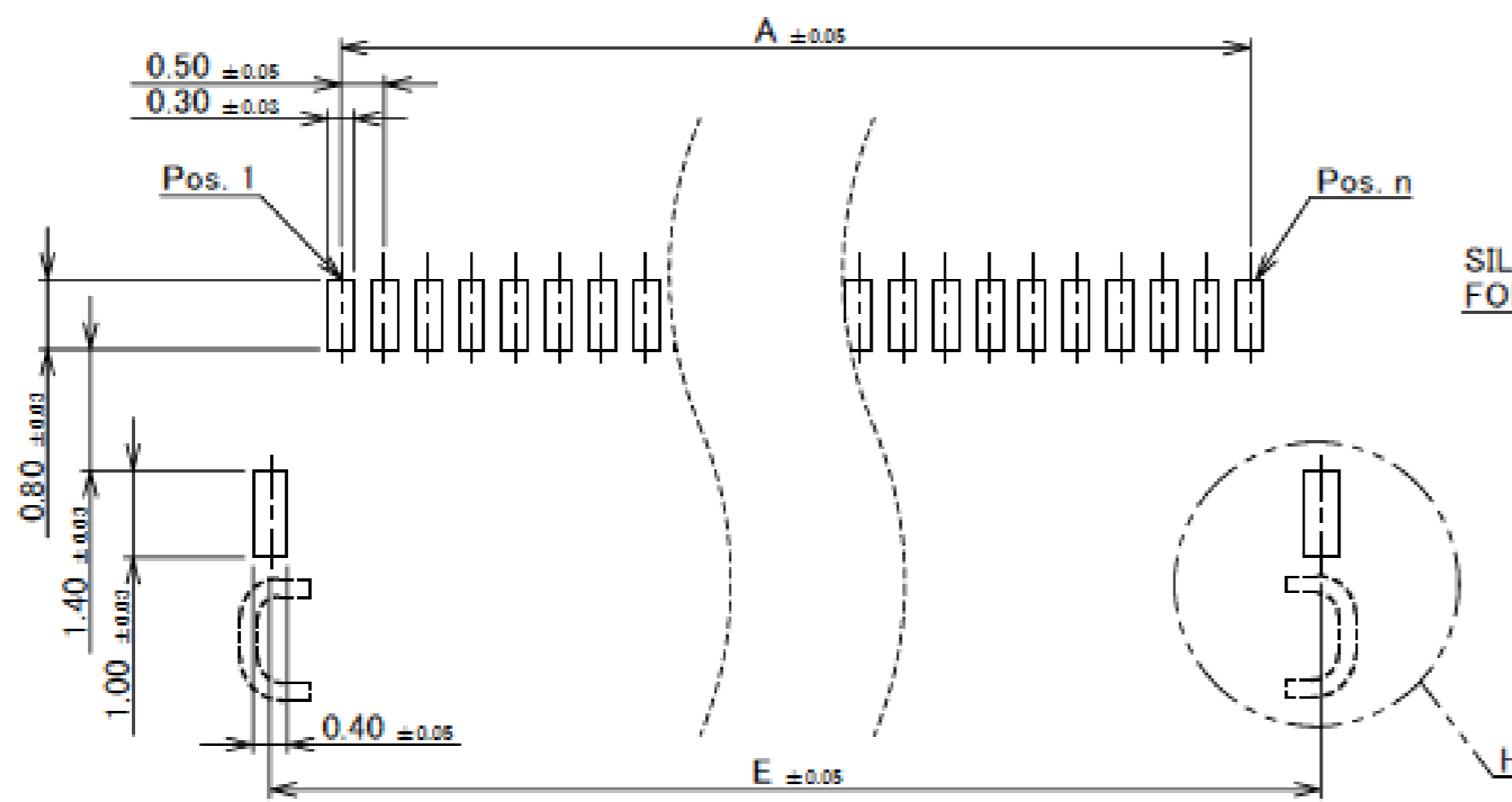


NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS
4	HOLD DOWN	PHOSPHOR BRONZE	Sn 2~6 $\mu$ m MIN.OVER Ni 1.00 $\mu$ m MIN.
3	CONTACT	PHOSPHOR BRONZE	CONTACT AREA : Au 0.1 $\mu$ m MIN. OVER Ni 1.0 $\mu$ m MIN. SOLDERING AREA : Au 0.03 $\mu$ m MIN. OVER Ni 1.0 $\mu$ m MIN.
2	ACTUATOR	LCP	UL94V-0, BEIGE
1	HOUSING	LCP	UL94V-0, BEIGE

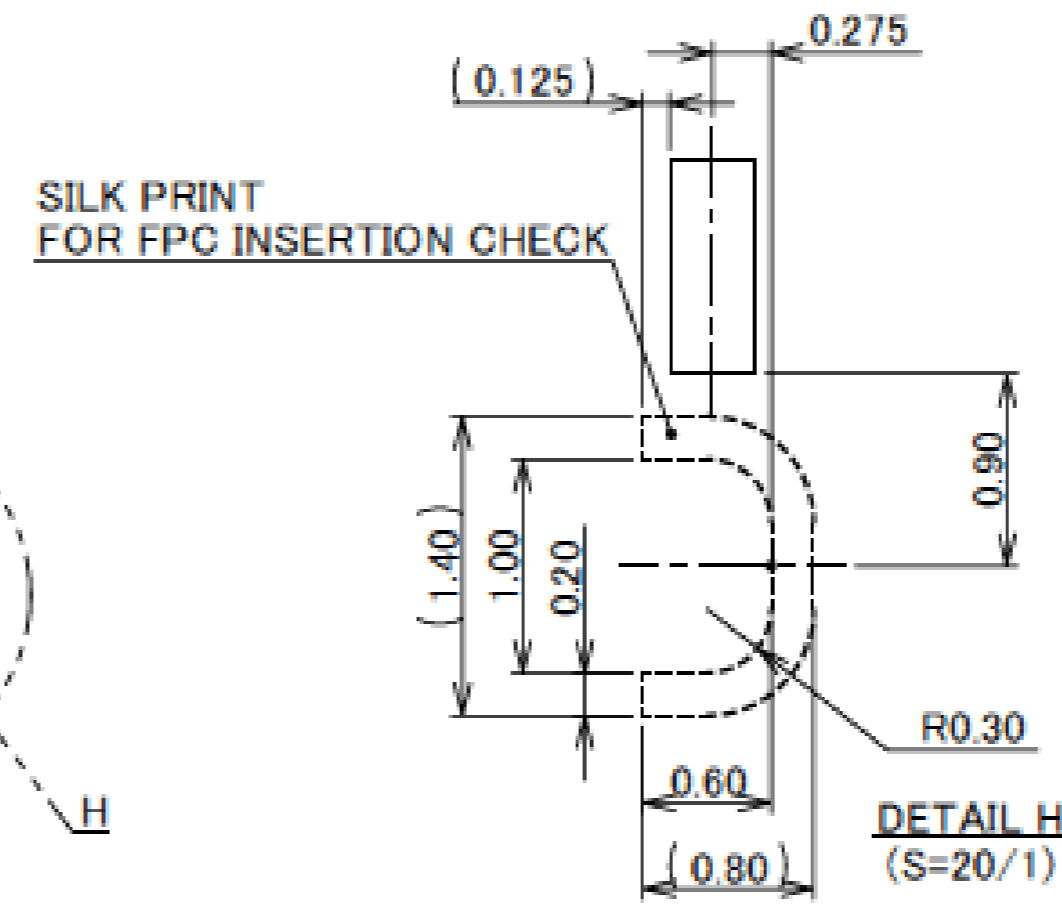
NOTES  
1. CONTACT TAIL IS PROJECTION FROM HOUSING IN THE + DIRECTION. (0~0.06)

Rev.10

# Connector Assembly

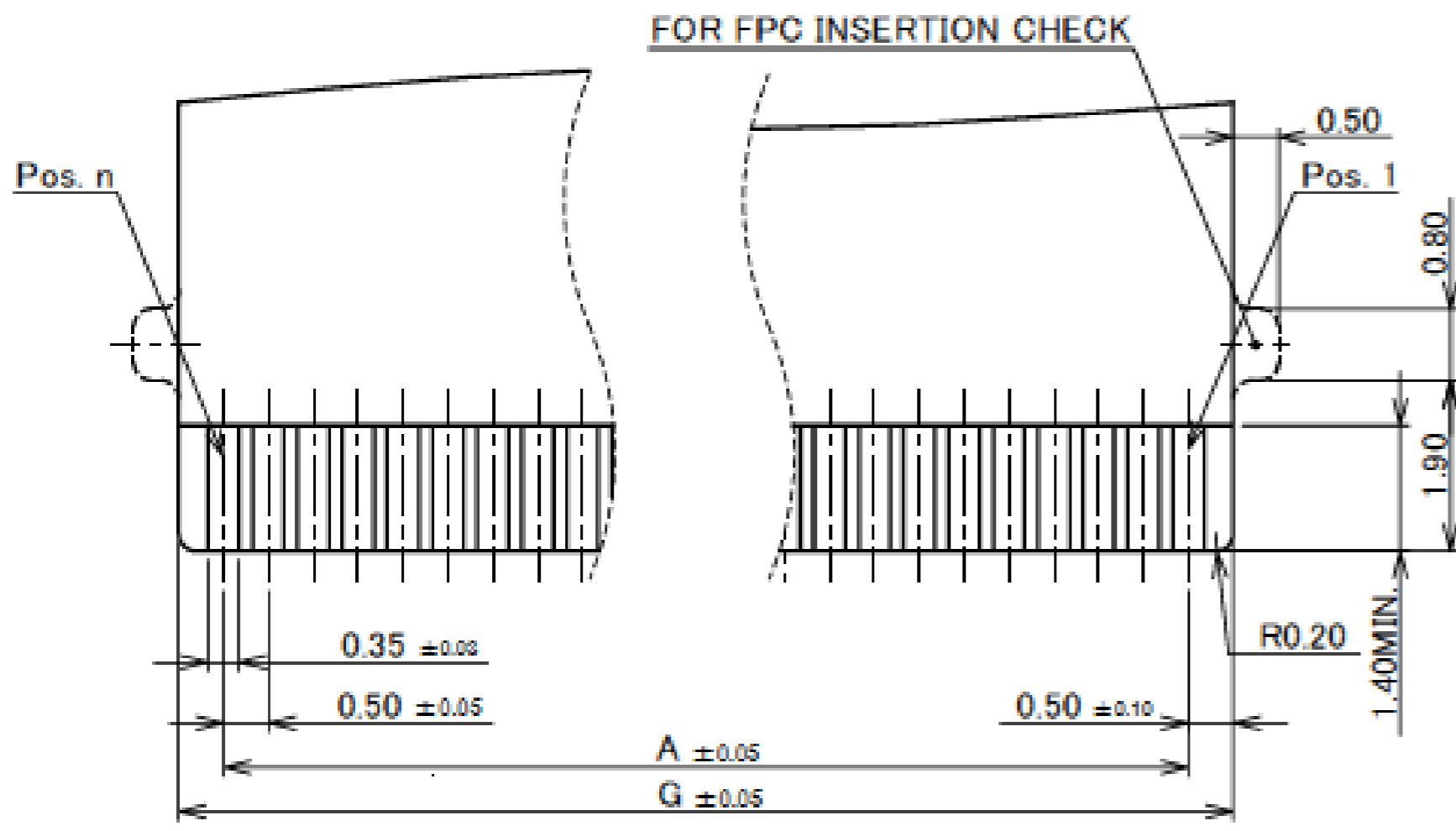


RECOMMENDED PCB LAYOUT & METAL MASK LAYOUT  
METAL MASK THICKNESS : t=0.12mm

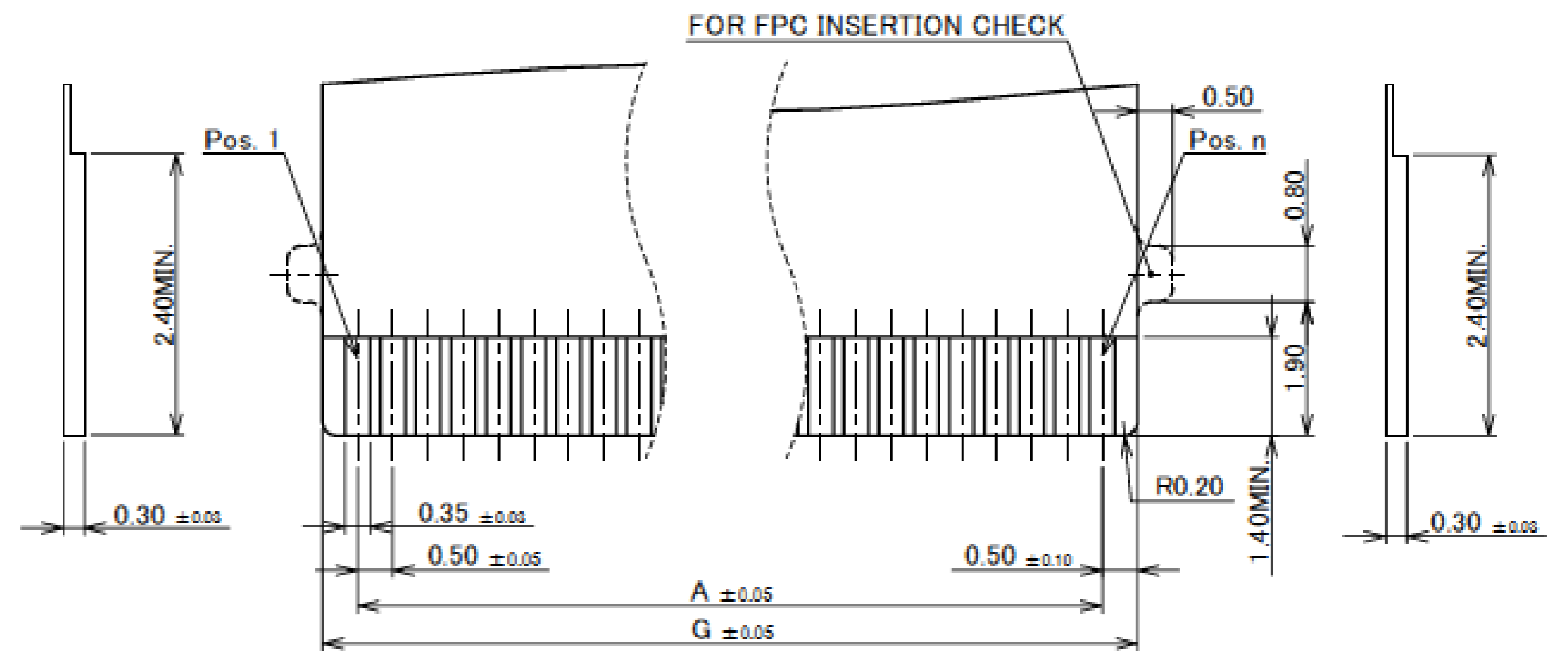


PART No.	POS.	A	E	G
20586-032E-01	32	15.50	17.15	16.50
20586-034E-01	34	16.50	18.15	17.50
◆20586-036E-01	36	17.50	19.15	18.50
20586-040E-01	40	19.50	21.15	20.50
◆20586-044E-01	44	21.50	23.15	22.50
◆20586-048E-01	48	23.50	25.15	24.50
20586-050E-01	50	24.50	26.15	25.50
20586-054E-01	54	26.50	28.15	27.50
◆20586-060E-01	60	29.50	31.15	30.50

◆ MARK MEANS NOT AVAILABLE



RECOMMENDED FPC LAYOUT (TOP CONTACT TYPE)

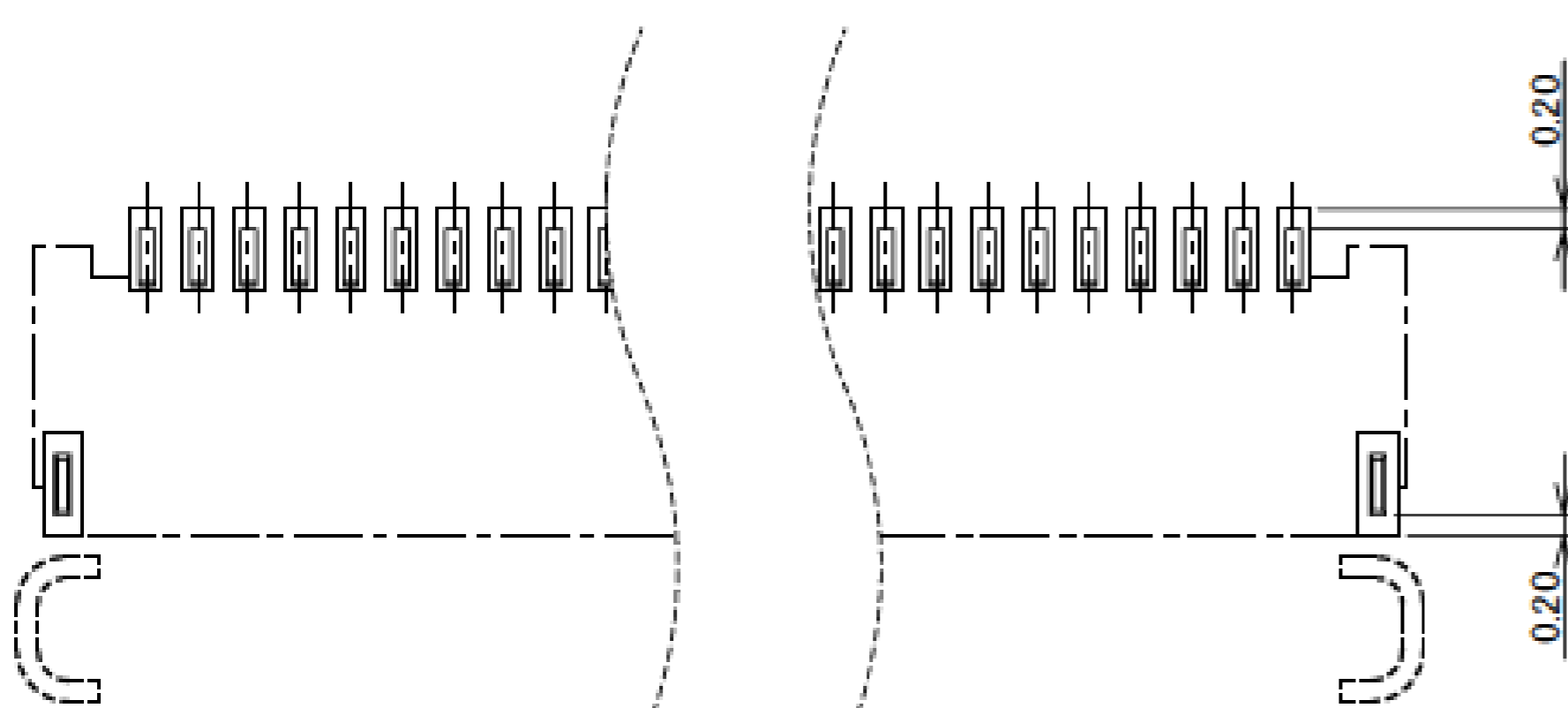


RECOMMENDED FPC LAYOUT (BOTTOM CONTACT TYPE)

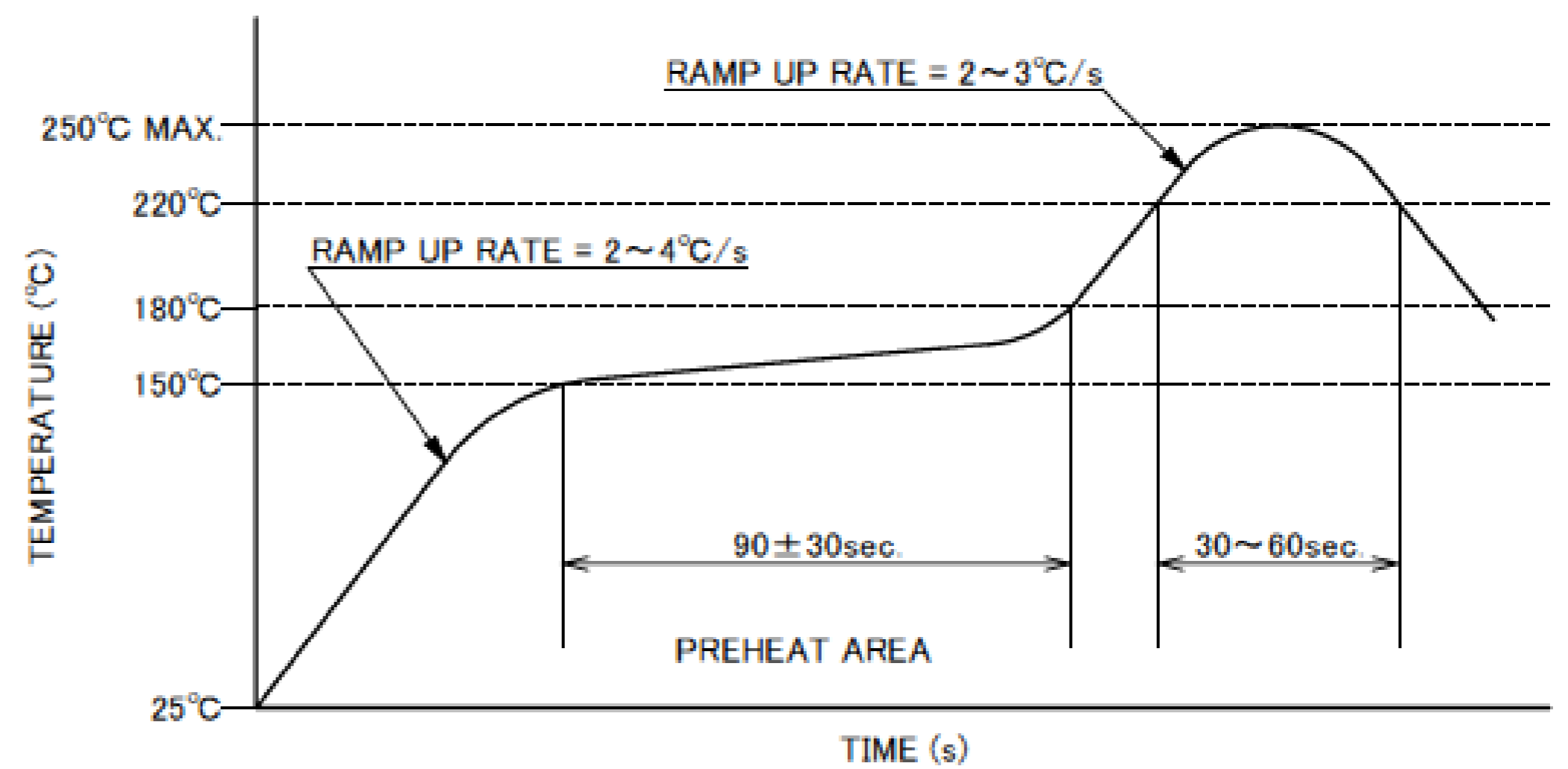
## NOTES

- MATERIAL
  - COVER FILM : PI
  - CONDUCTOR : COPPER(RARE)
  - BASE FILM : PI
  - STIFFENER : PI
  - ADHESIVE : THERMOSETTING ADHESIVE
- FINISH
  - Au OVER Ni PLATING.

Rev.10



CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN



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

Rev.10

# Connector Assembly

ITEMS	SPECIFICATION
RATING VOLTAGE	50V AC (PER CONTACT PIN)
RATING AMPERAGE	0.5A DC (PER CONTACT PIN) 7.0A DC (PER CONNECTOR)
OPERATING TEMPERATURE	233~398K(-40°C~125°C)
OPERATING HUMIDITY	80% MAX.(NON-CONDENSING)
CONTACT RESISTANCE	INITIAL : 40mohm MAX. / AFTER TEST : $\surd$ 120mohm MAX.
INSULATION RESISTANCE	100Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC200V 1min
DURABILITY	20TH CYCLES
ACTUATOR LOCKING FORCE (INITIAL / 20TH CYCLES)	INITIAL / 20TH CYCLES : 0.43N(44gf) $\times$ n MAX.
ACTUATOR UNLOCKING FORCE (INITIAL / 20TH CYCLES)	INITIAL / 20TH CYCLES : 0.025N(2.5gf) $\times$ n MIN.
FPC RETENTION FORCE (INITIAL / AFTER TEST)	INITIAL / AFTER TEST : 0.15N(15gf) $\times$ n MIN.
COPLANARITY	0.08 MAX.
PRODUCT SPECIFICATION	PRS-2056
TEST REPORT	TR-15070
PACKING STANDARD	PST-13064
INSTRUCTION MANUAL	HIM-12019
APPEARANCE CRITERIA No.	QLS-A***

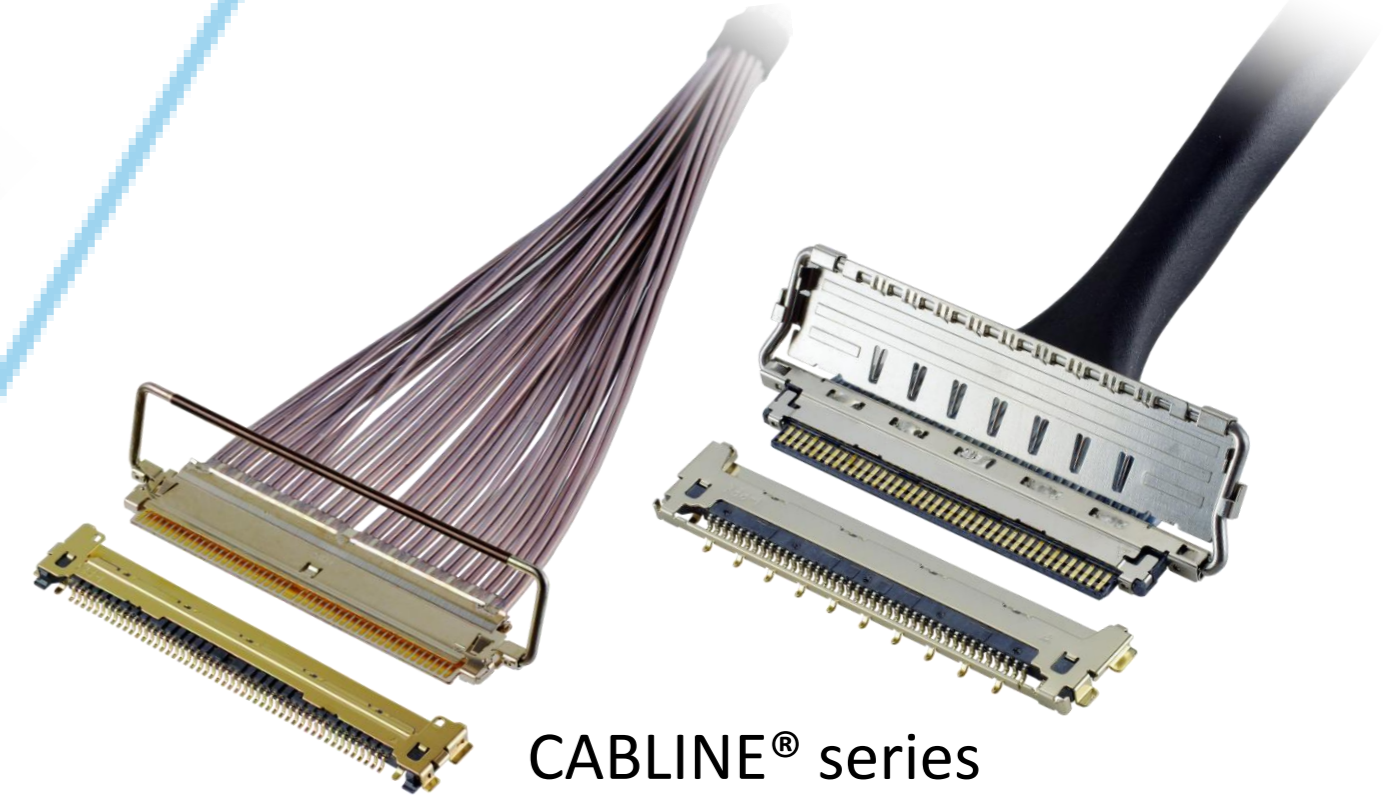
※ "n" IS THE NUMBER OF PIN

Rev.10

# Custom Connectors Available

 RF Connectors

MHF® series



CABLIN® series

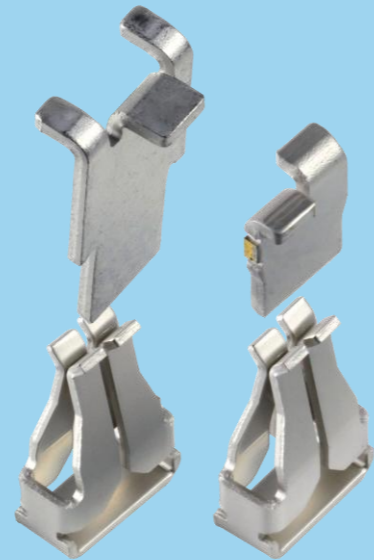


Micro-Coaxial/Twinax Connectors

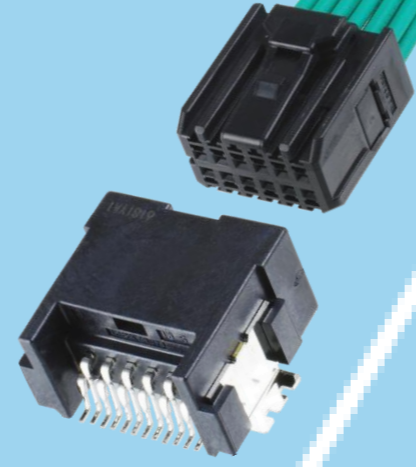


Wire-to-Board Connectors/Terminals

AP series



ISH® series



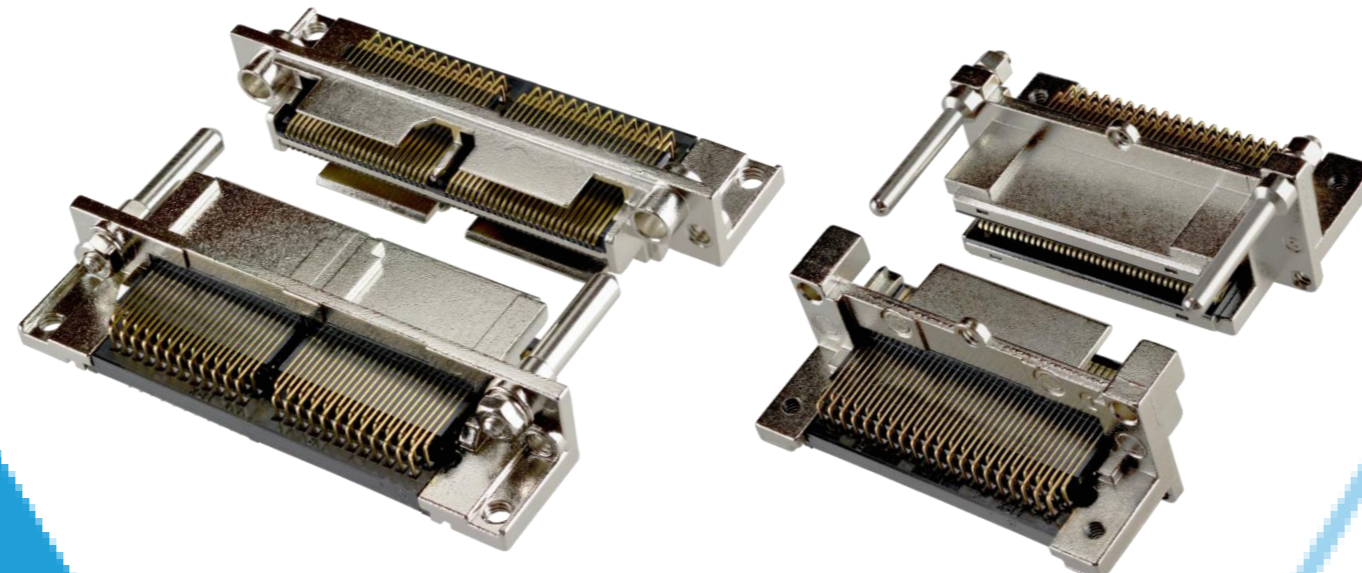
NOVASTACK® series



Board-to-Board Connectors



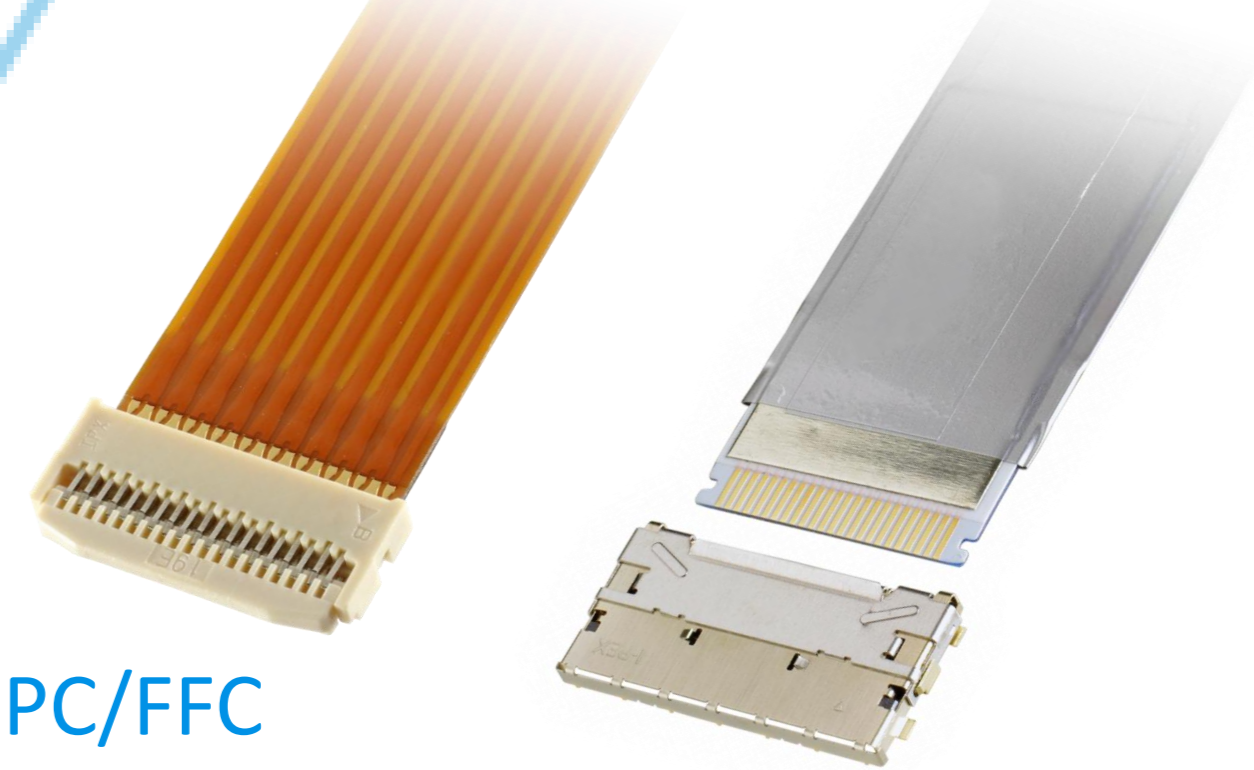
I/O Connectors



MINIDOCK™ series

MINIFLEX® series

EVAFLEX® series



FPC/FFC Connectors



Inquiry



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Contact your sales representative or more detailed information.

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