

EVAFLEX® 5-VS

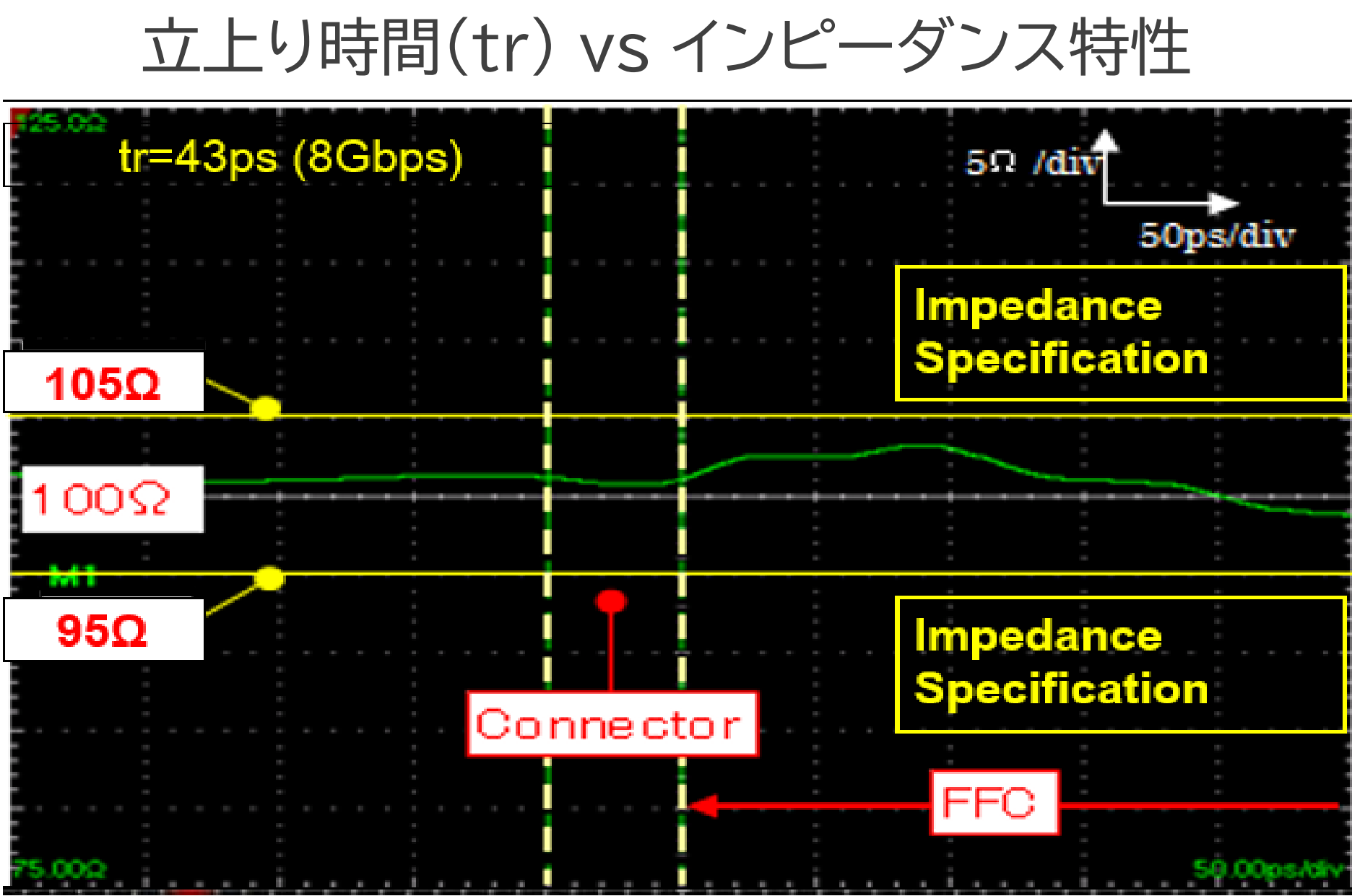
オートロック、高温対応(105℃)、高速伝送対応、水平嵌合、0.5 mmピッチ、シールドFFC/FPCコネクタ



Product Specifications:			Applicable FPC/FFC:	
Board Pitch (mm)		0.5	FPC/FFC Type	Shielded FFC, Non-shielded FFC/FPC
Wiping Length (mm)		1.1	FPC/FFC Contact Point	Top
Size (mm)	Height	1.90 +/- 0.10	FPC/FFC Thickness (mm)	0.33 +/- 0.03
	Width	Formula: 6.25 + (0.5*?p)	Applicable Standards (Reference Only): USB 3.1 Gen 1 (5 Gbps) eDP HBR 3 (8.1 Gbps) eDP HBR 2 (5.4 Gbps) eDP (2.7 Gbps) HDMI 2.0 (6 Gbps) V-By-One HS 1.4 (4 Gbps) MiPi standards USCAR II Vibration & Shock V1	
	Depth	4.95 +/- 0.20		
Pin counts	Range	10 – 50		
	Available	10, 15, 20, 24, 30, 40, 50		

*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。

▶ 8+ Gbpsの高速信号をサポート

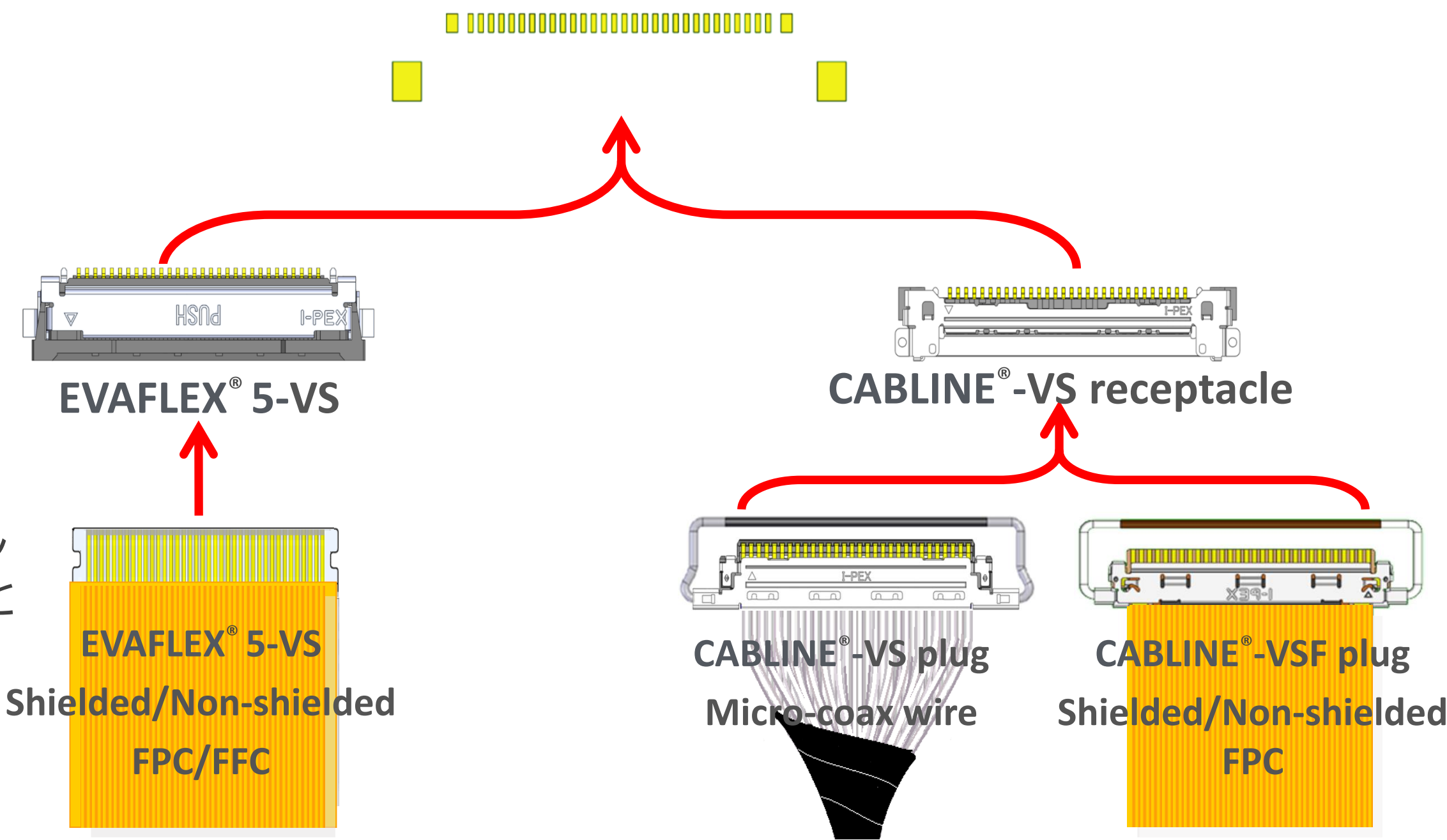


試験条件:
ダブルサイドシールドFFC
100 ohmマッチング

PCI Express® 3.0 (8 Gbps)

▶ CABLINE®-VS (VESA規格の標準コネクタ)とフットプリント共通化

EVAFLEX® 5-VSは、VESA規格のCABLINE®-VSレセプタクルを使用して同じPCBレイアウトに取り付けることができます



▶ 拡張性の高いEVAFLEX®シリーズでオートロックを始め様々なオプションに対応

高速伝送 & EMIシールド対応: EVAFLEX® 5-HD

	EVAFLEX® 5-HD
Height (mm)	2.00 +/- 02
Reference Performance	USB4 (20 Gbps)
Special Feature	360度フルシールドと多点グラウンド接点によるEMI対策設計



Component Parts Detail

Connector Assembly

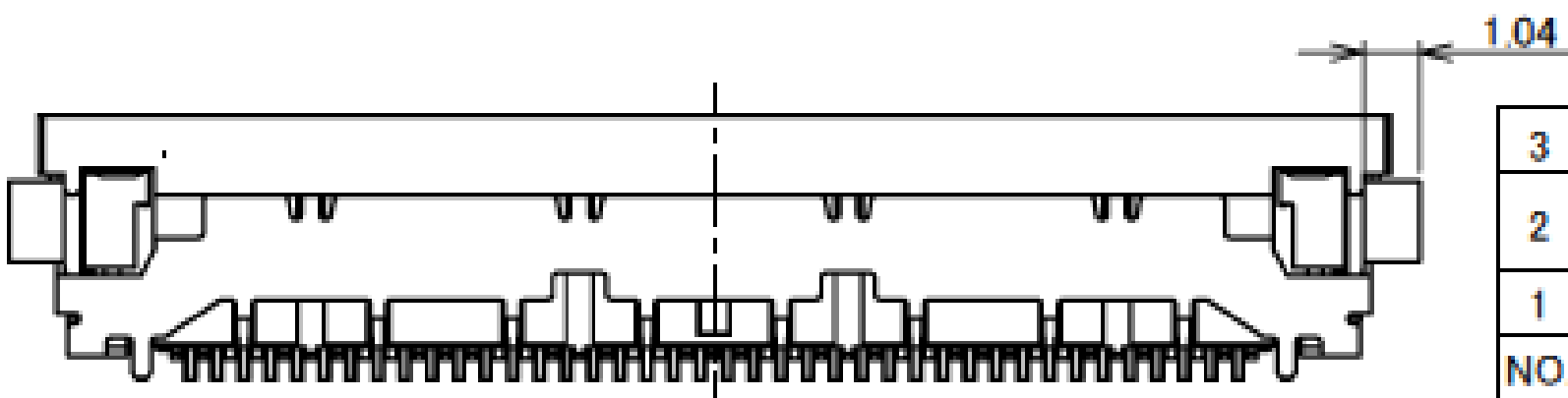
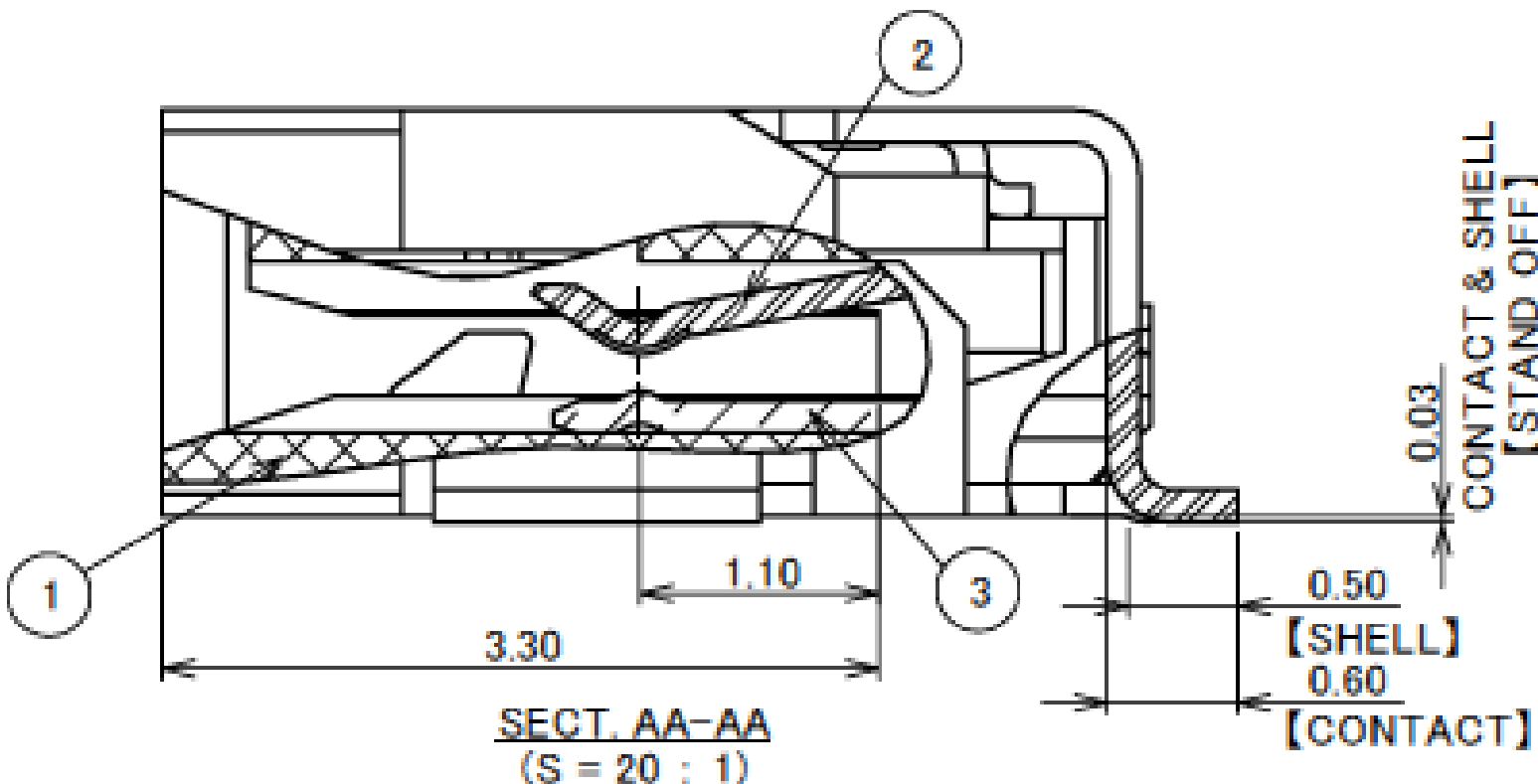
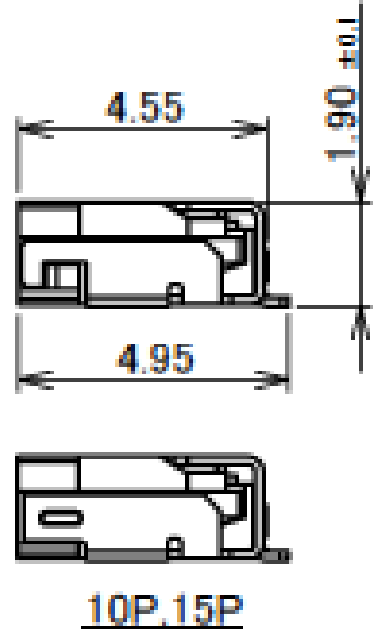
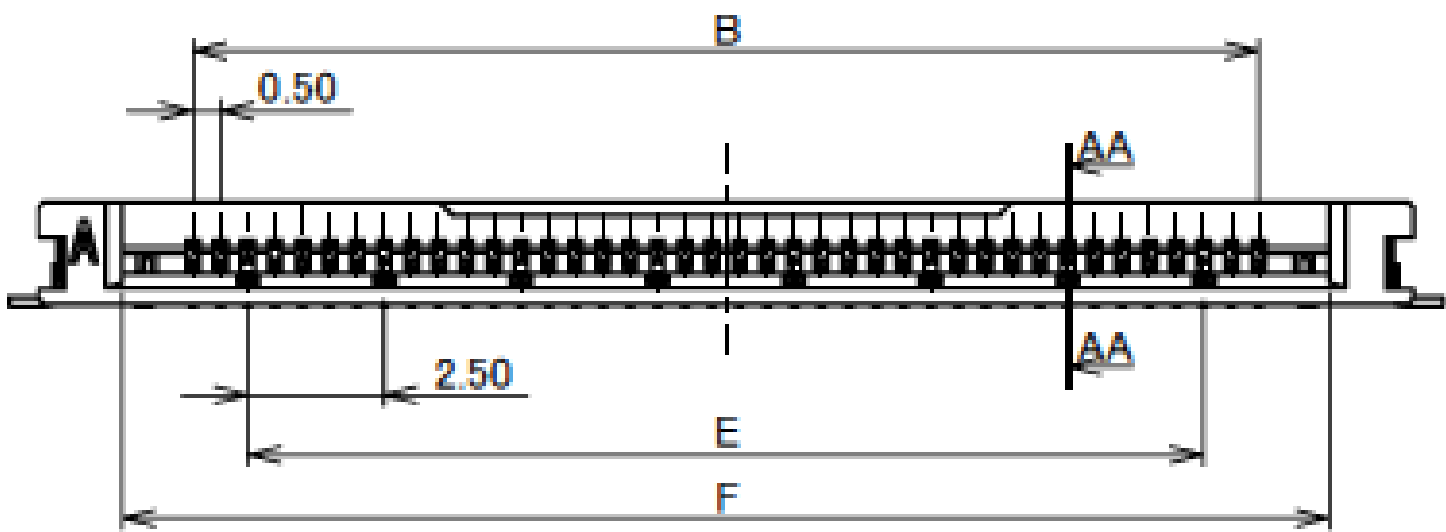
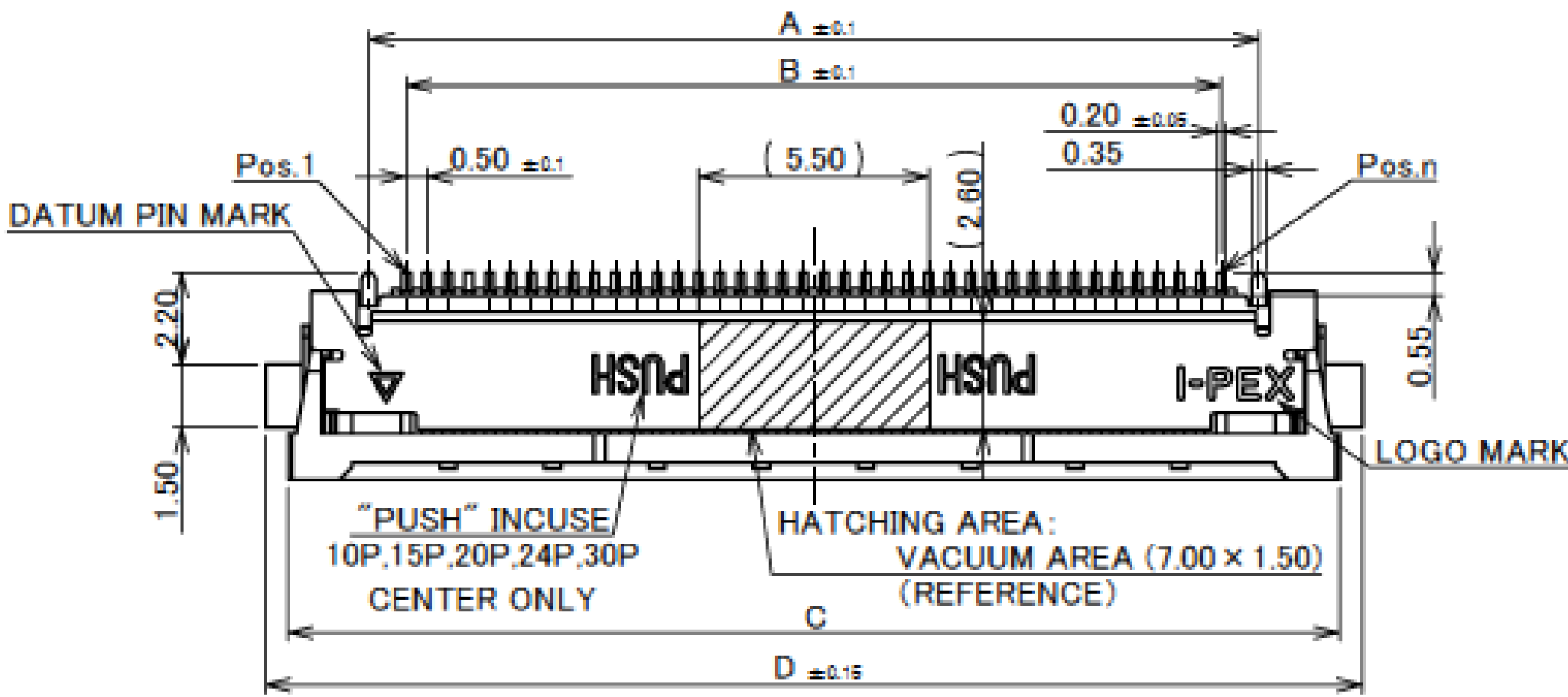
Recommended P/N		20535-0**E-02					
PART No.	POS.	A	B	C	D	E	F
20535-010E-02	10P	6.30	4.50	10.17	11.25	2.50	7.10
20535-015E-02	15P	8.80	7.00	12.67	13.75	5.00	9.60
20535-020E-02	20P	11.30	9.50	15.17	16.25	7.50	12.10
20535-024E-02	24P	13.30	11.50	17.17	18.25	7.50	14.10
20535-030E-02	30P	16.30	14.50	20.17	21.25	12.50	17.10
20535-040E-02	40P	21.30	19.50	25.17	26.25	17.50	22.10



Halogen Free



RoHS Compliant

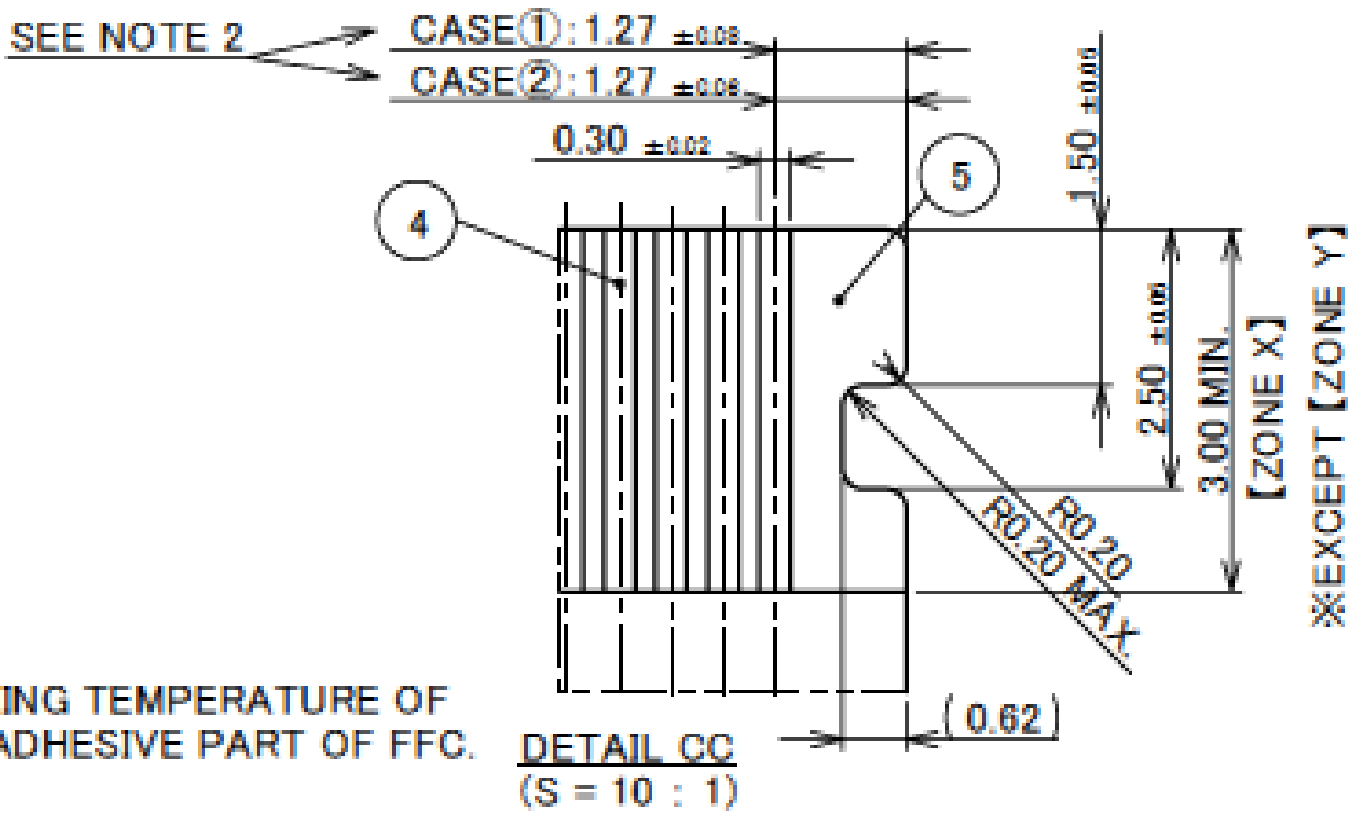
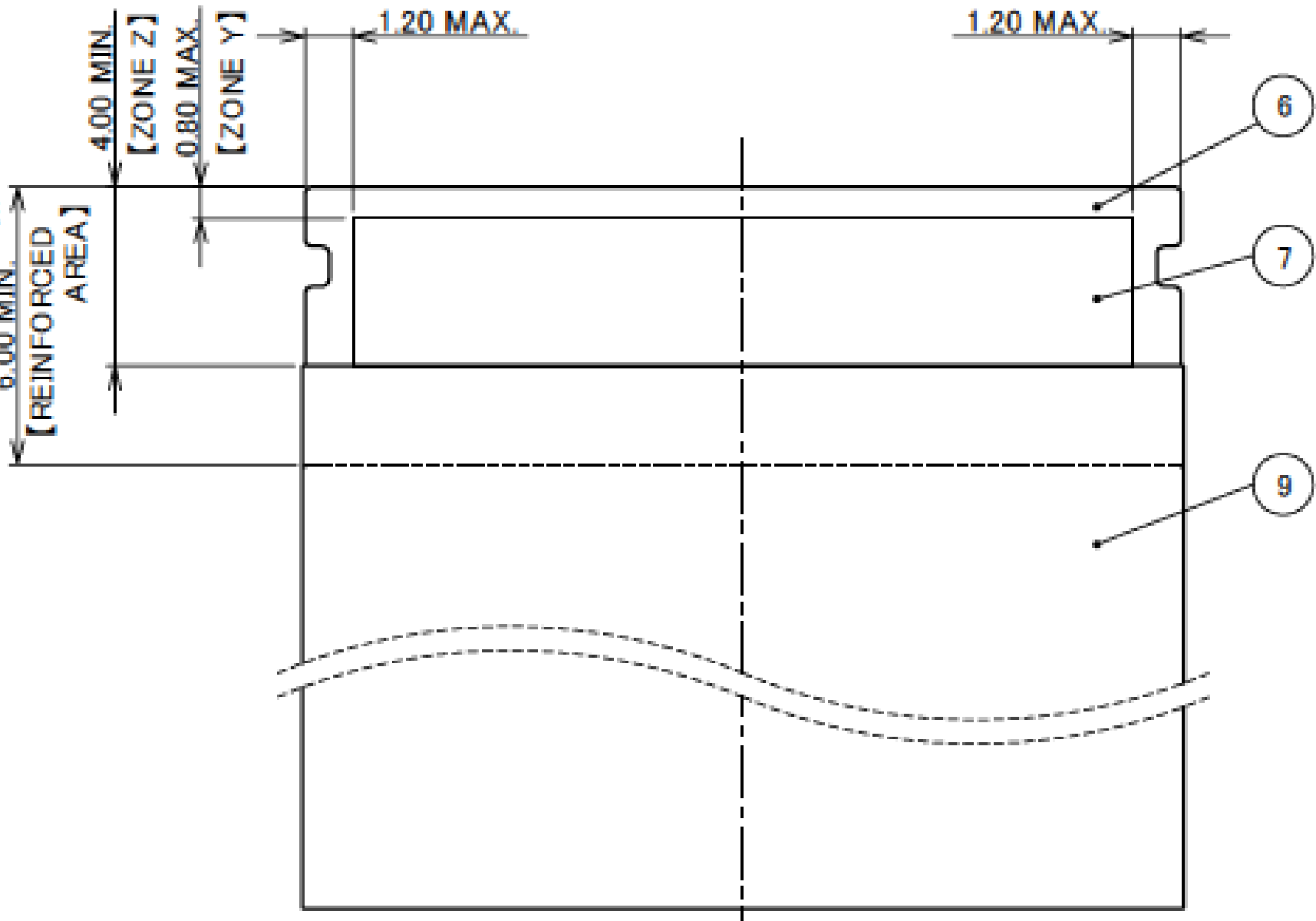
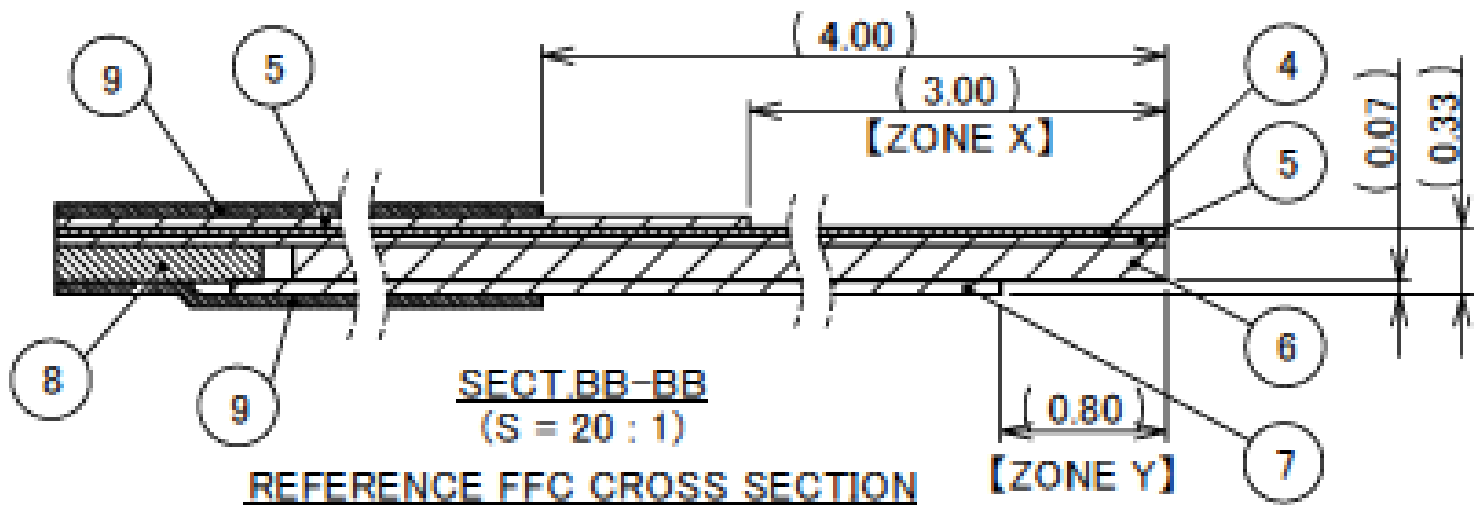
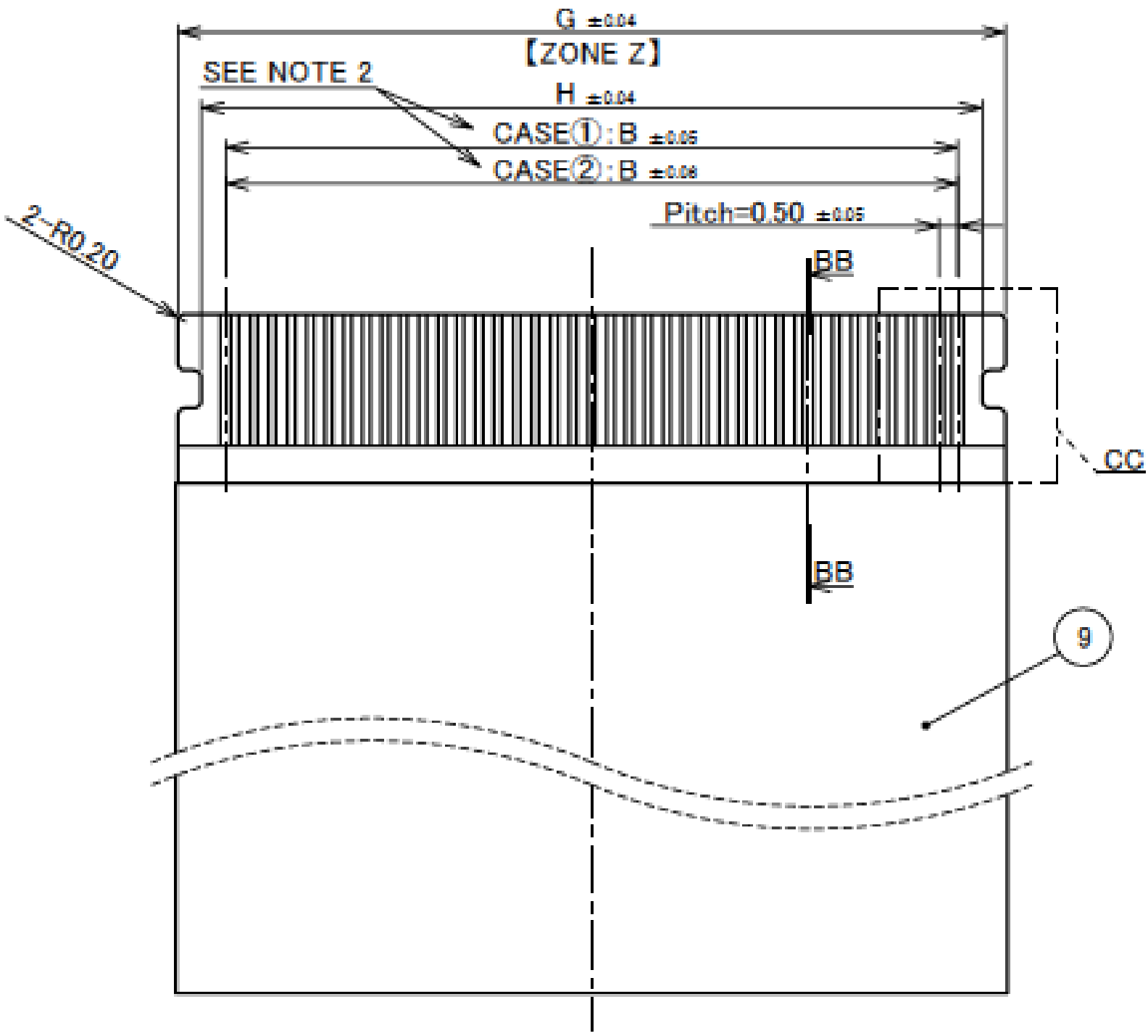


NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
3	SHELL	PHOSPHOR BRONZE	Sn 1.00 μ m MIN. OVER Ni 1.00 μ m MIN. PLATING
2	CONTACT	PHOSPHOR BRONZE	Au OVER Ni PLATING CONTACT AREA: Au 0.03 μ m MIN. OVER Ni 1.00 μ m MIN.
1	HOUSING	LCP	UL94V-0, BLACK

Connector Assembly

Recommended P/N		20535-0**E-02			
PART No.	POS.	B	G	H	
20535-010E-02	10P	4.50	7.04	5.80	
20535-015E-02	15P	7.00	9.54	8.30	
20535-020E-02	20P	9.50	12.04	10.80	
20535-024E-02	24P	11.50	14.04	12.80	
20535-030E-02	30P	14.50	17.04	15.80	
20535-040E-02	40P	19.50	22.04	20.80	

RECOMMENDED FFC DIMENSION

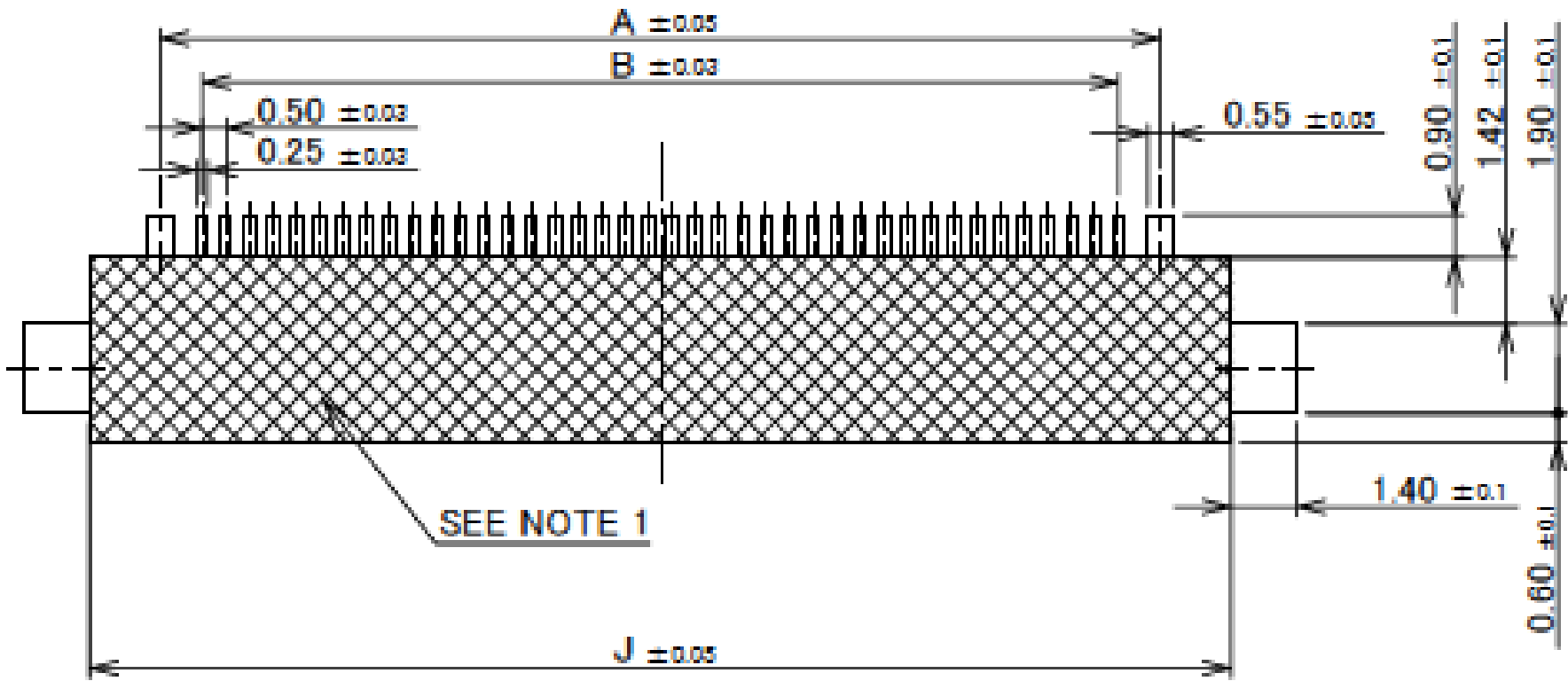


- NOTES
- 1. DIFFERENTIAL IMPEDANCE : 100 Ω
 - 2. MANUFACTURE CASE(1) or CASE(2)
 - 3. SELECT A MATERIAL WITH A SOFTENING TEMPERATURE OF 85°C OR HIGHER FOR THE PATTERN ADHESIVE PART OF FFC.

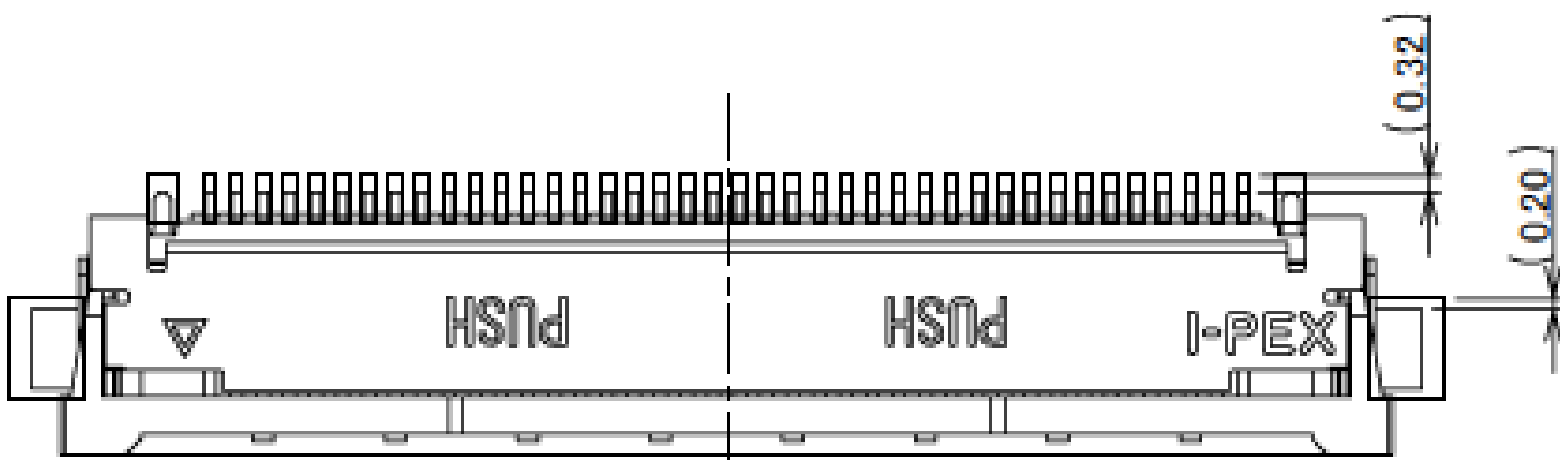
9	SHIELD TAPE	METALIC FILM	-
8	INTERLAYER	ARBITRARY	-
7	GROUND PLATE	METARIC FILM	POLISH or HALF POLISH Sn PLATING
6	REINFORCED TAPE	ARBITRARY	-
5	INSULATION FILM	ARBITRARY	-
4	CONDUCTOR	COPPER ALLOY	CONTACT AREA: Au 0.05 μ m MIN. OVER Ni 0.5 μ m MIN.
NO.	DISCRPTION	MATERIAL	FINISH , REMARKS

Rev.14

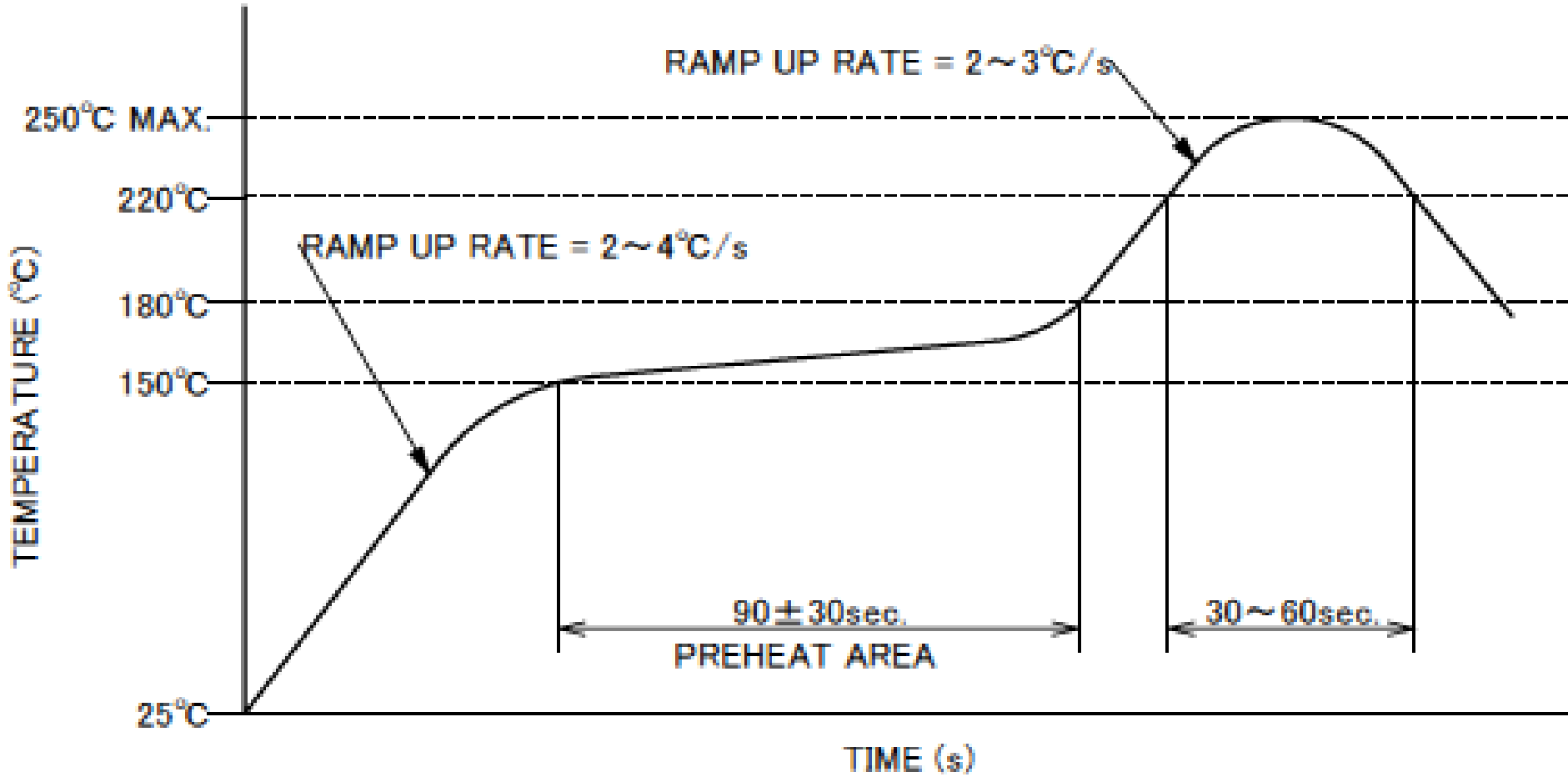
Recommended P/N		20535-0**E-02			
PART No.	POS.	A	B	J	
20535-010E-02	10P	6.30	4.50	9.30	
20535-015E-02	15P	8.80	7.00	11.80	
20535-020E-02	20P	11.30	9.50	14.30	
20535-024E-02	24P	13.30	11.50	16.30	
20535-030E-02	30P	16.30	14.50	19.30	
20535-040E-02	40P	21.30	19.50	24.30	



RECOMMENDED PCB & METALMASK LAYOUT
METALMASK THICKNESS: t=0.12



CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN



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

NOTE

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

Rev.14

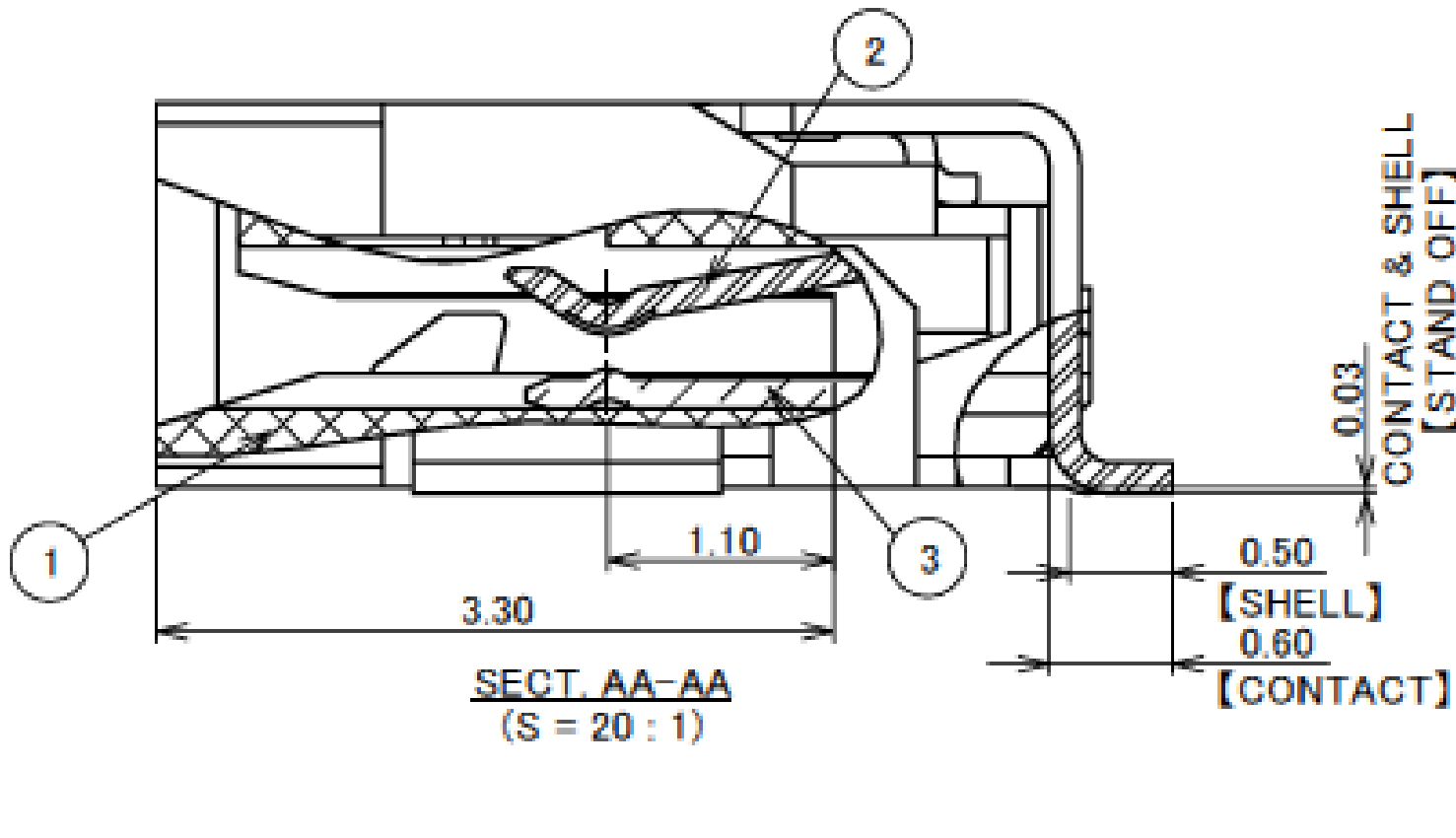
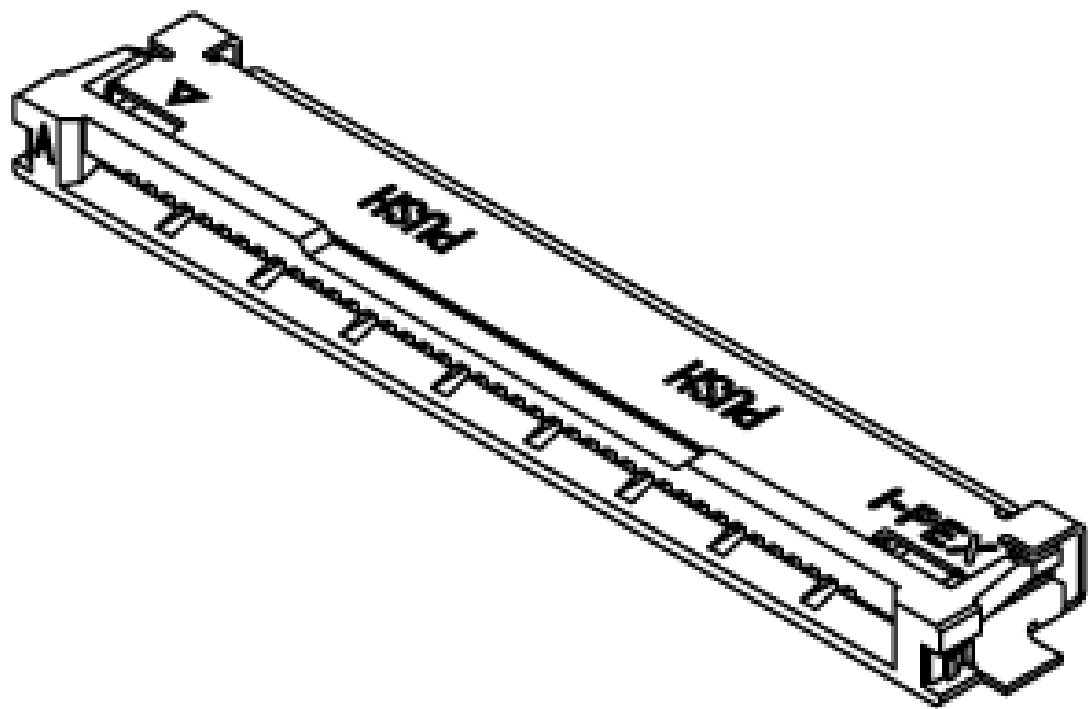
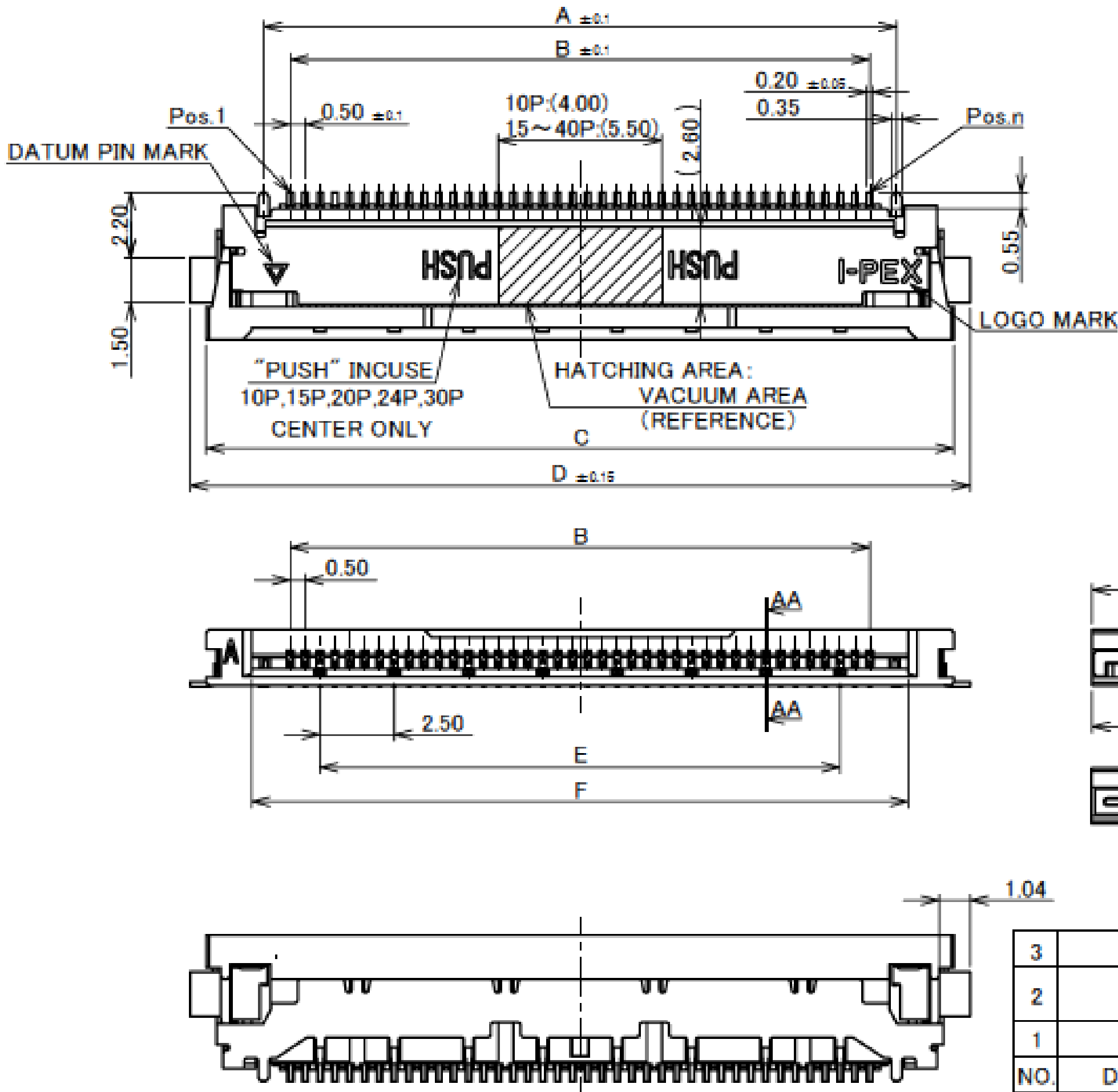
Connector Assembly

ITEMS	SPECIFICATION
RATING VOLTAGE	200V AC/DC (PER CONTACT PIN)
RATING AMPERAGE (FOR CONTACT)	0.3A AC/DC (PER CONTACT PIN) IN CASE OF APPLYING 0.5A PER CONTACT PIN, THE TOTAL CURRENT OF THE WHOLE CONNECTOR SHALL BE 15.0A OR LOWER.
OPERATING TEMPERATURE	233~358K(-40℃~+85℃)
OPERATING HUMIDITY	85% MAX.(NON-CONDENSING)
CONTACT RESISTANCE (FOR SIGNAL CONTACT)	INITIAL : 60mohm MAX. / AFTER TEST : ≦40mohm MAX.
INSULATION RESISTANCE	INITIAL : 100Mohm MIN. / AFTER TEST : 100Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	30 CYCLES
MATING FORCE (INITIAL / AFTER TEST)	10P : 6.0N MAX. 15P : 9.0N MAX. 20P : 12.0N MAX. 24P : 14.4N MAX. 30P : 18.0N MAX. 40P : 24.0N MAX.
UNMATING FORCE (INITIAL / AFTER TEST)	10P : 1.0N MIN. 15P : 1.5N MIN. 20P : 2.0N MIN. 24P : 2.4N MIN. 30P : 3.0N MIN. 40P : 4.0N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-1670
TEST REPORT	TR-12108
PACKING STANDARD	300-997
INSTRUCTION MANUAL	HIM-12003
APPEARANCE CRITERIA No.	QLS-A***

Rev.14

Recommended P/N 20720-0**E-02

PART NO.	POS.	A	B	C	D	E	F
20720-010E-02	10P	6.30	4.50	10.17	11.25	2.50	7.10
20720-015E-02	15P	8.80	7.00	12.67	13.75	5.00	9.60
20720-020E-02	20P	11.30	9.50	15.17	16.25	7.50	12.10
20720-024E-02	24P	13.30	11.50	17.17	18.25	7.50	14.10
20720-030E-02	30P	16.30	14.50	20.17	21.25	12.50	17.10
20720-040E-02	40P	21.30	19.50	25.17	26.25	17.50	22.10



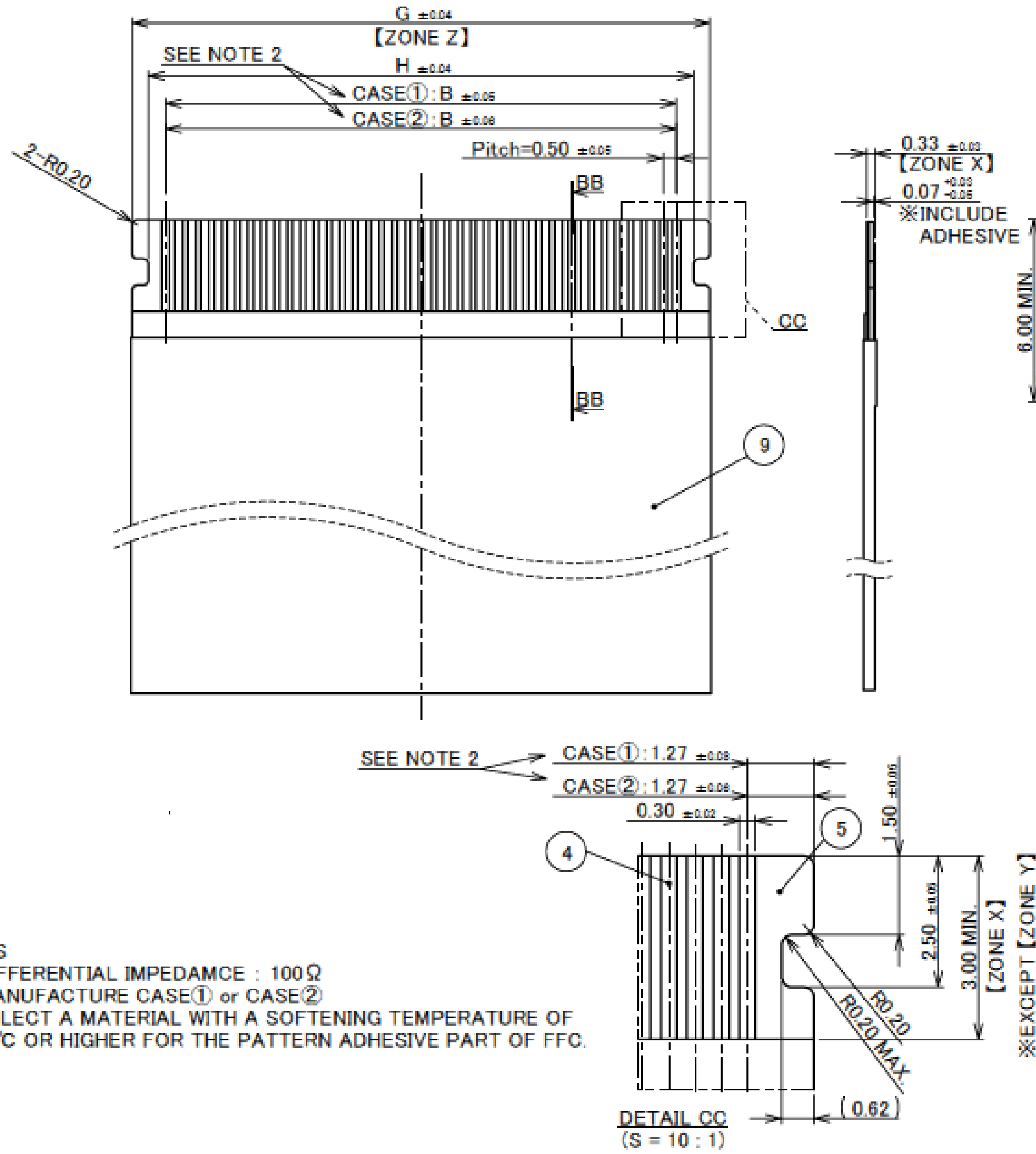
NO.	DISCRIPTION	MATERIAL	FINISH . REMARKS
3	SHELL	PHOSPHOR BRONZE	Sn OVER Ni PLATING
2	CONTACT	CORSON ALLOY	Au OVER Ni PLATING CONTACT AREA: Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.
1	HOUSING	LCP	UL94V-0, BLACK

Rev.7

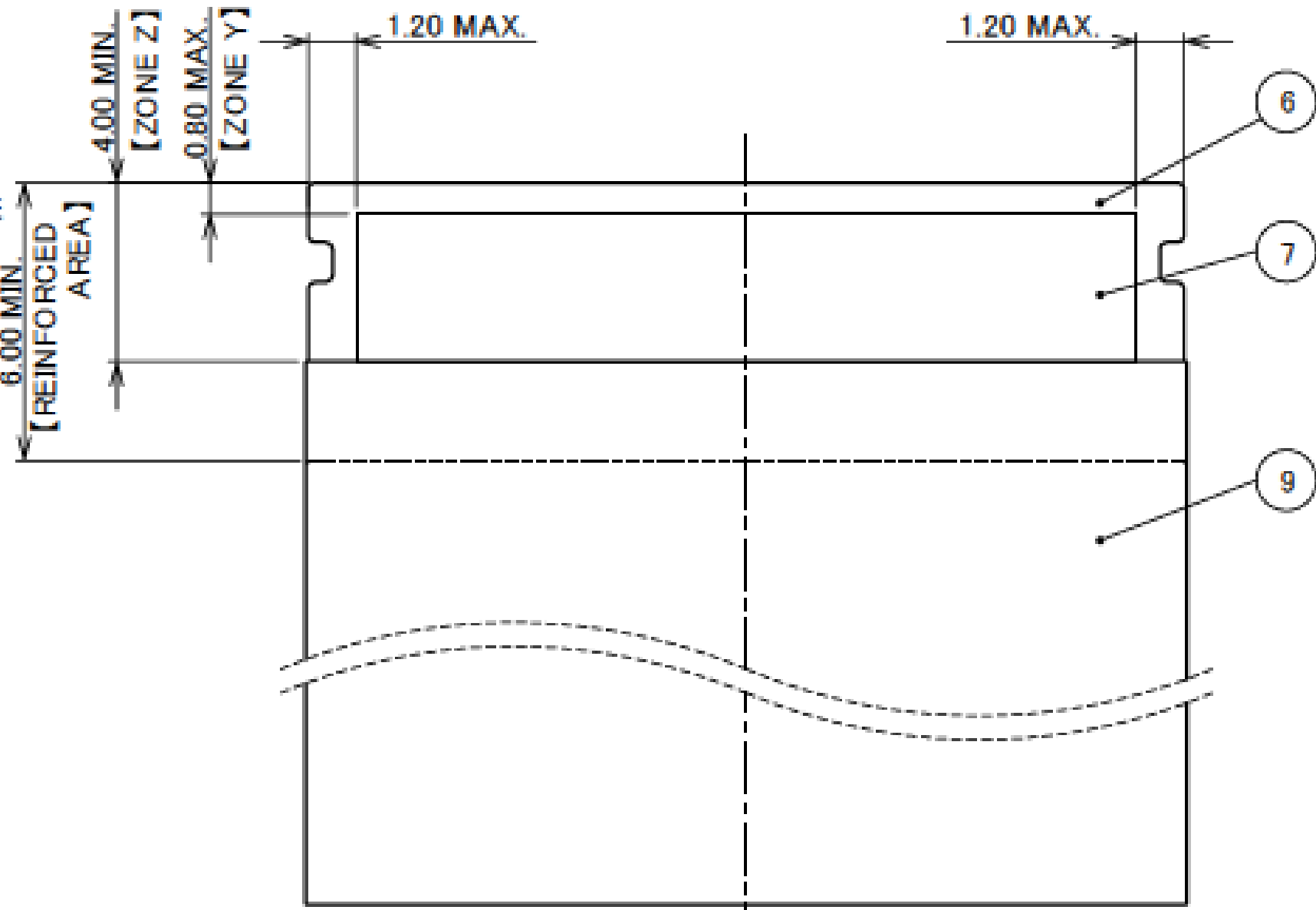
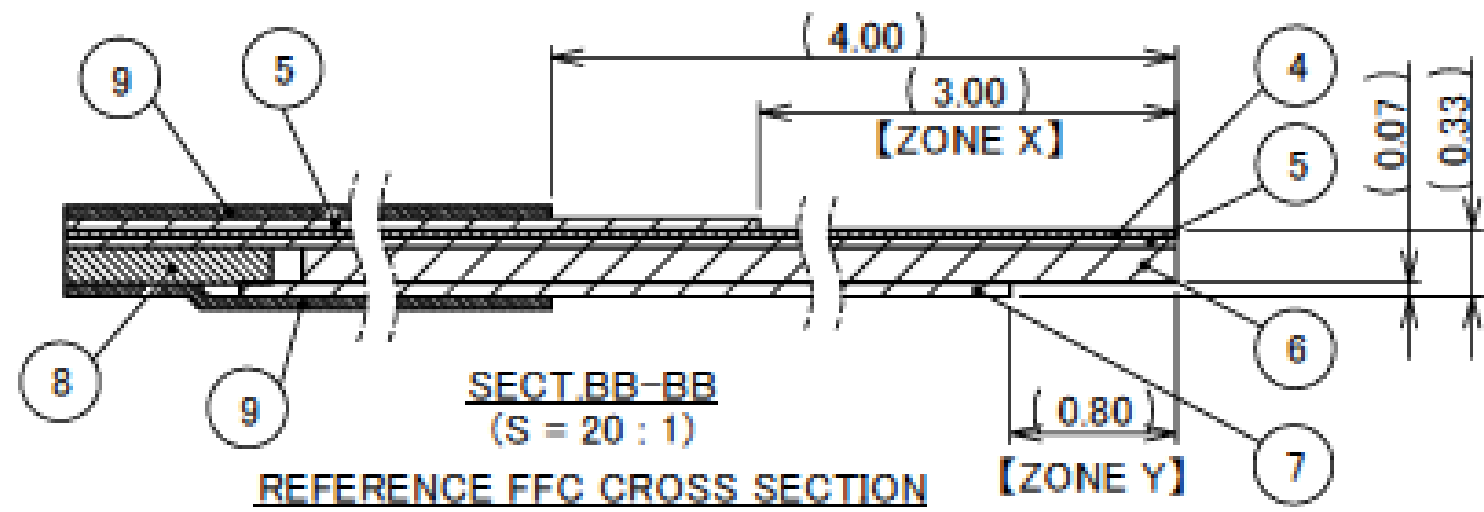
Connector Assembly

Recommended P/N		20720-0**E-02		
FOR	POS.	B	G	H
20720-010E-02	10P	4.50	7.04	5.80
20720-015E-02	15P	7.00	9.54	8.30
20720-020E-02	20P	9.50	12.04	10.80
20720-024E-02	24P	11.50	14.04	12.80
20720-030E-02	30P	14.50	17.04	15.80
20720-040E-02	40P	19.50	22.04	20.80

RECOMMENDED FFC DIMENSION



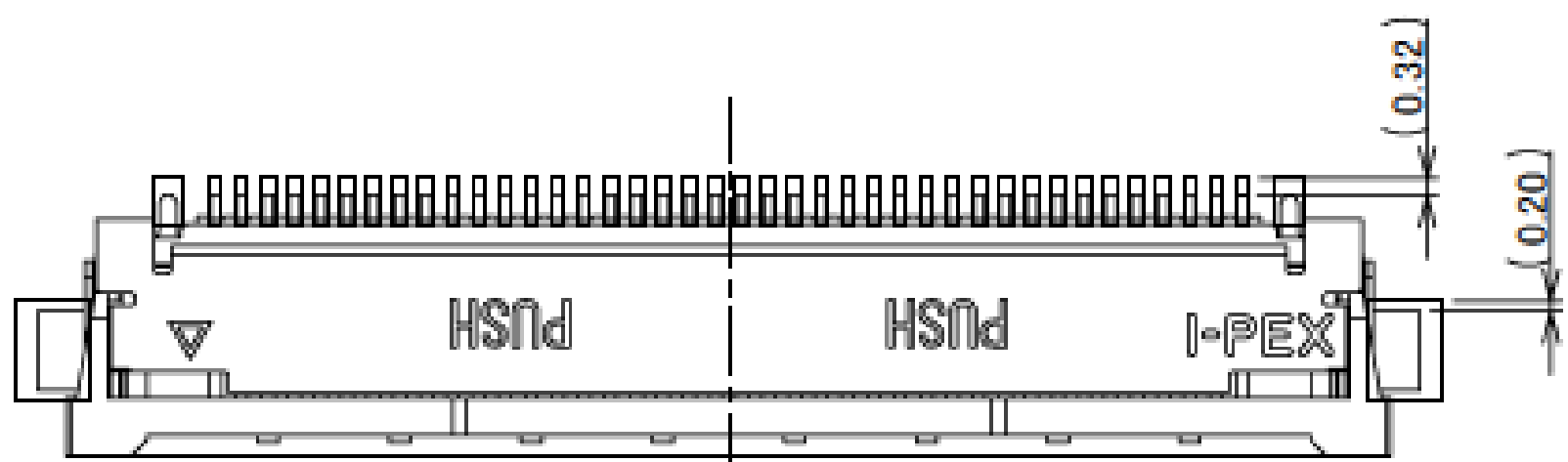
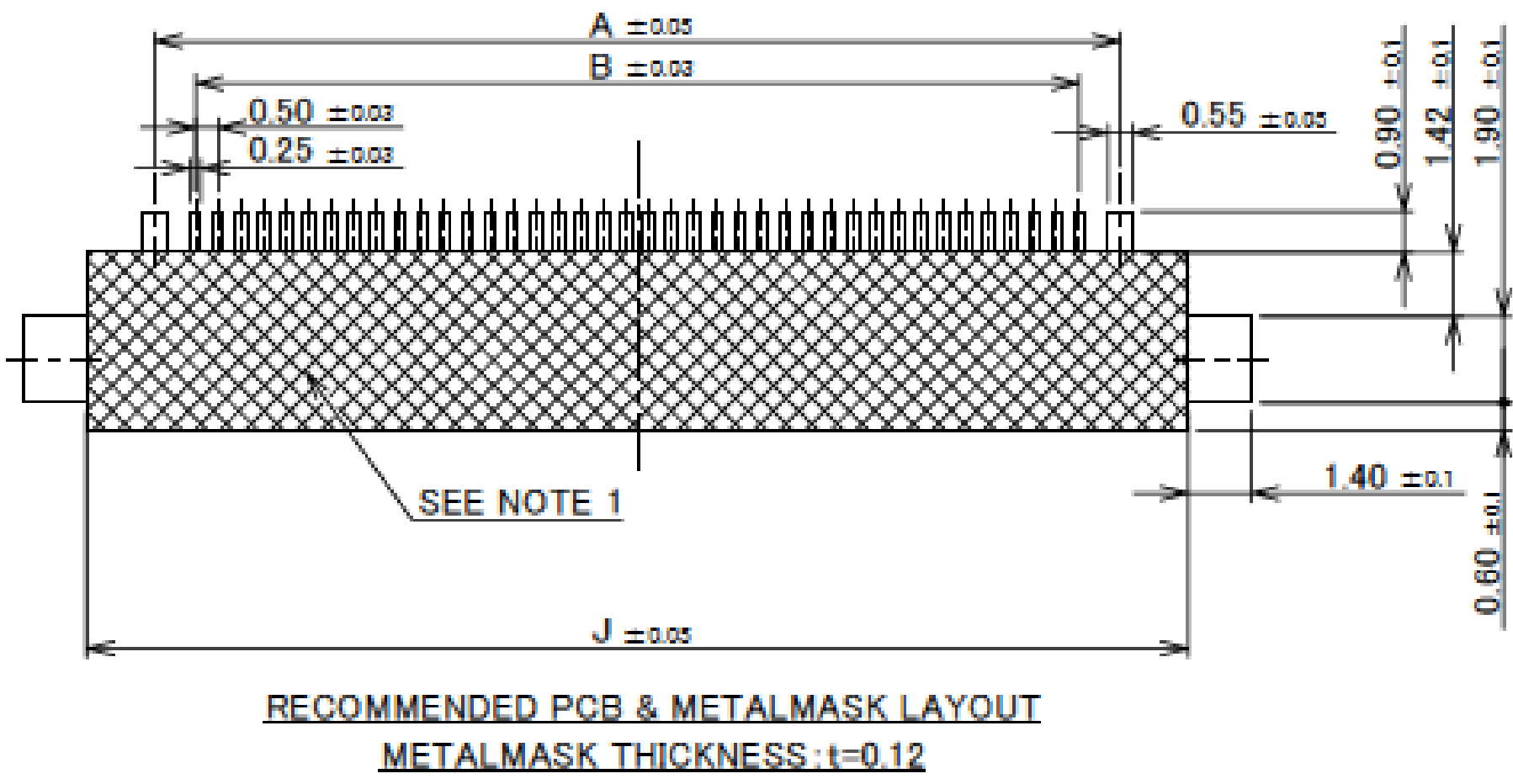
- NOTES
1. DIFFERENTIAL IMPEDANCE : 100Ω
 2. MANUFACTURE CASE① or CASE②
 3. SELECT A MATERIAL WITH A SOFTENING TEMPERATURE OF 85°C OR HIGHER FOR THE PATTERN ADHESIVE PART OF FFC.



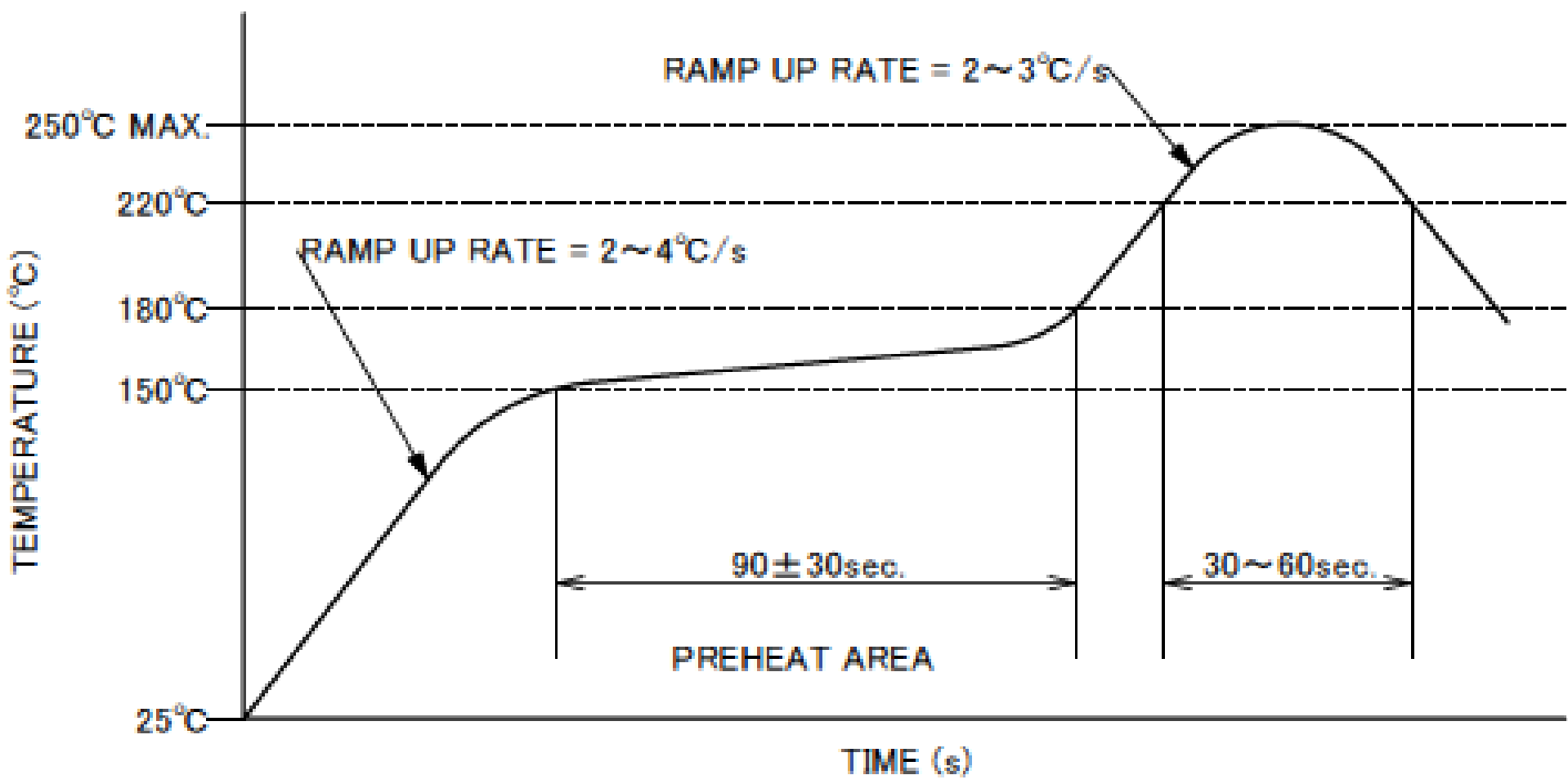
9	SHIELD TAPE	METALIC FILM	-
8	INTERLAYER	ARBITRARY	-
7	GROUND PLATE	METARIC FILM	POLISH or HALF POLISH Sn PLATING
6	REINFORCED TAPE	ARBITRARY	-
5	INSULATION FILM	ARBITRARY	-
4	CONDUCTOR	COPPER ALLOY	CONTACT AREA: Au 0.05 μ m MIN. OVER Ni 0.5 μ m MIN.
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

Rev.7

Recommended P/N		20720-0**E-02		
PART NO.	POS.	A	B	J
20720-010E-02	10P	6.30	4.50	9.30
20720-015E-02	15P	8.80	7.00	11.80
20720-020E-02	20P	11.30	9.50	14.30
20720-024E-02	24P	13.30	11.50	16.30
20720-030E-02	30P	16.30	14.50	19.30
20720-040E-02	40P	21.30	19.50	24.30



CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN



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

NOTE

1. SOLDER RESIST MUST BE APPLIED TO THIS AREA.

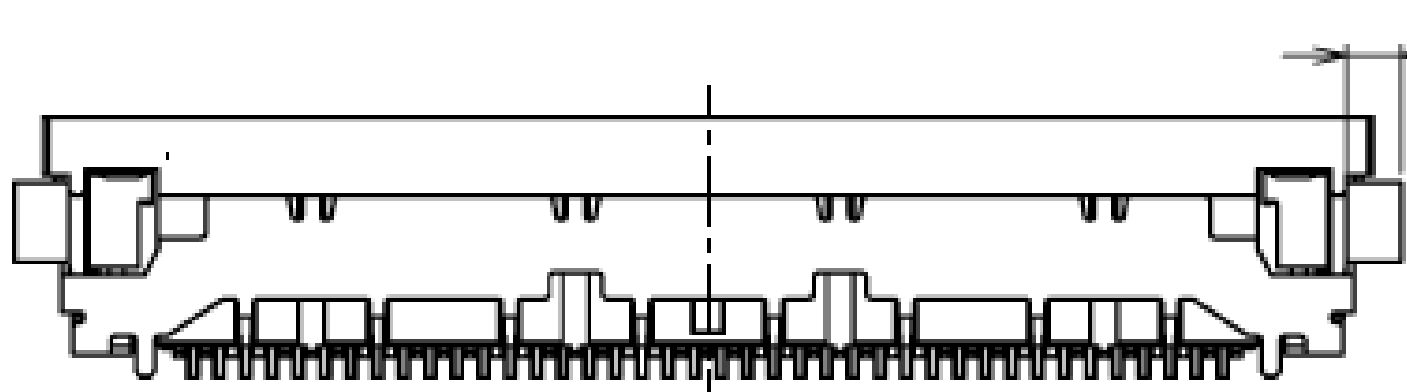
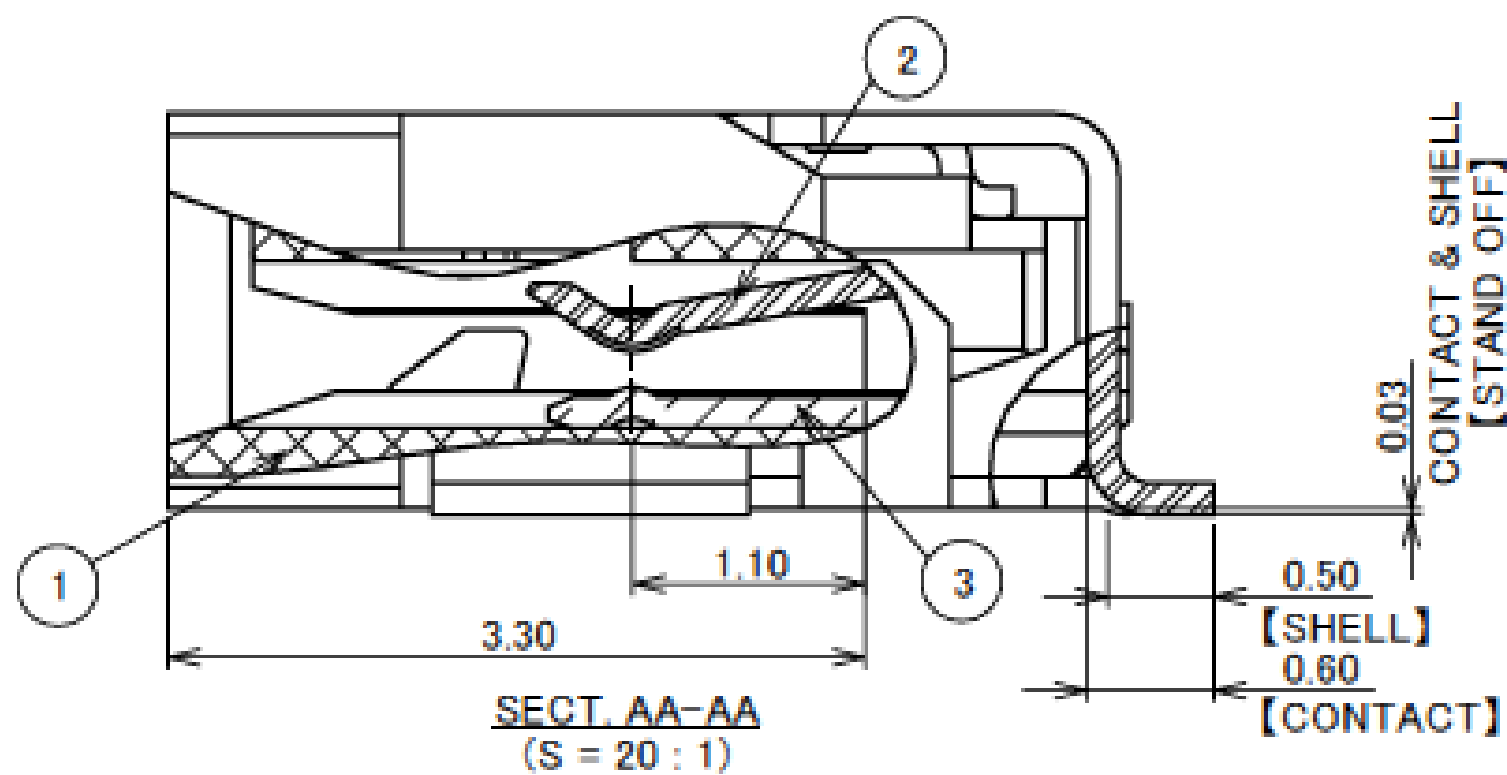
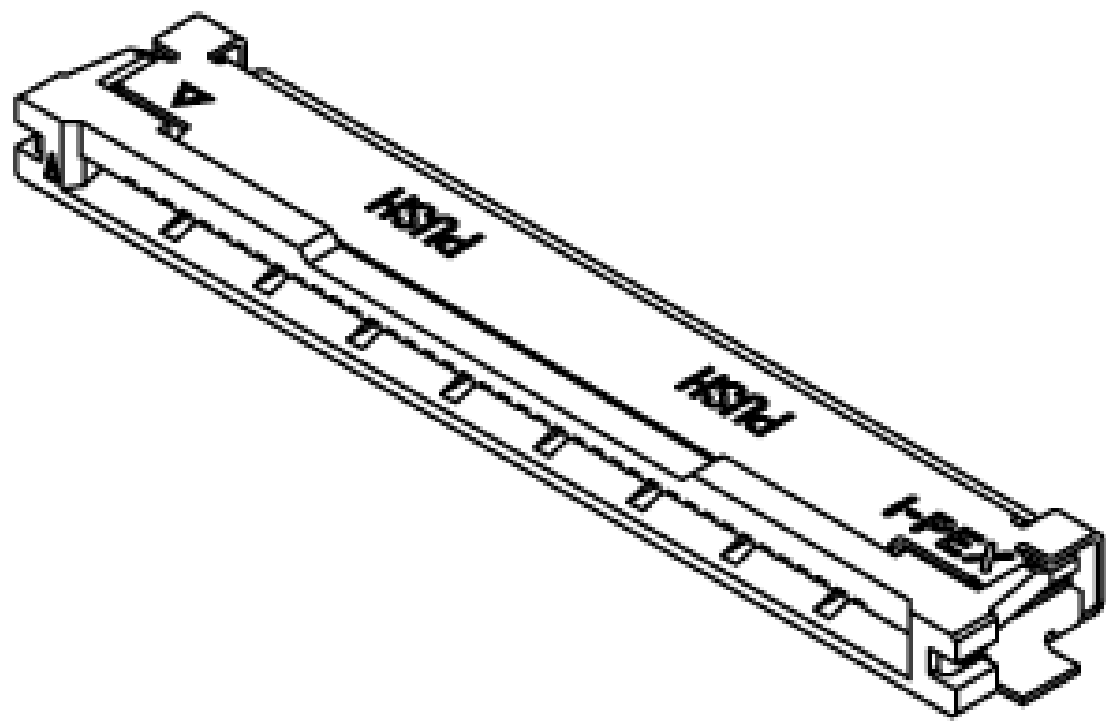
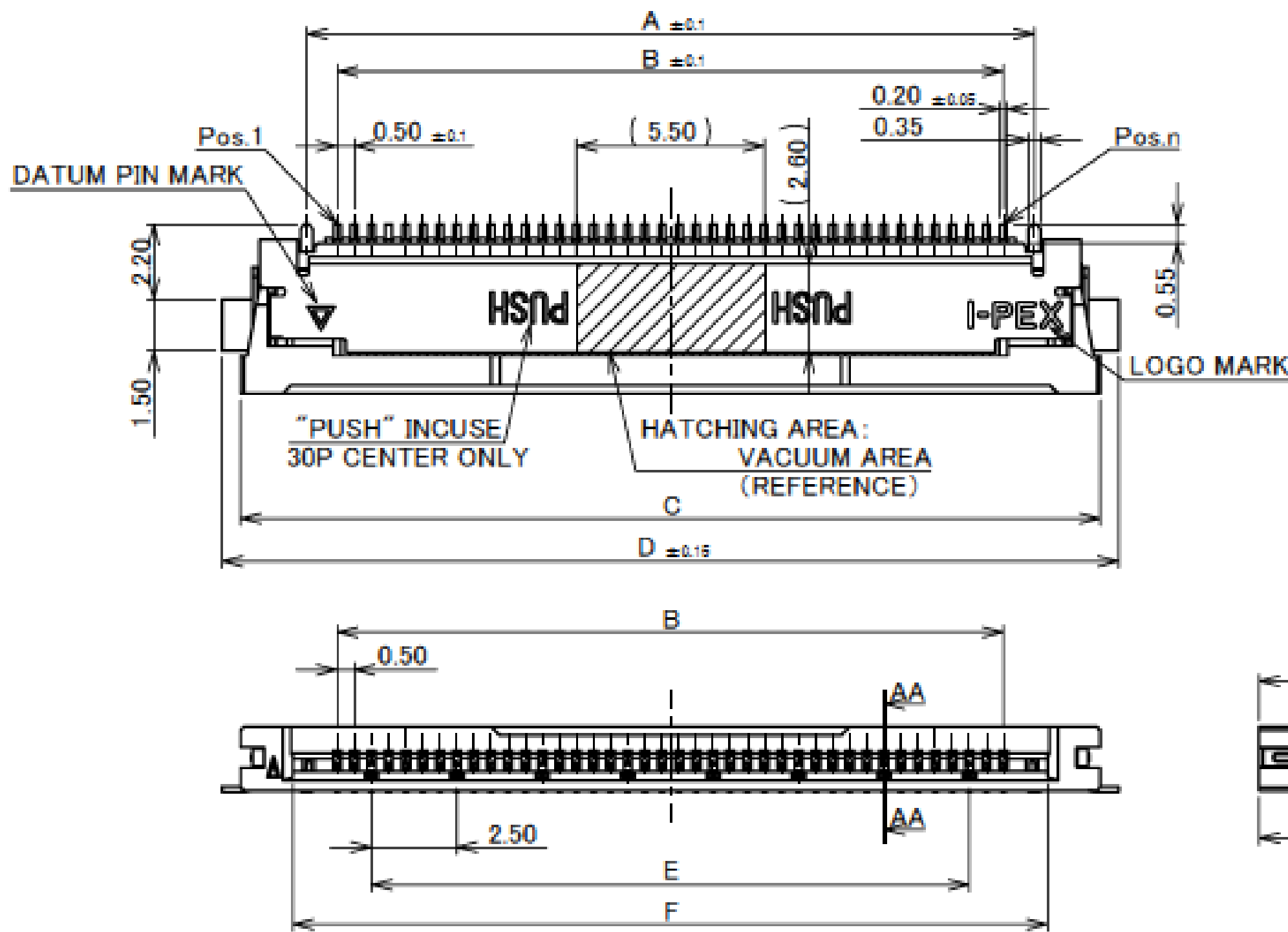
Rev.7

Connector Assembly

ITEMS	SPECIFICATION
RATING VOLTAGE	200V AC/DC (PER CONTACT PIN)
RATING AMPERAGE (FOR CONTACT)	0.3A AC/DC (PER CONTACT PIN) IN CASE OF APPLYING 0.5A PER CONTACT PIN, THE TOTAL CURRENT OF THE WHOLE CONNECTOR SHALL BE 15.0A OR LOWER.
OPERATING TEMPERATURE	233~378K(-40℃~+105℃)
OPERATING HUMIDITY	85% MAX.(NON-CONDENSING)
CONTACT RESISTANCE (FOR SIGNAL CONTACT)	INITIAL : 60mohm MAX. / AFTER TEST : $\triangle$ 40mohm MAX.
INSULATION RESISTANCE	INITIAL : 100Mohm MIN. / AFTER TEST : 100Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	30 CYCLES
MATING FORCE (INITIAL / AFTER TEST)	10P : 6.0N MAX. 15P : 9.0N MAX. 20P : 12.0N MAX. 24P : 14.4N MAX. 30P : 18.0N MAX. 40P : 24.0N MAX.
UNMATING FORCE (INITIAL / AFTER TEST)	10P : 1.0N MIN. 15P : 1.5N MIN. 20P : 2.0N MIN. 24P : 2.4N MIN. 30P : 3.0N MIN. 40P : 4.0N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-2224
TEST REPORT	TR-16039
PACKING STANDARD	300-997
INSTRUCTION MANUAL	HIM-12003
APPEARANCE CRITERIA No.	QLS-A***

Rev.7

Recommended P/N		20893-0**E-02					
PART NO.	POS.	A	B	C	D	E	F
20893-030E-02	30P	16.30	14.50	20.17	21.25	12.50	17.10
20893-040E-02	40P	21.30	19.50	25.17	26.25	17.50	22.10
20893-050E-02	50P	26.30	24.50	30.17	31.25	22.50	27.10



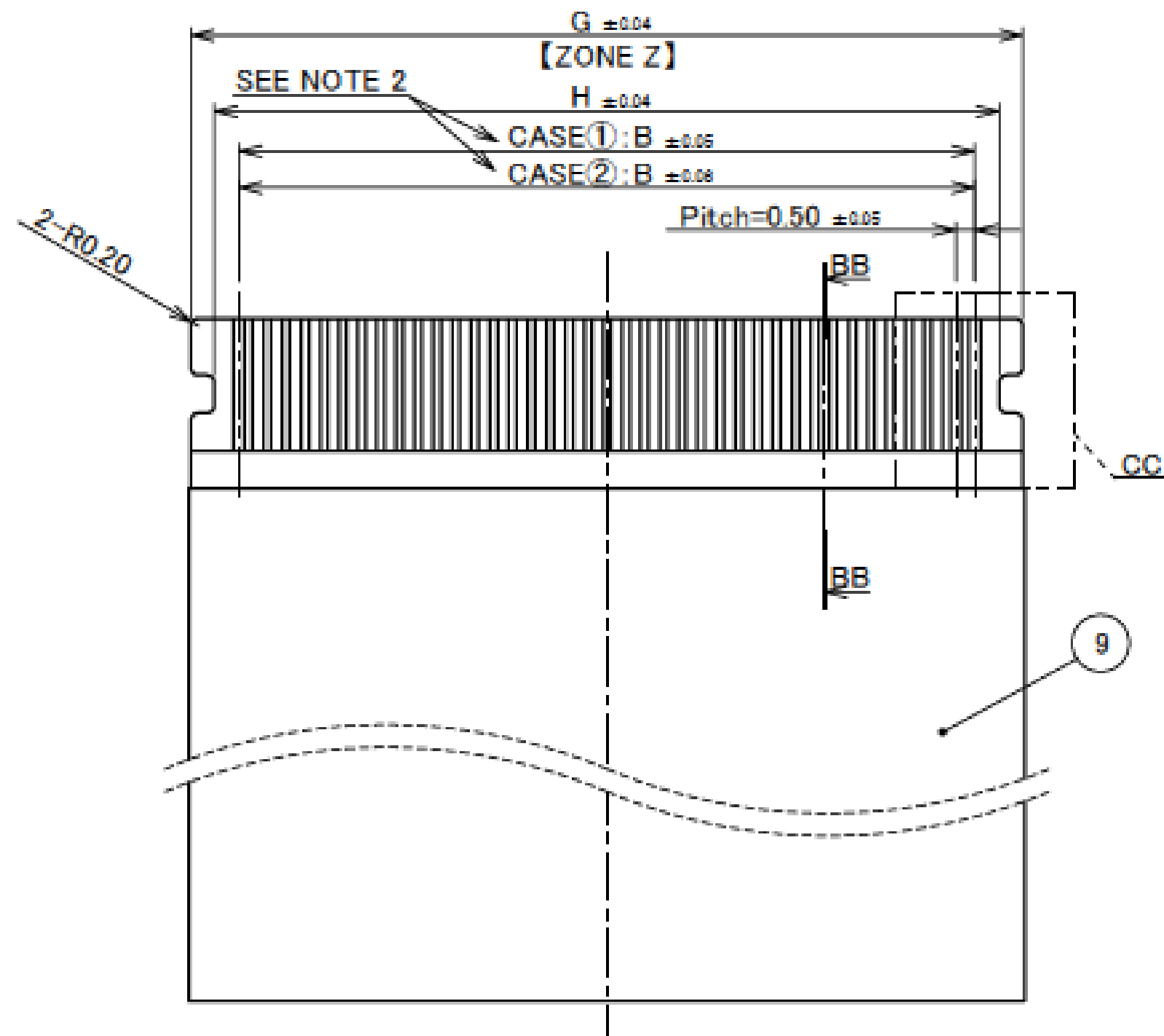
3	SHELL	PHOSPHOR BRONZE	SOLDERING AREA: Sn 3.00 μ m MIN. OVER Ni 1.00 μ m MIN. OTHER AREA: Sn 1.00 μ m MIN. OVER Ni 1.00 μ m MIN.
2	CONTACT	CORSON ALLOY	CONTACT AREA: Au 0.03 μ m MIN. OVER Ni 1.00 μ m MIN. SOLDERING AREA: Au 0.03 μ m MIN. OVER Ni 1.00 μ m MIN.
1	HOUSING	LCP	UL94V-0, BLACK
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

Rev.3

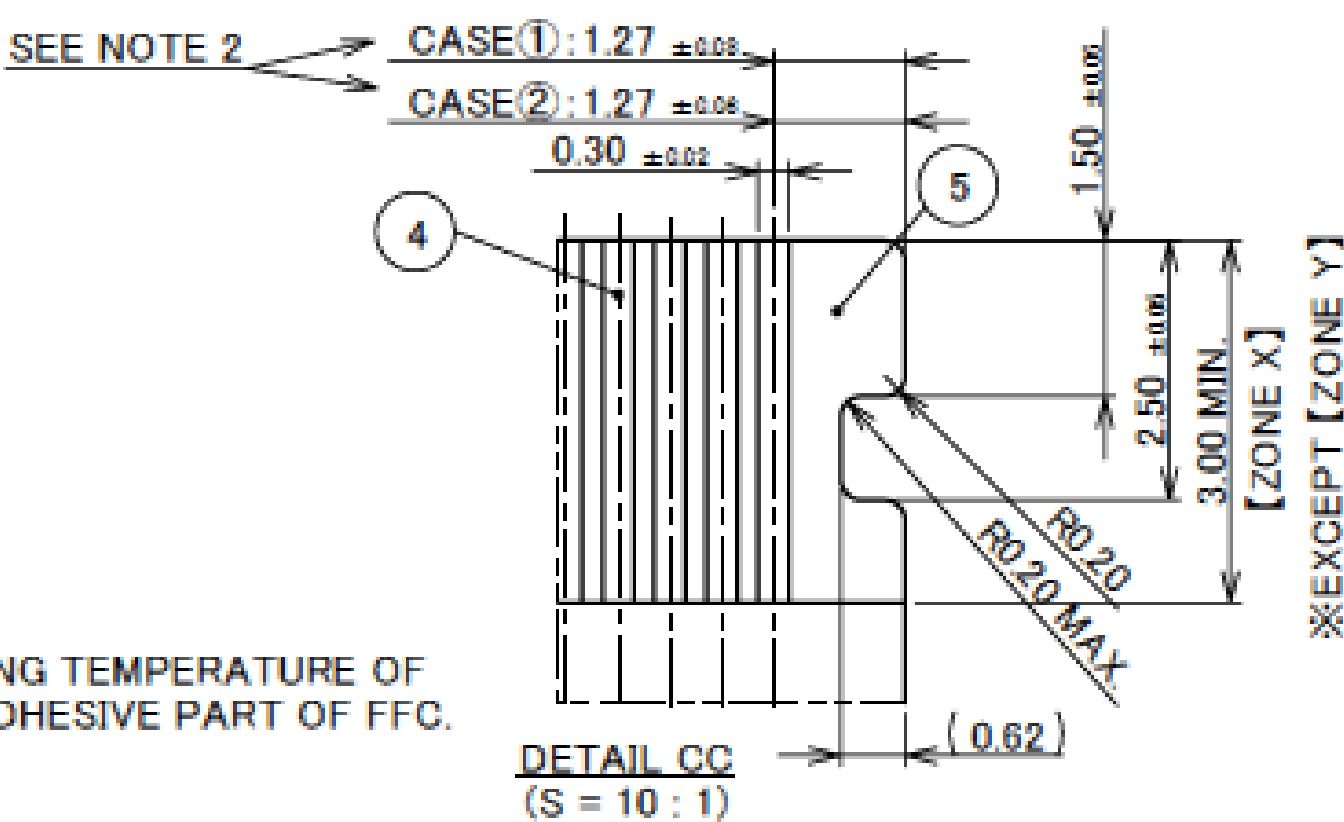
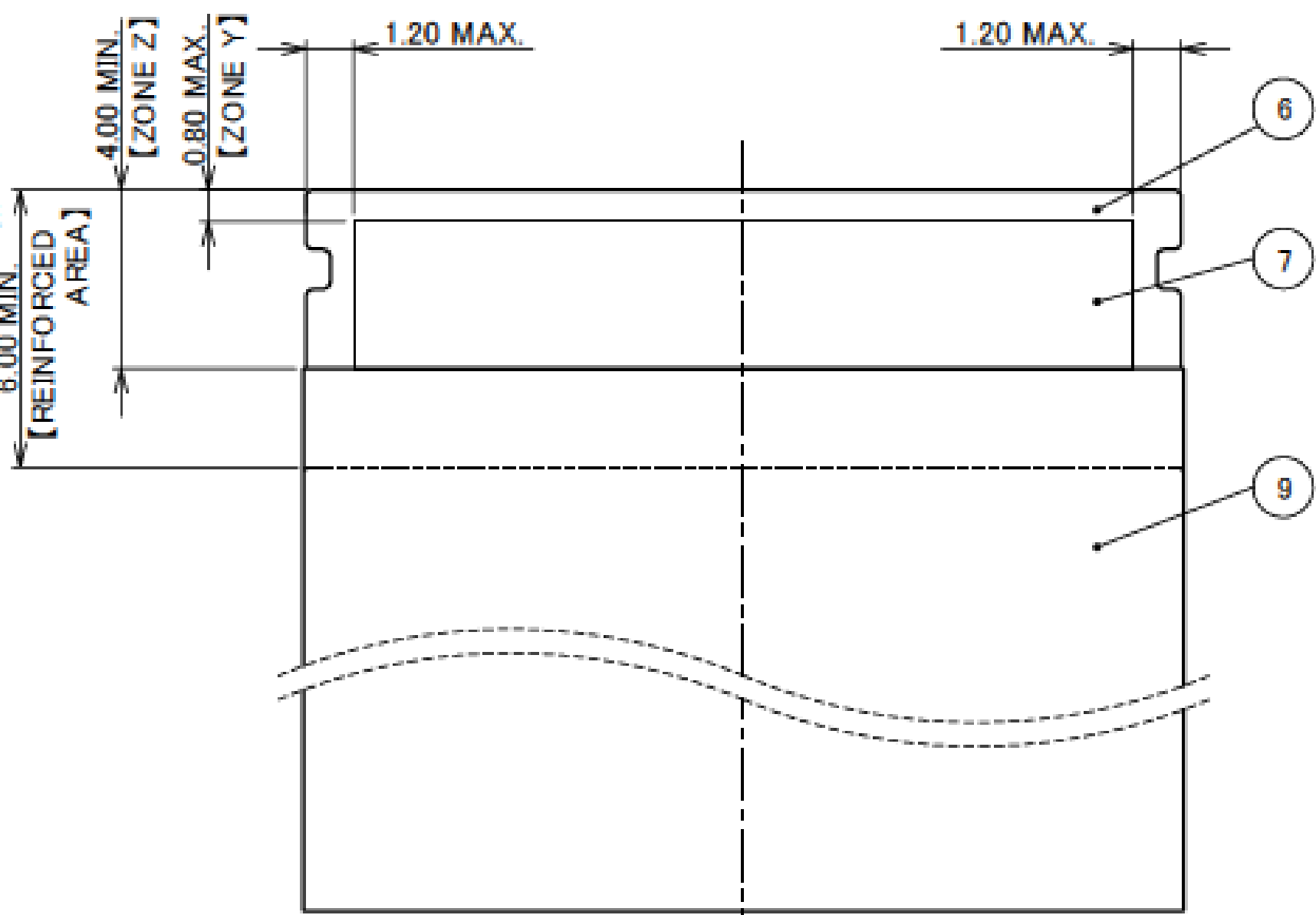
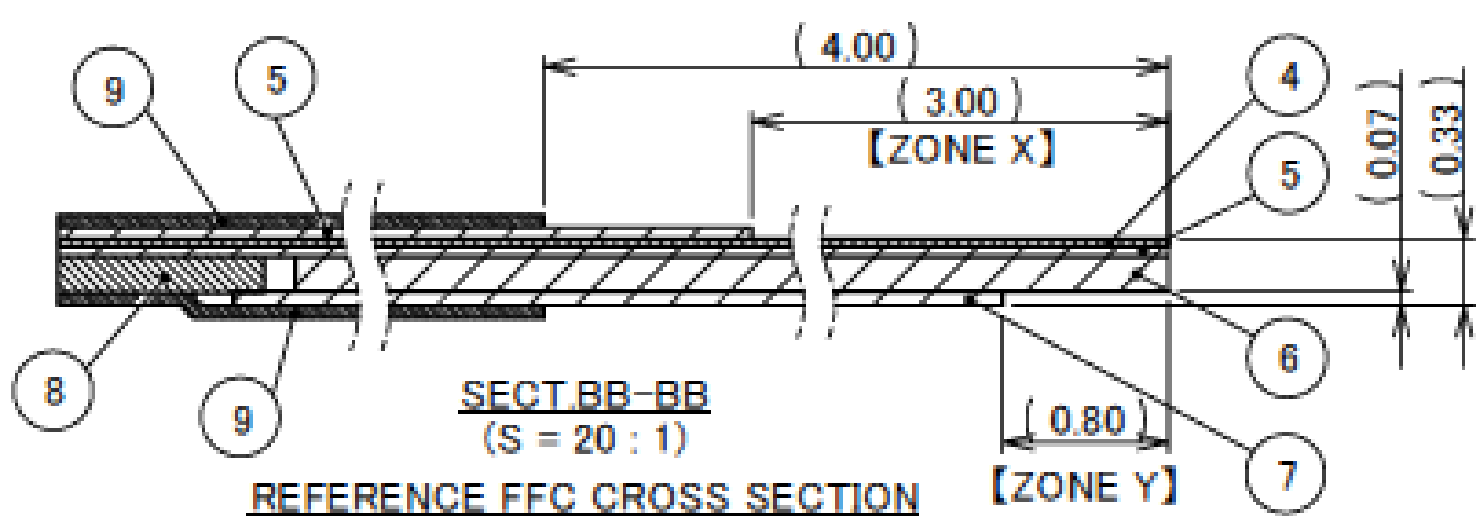
Connector Assembly

Recommended P/N		20893-0**E-02			
FOR	POS.	B	G	H	
20893-030E-02	30P	14.50	17.04	15.80	
20893-040E-02	40P	19.50	22.04	20.80	
20893-050E-02	50P	24.50	27.04	25.80	

RECOMMENDED FFC DIMENSION



0.33 ±0.03 [ZONE X]
0.07 ±0.05
※INCLUDE ADHESIVE

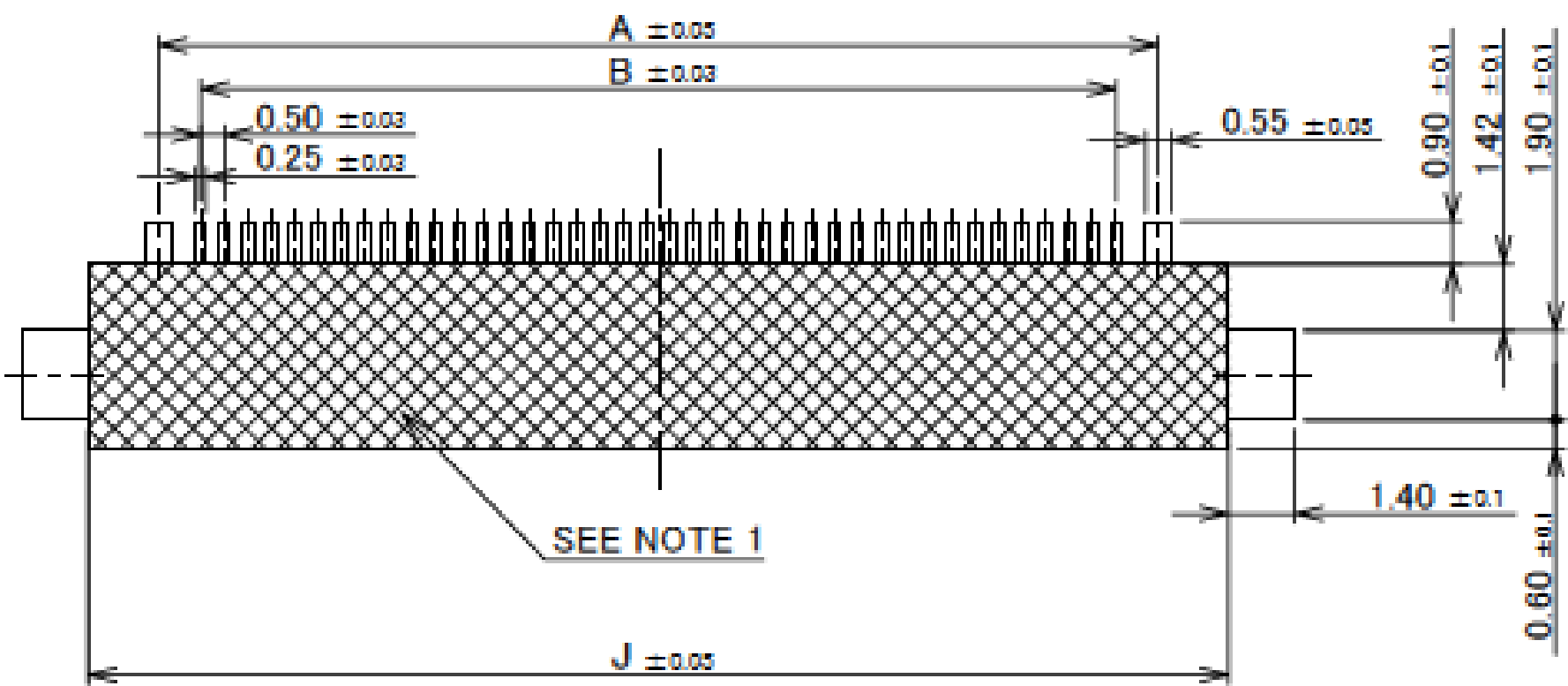


- NOTES
- 1. DIFFERENTIAL IMPEDANCE : 100Ω
 - 2. MANUFACTURE CASE ① or CASE ②
 - 3. SELECT A MATERIAL WITH A SOFTENING TEMPERATURE OF 85°C OR HIGHER FOR THE PATTERN ADHESIVE PART OF FFC.

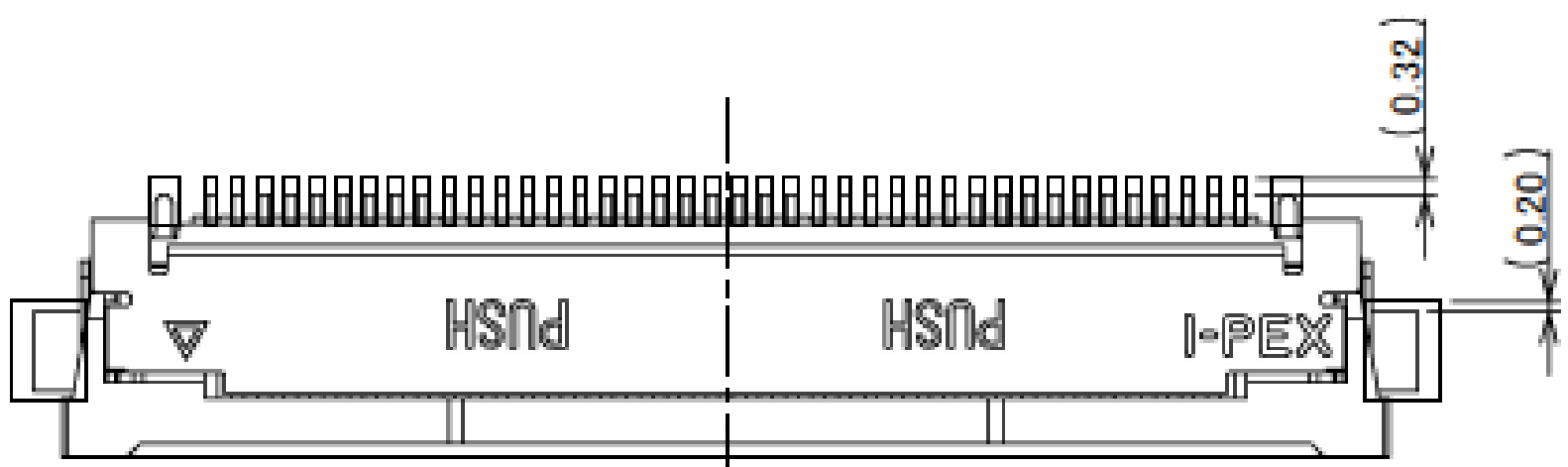
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
9	SHIELD TAPE	METALIC FILM	-
8	INTERLAYER	ARBITRARY	-
7	GROUND PLATE	METARIC FILM	POLISH or HALF POLISH Sn PLATING
6	REINFORCED TAPE	ARBITRARY	-
5	INSULATION FILM	ARBITRARY	-
4	CONDUCTOR	COPPER ALLOY	CONTACT AREA: Au 0.05 μ m MIN. OVER Ni 0.5 μ m MIN.

Rev.3

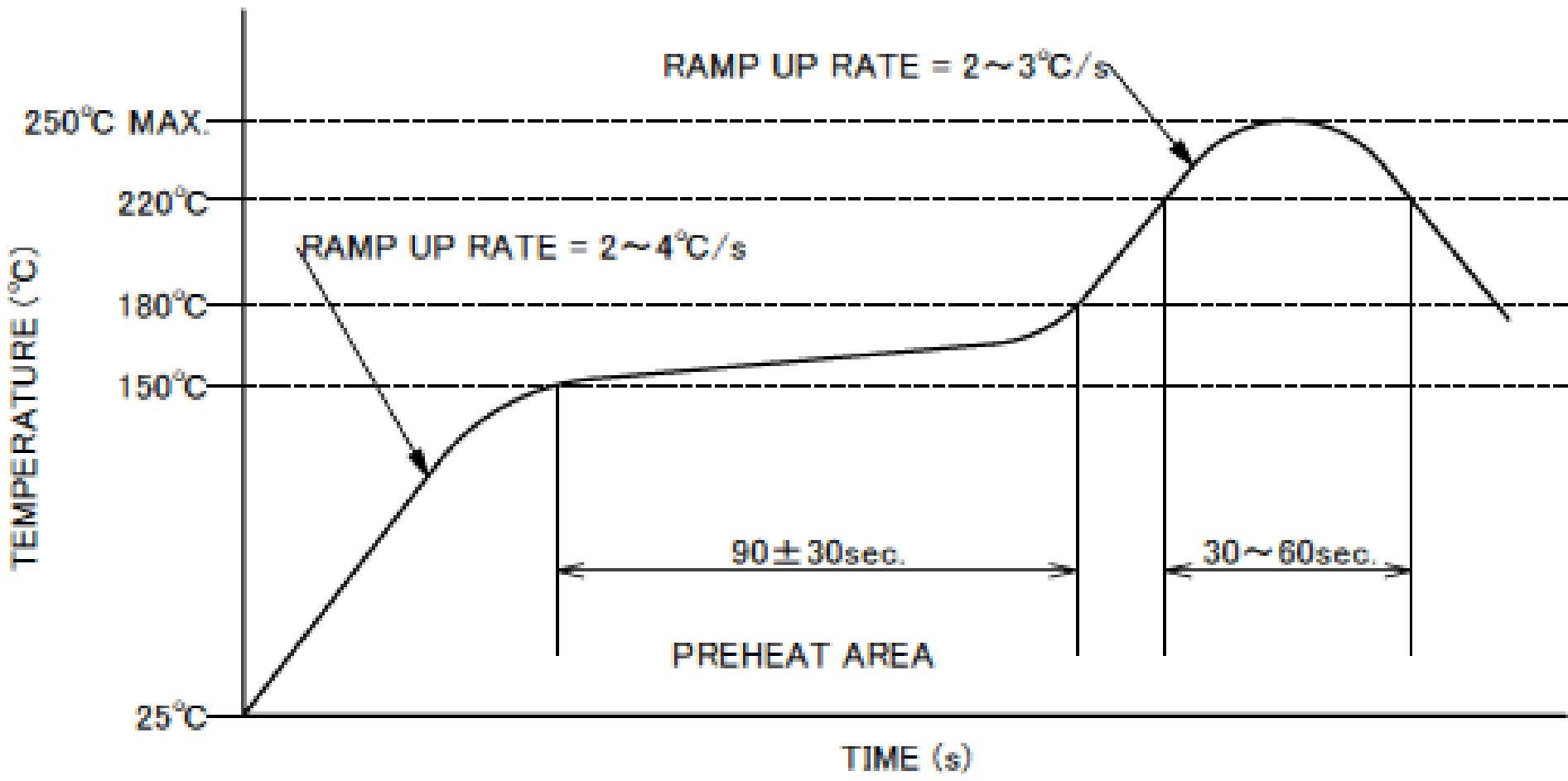
Recommended P/N		20893-0**E-02			
PART NO.	POS.	A	B	J	
20893-030E-02	30P	16.30	14.50	19.30	
20893-040E-02	40P	21.30	19.50	24.30	
20893-050E-02	50P	26.30	24.50	29.30	



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



CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN



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

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

Rev.3

Connector Assembly

ITEMS	SPECIFICATION
RATING VOLTAGE	200V AC/DC (PER CONTACT PIN)
RATING AMPERAGE (FOR CONTACT)	0.3A AC/DC (PER CONTACT PIN) IN CASE OF APPLYING 0.5A PER CONTACT PIN, THE TOTAL CURRENT OF THE WHOLE CONNECTOR SHALL BE 15.0A OR LOWER.
OPERATING TEMPERATURE	233~378K(-40°C~+105°C)
OPERATING HUMIDITY	85% MAX.(NON-CONDENSING)
CONTACT RESISTANCE (FOR SIGNAL CONTACT)	INITIAL : 60mohm MAX. / AFTER TEST : $\triangle$ 40mohm MAX.
INSULATION RESISTANCE	INITIAL : 100Mohm MIN. / AFTER TEST : 100Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	30 CYCLES
MATING FORCE (INITIAL / AFTER TEST)	30P : 18.0N MAX. 40P : 24.0N MAX. 50P : 30.0N MAX.
UNMATING FORCE (INITIAL / AFTER TEST)	30P : 3.0N MIN. 40P : 4.0N MIN. 50P : 5.0N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-2527
TEST REPORT	TR-18083
PACKING STANDARD	300-997
INSTRUCTION MANUAL	HIM-12003
APPEARANCE CRITERIA No.	QLS-A***

Rev.3

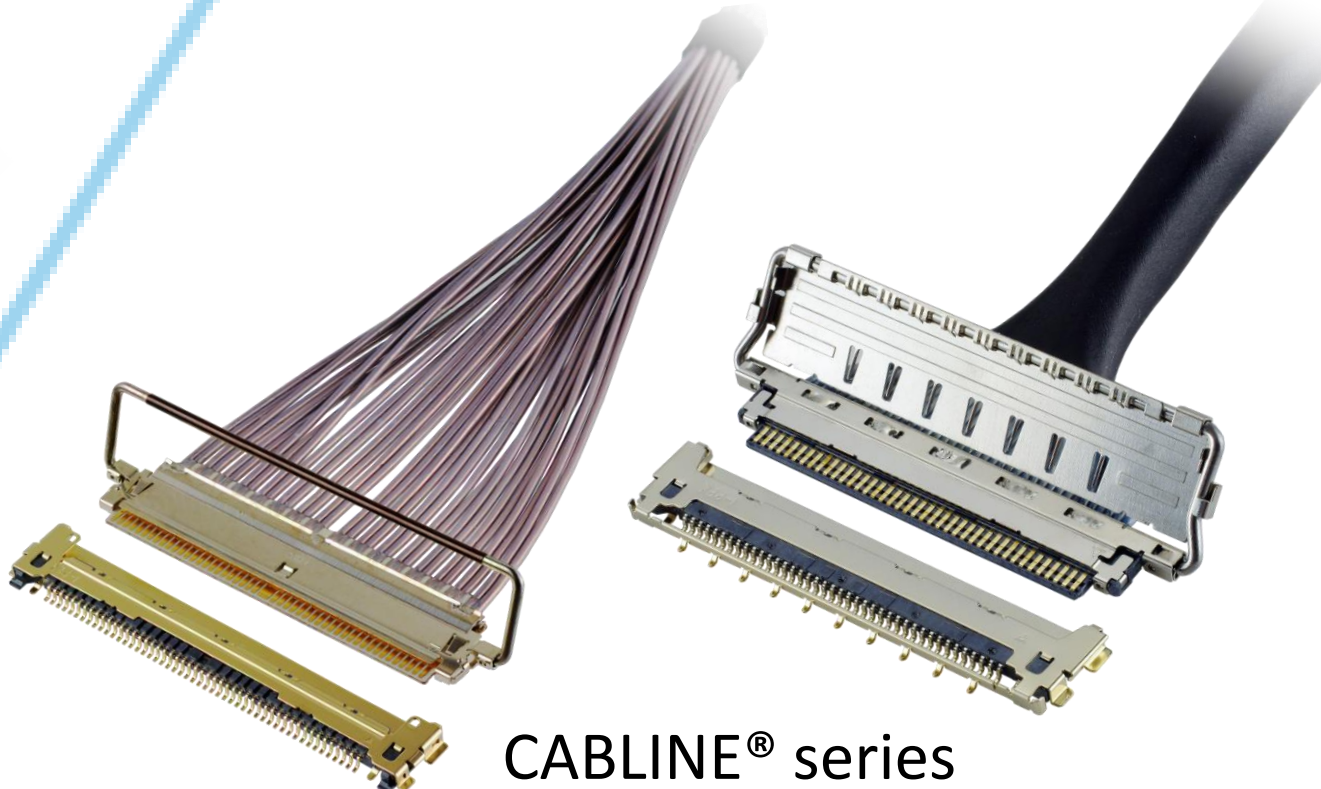
Custom Connectors Available

 RF
Connectors

MHF® series



CABLINE® series



Micro-coaxial/Twinax
Connectors



Wire-to-Board
Connectors/
Terminals

AP series



ISH® series



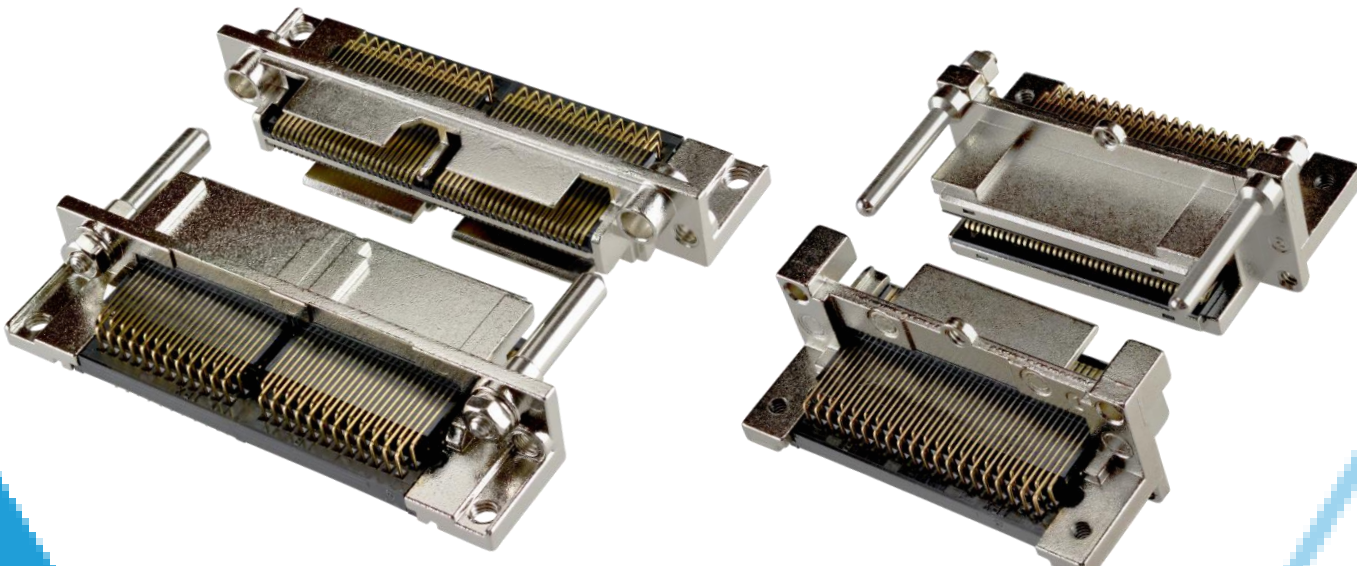
NOVASTACK® series



Board-to-Board
Connectors



I/O
Connectors



MINIDOCK™ series

MINIFLEX® series

EVAFLEX® series



FPC/FFC
Connectors



Inquiry



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