

CABLINE®-VSF

メカニカルロック付き、シールド付き、多点グランド接点、高速伝送対応(32 Gbps/lane)、0.5 mmピッチ、水平嵌合タイプFPCプラグコネクタ

Product Specifications:

Mating type	Horizontal	
Board Pitch (mm)	0.5	
Wiping Length (mm)	0.62	
Mated size (mm)	Height	1.0 +/- 0.1
	Width	Formula: 7.55 + (0.5*?p)
	Depth	5.97
Pin Counts	Range	Up to 60
	Available	30, 40

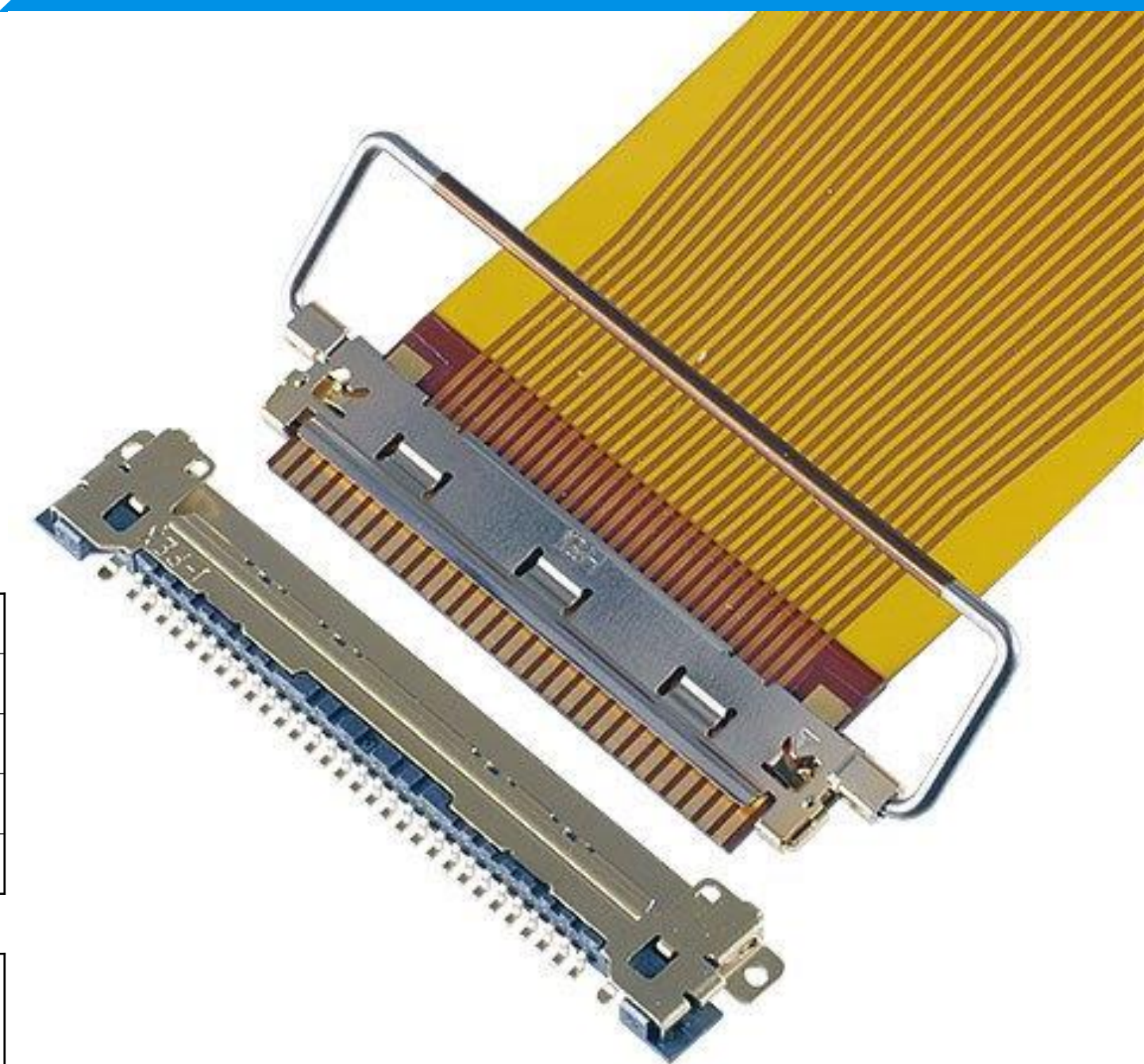
Applicable FPC

FPC Type	Shielded/Non-shielded FPC
FPC Pitch (mm)	0.5
FPC Contact Point	Top
FPC Thickness (mm)	Contact Area: 0.28 +0.02/-0.03
	Ground Area: 0.34 ± 0.05

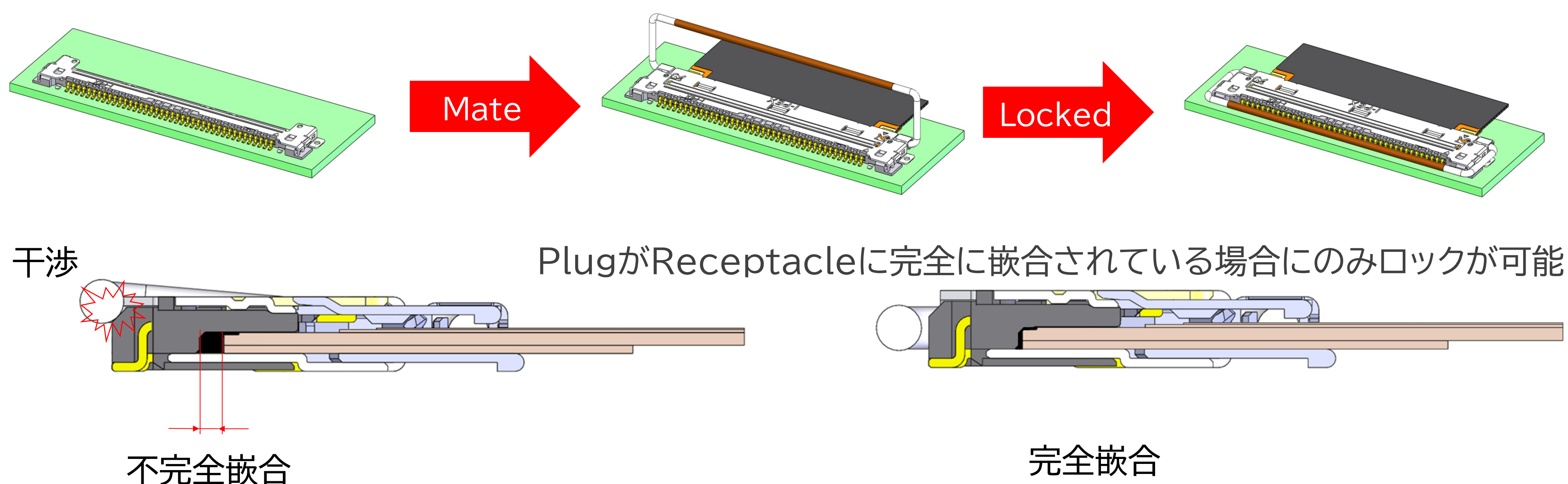
Applicable Standards (Reference Only):

32 Gbps/ Lane, USB4 Gen4 (40 Gbps/ Lane PAM3)
Display Port UHBR20 (20 Gbps/Lane)

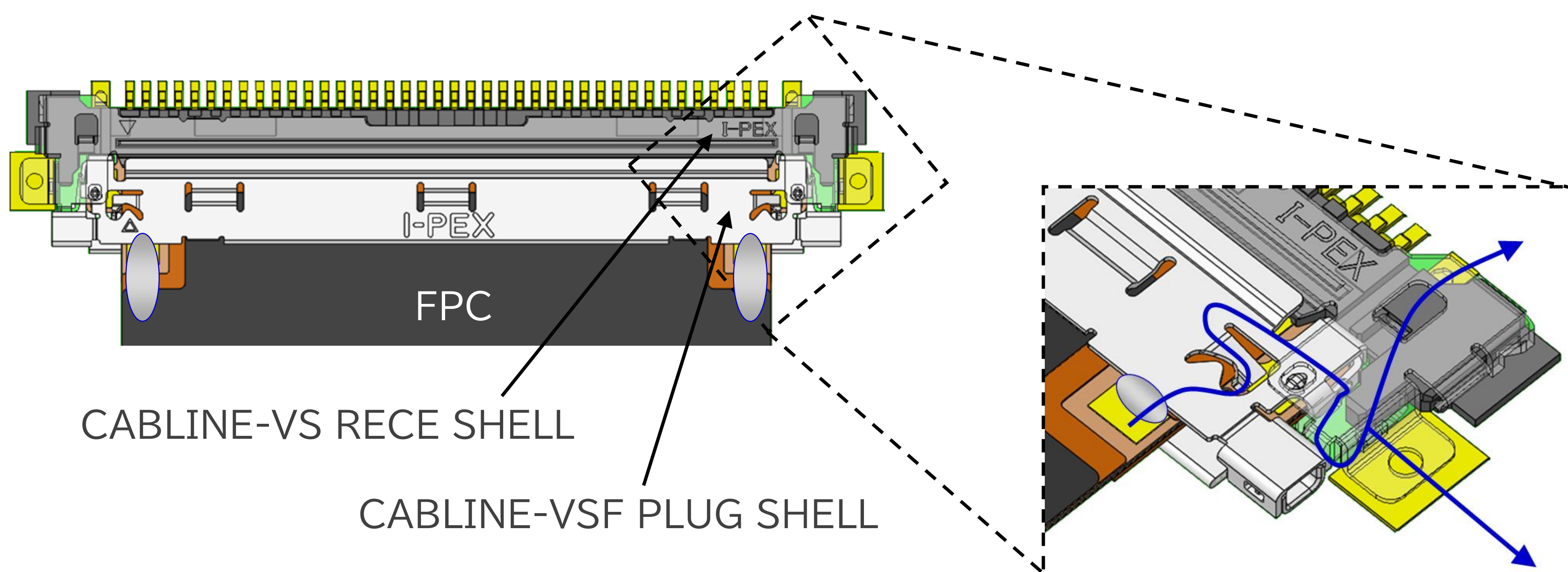
*記載のない極数の対応状況についてはお問い合わせください。



▶ メカニカルロックバーによる不完全嵌合防止とPlug抜け防止



▶ EMIシールドと多点グランド接点設計



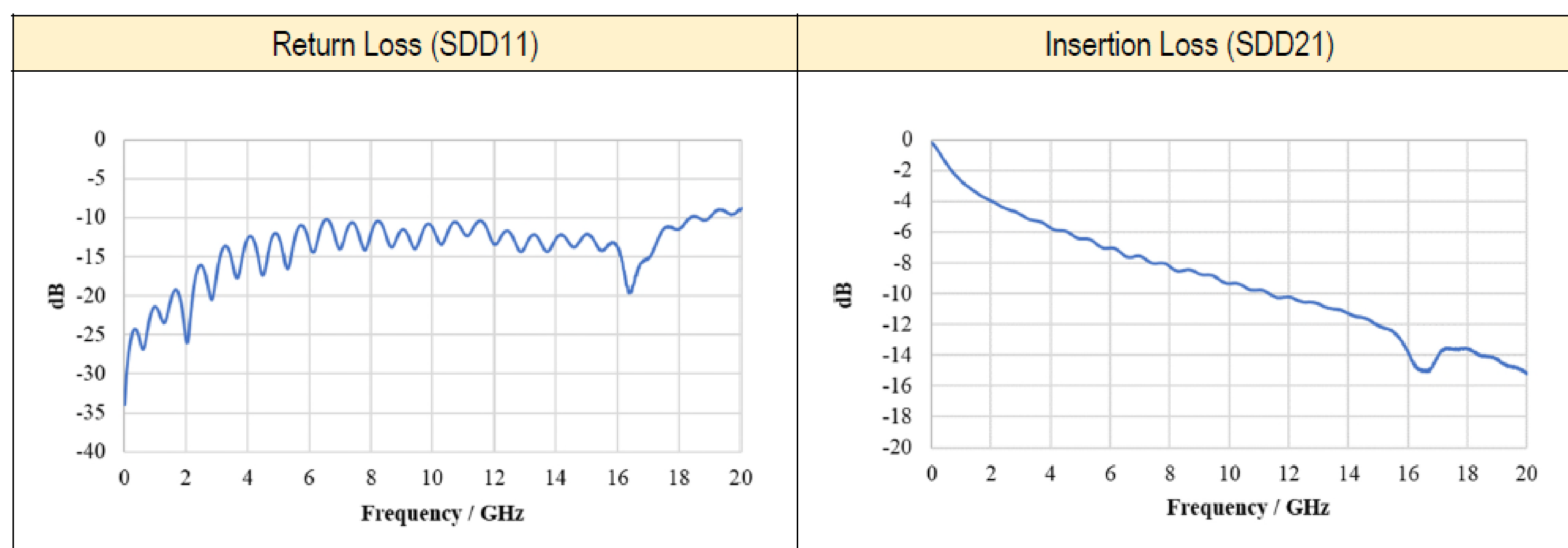
▶ 32Gbps/lane の高速伝送内部接続に最適

Measurement results

Connector: CABLINE-VSF 40P

FPC: Shielded FPC,
Differential 100 ohm, Length : 100 mm

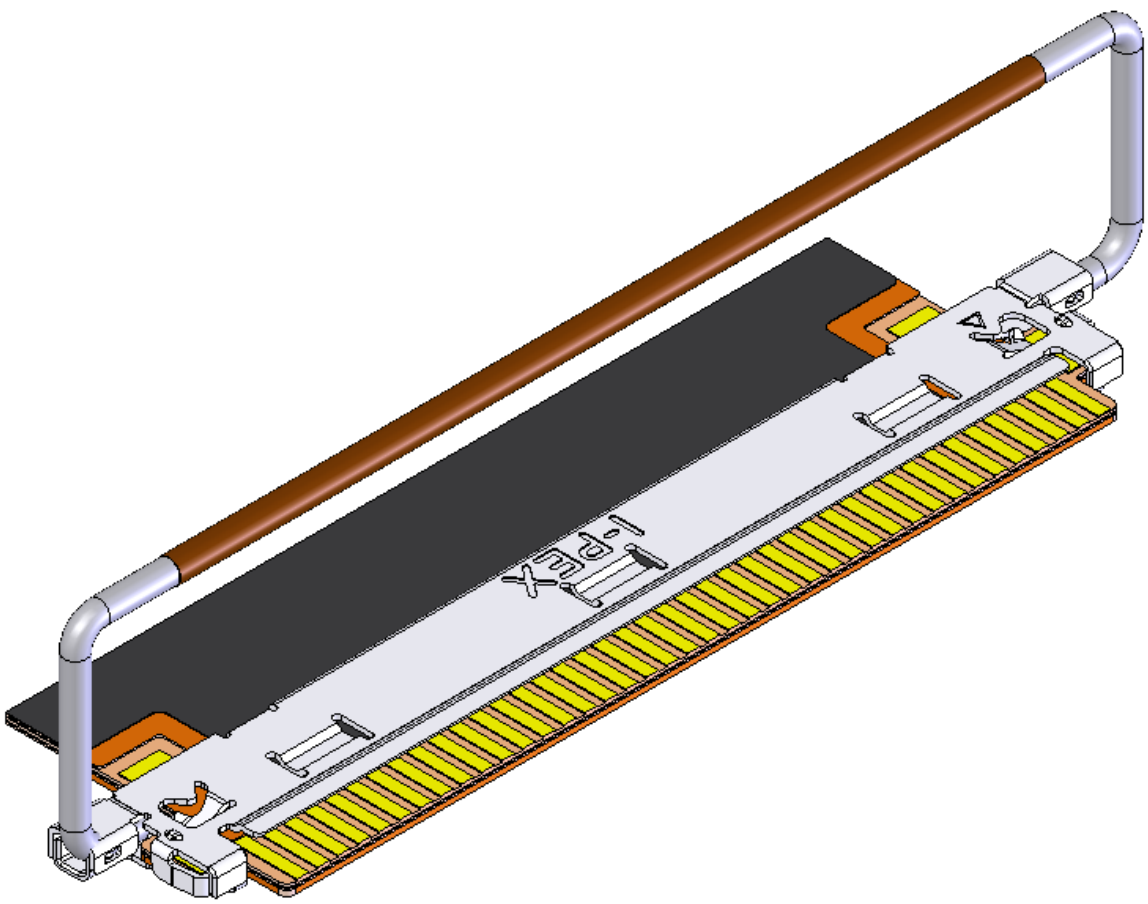
Pin Assignment: GSSGSSG



Component Parts Details

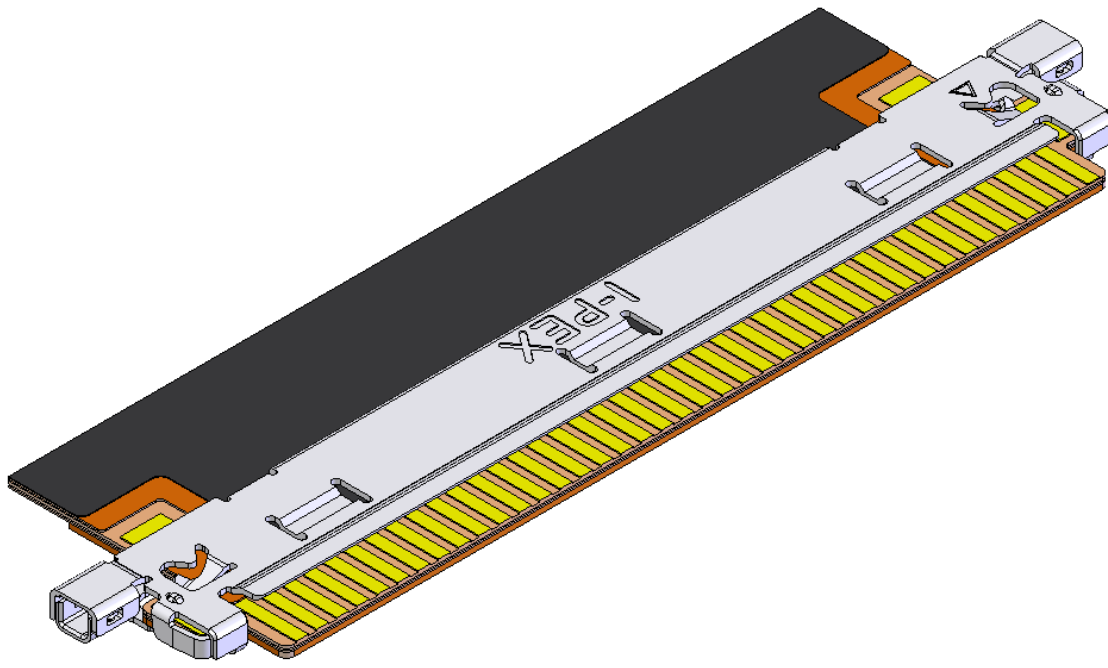
Component Parts

WITH LOCK BAR TYPE



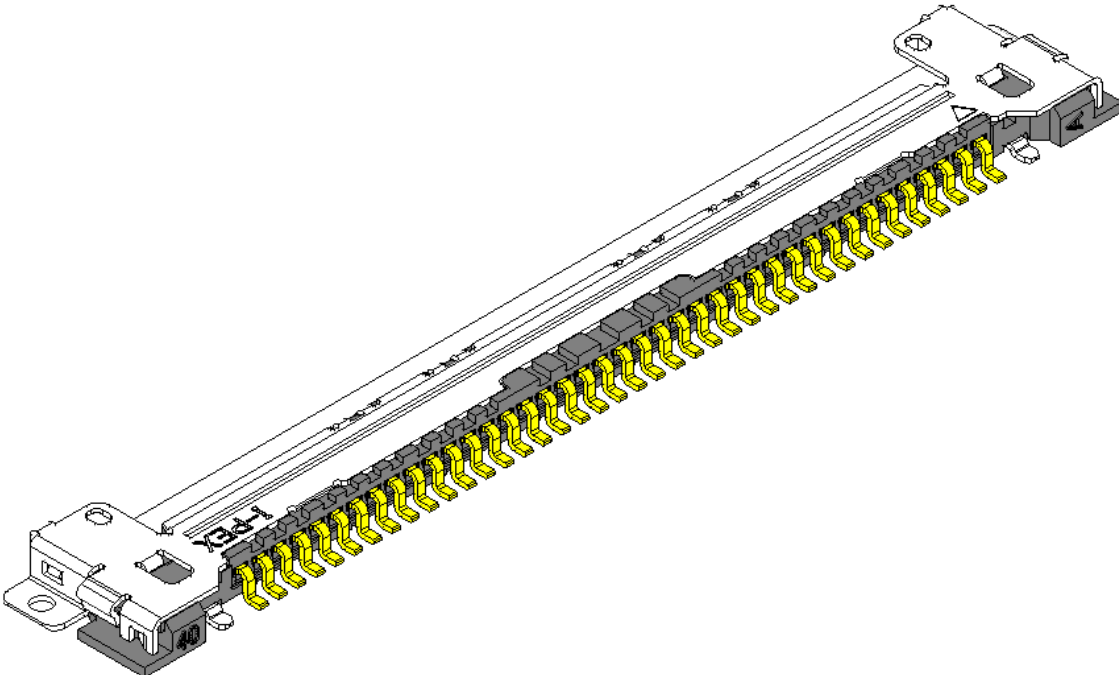
CABLINE-VSF SHELL ASS'Y PLUG with FPC

WITHOUT LOCK BAR TYPE



CABLINE-VSF SHELL PLUG with FPC

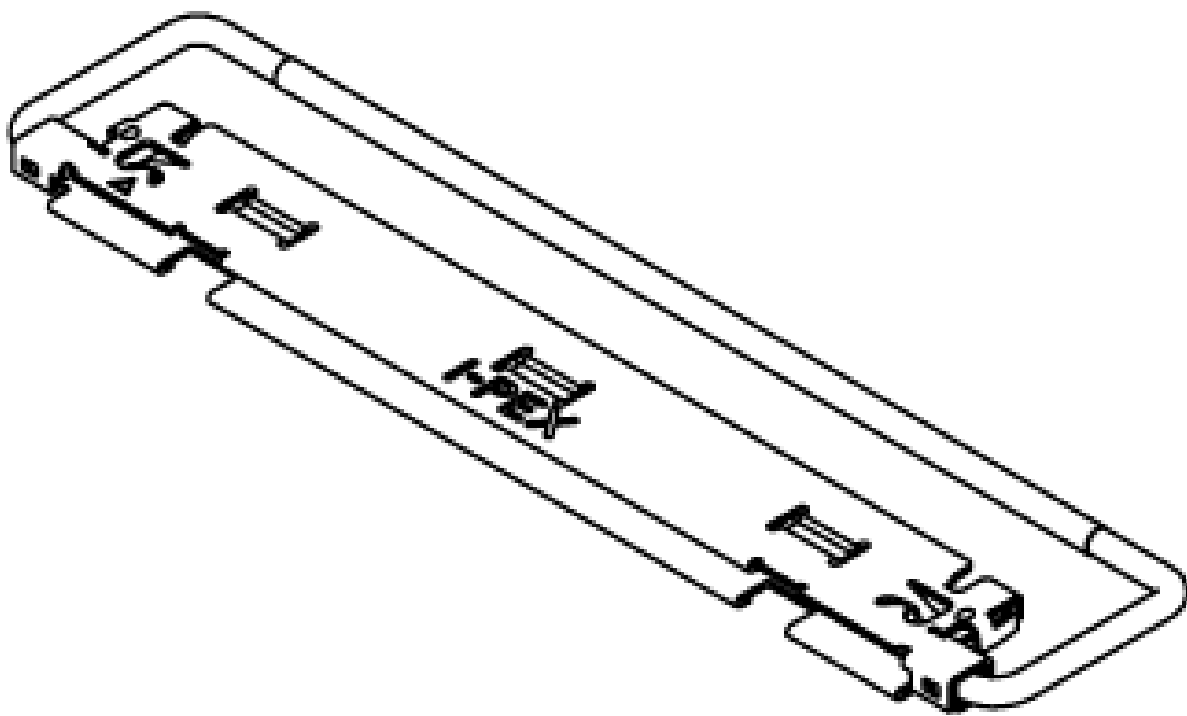
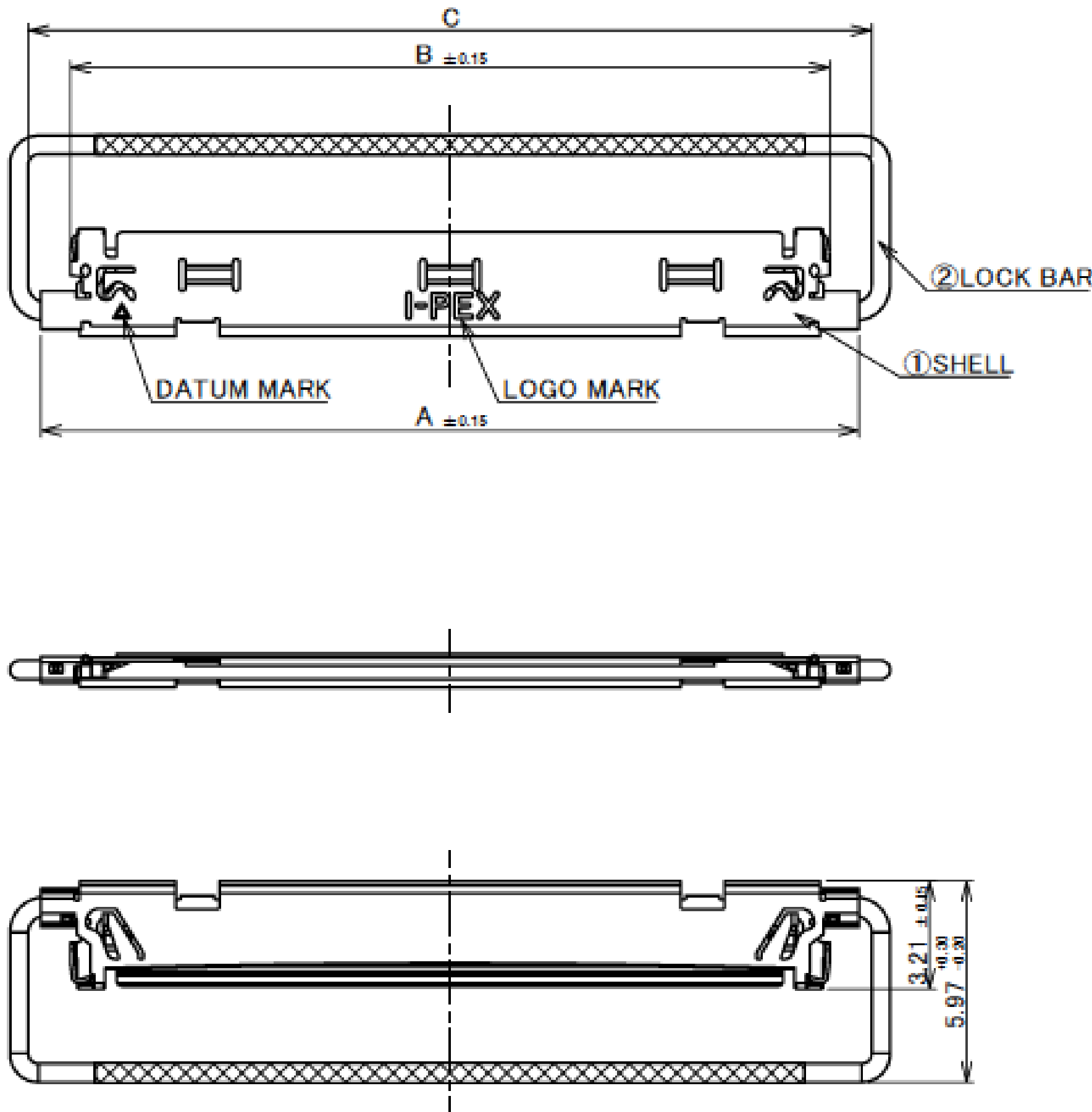
OR



CABLINE-VS RECEPTACLE

Shell Assembly

Recommended P/N		20645-0**T-01		
PART No.	A	B	C	
20645-030T-01	19.30	17.56	20.05	
20645-040T-01	24.30	22.56	25.05	

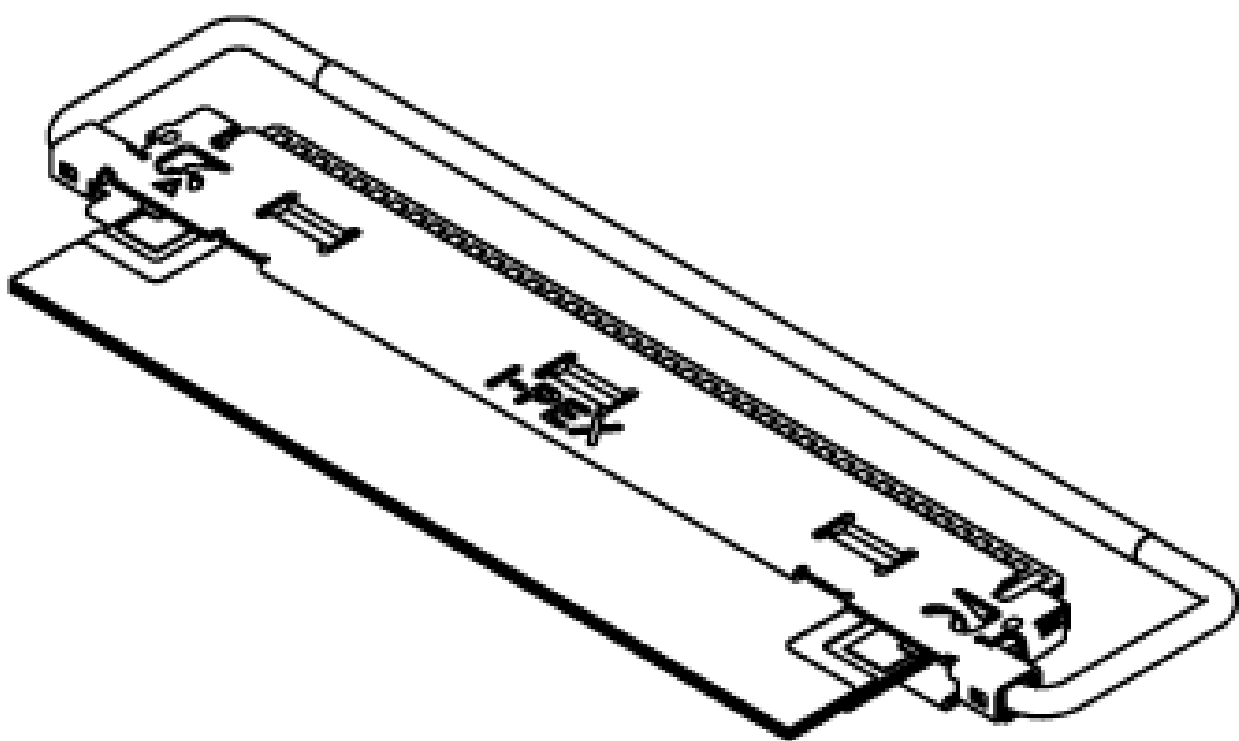
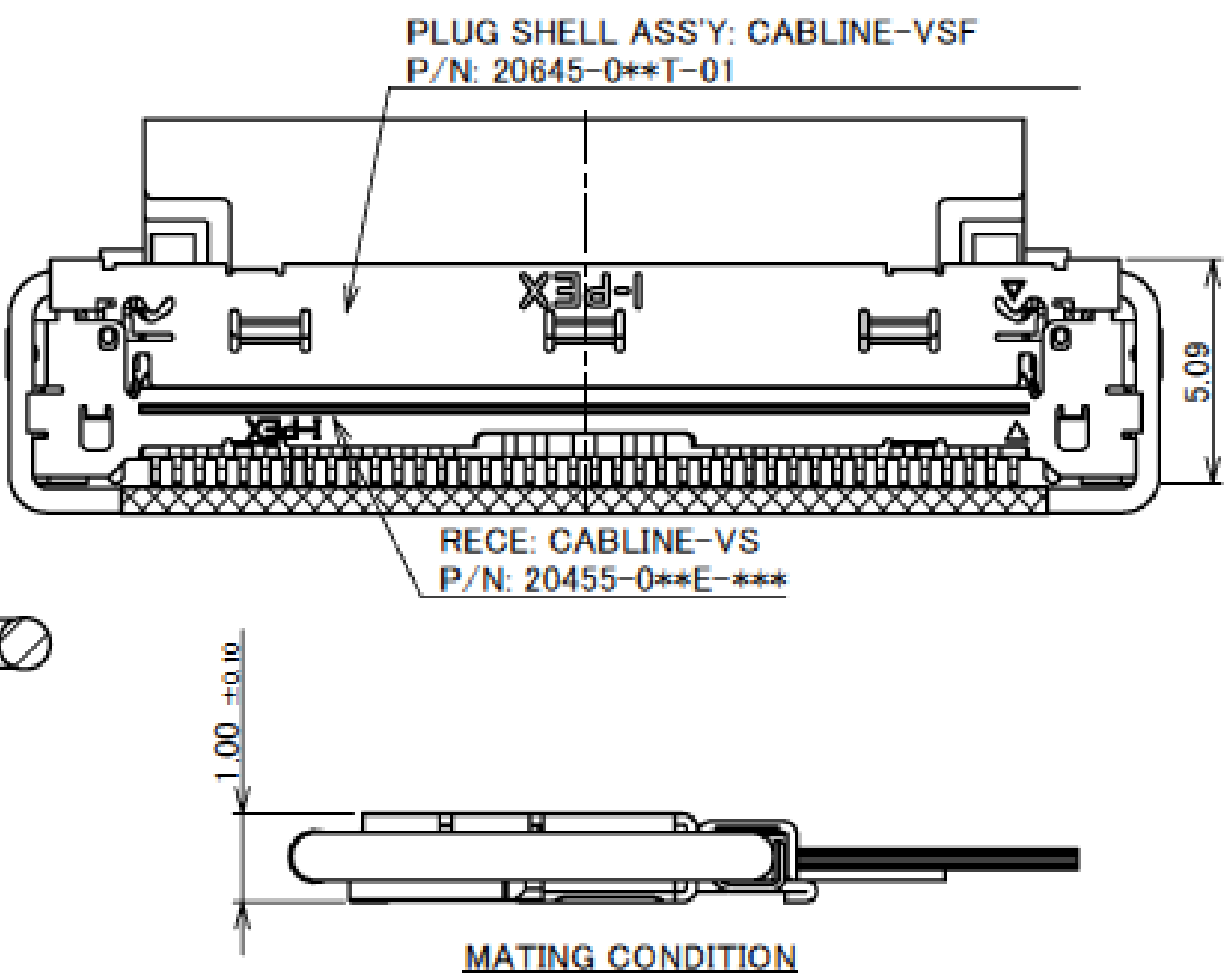
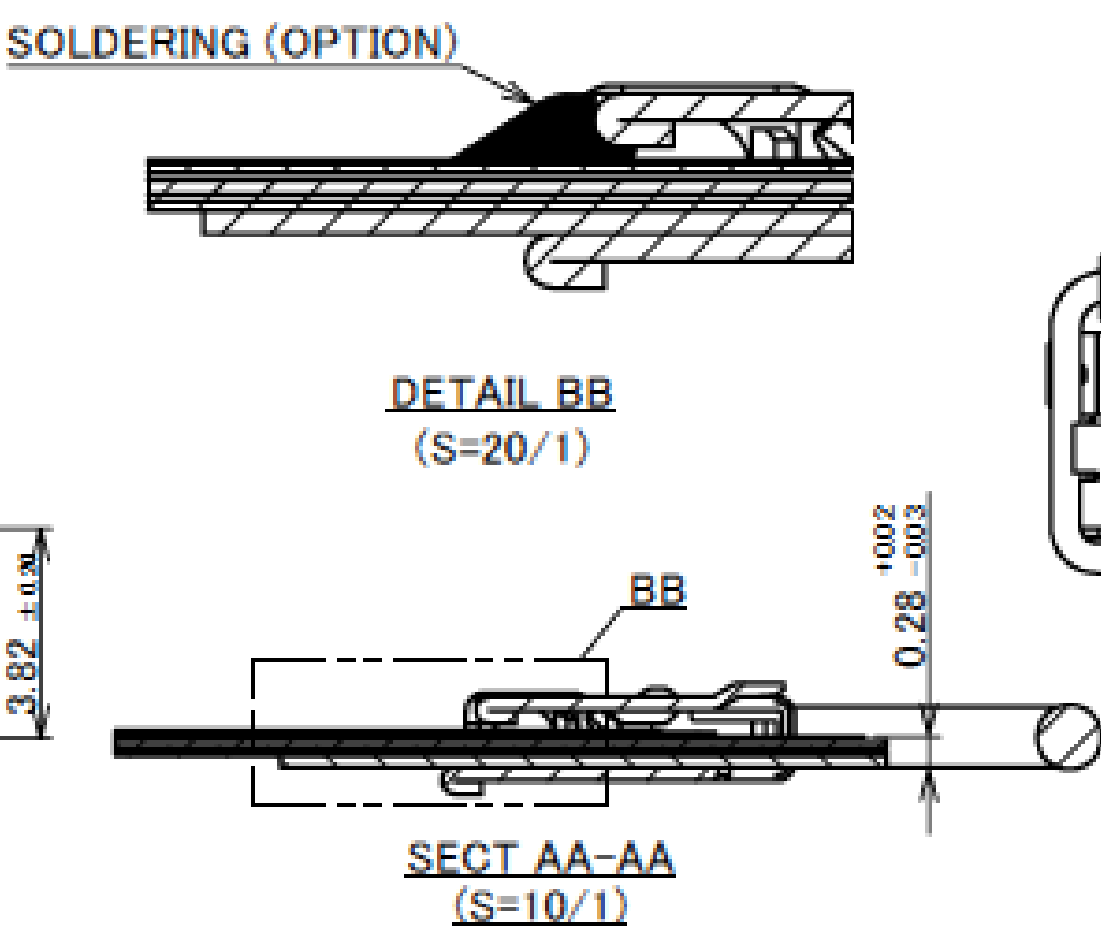
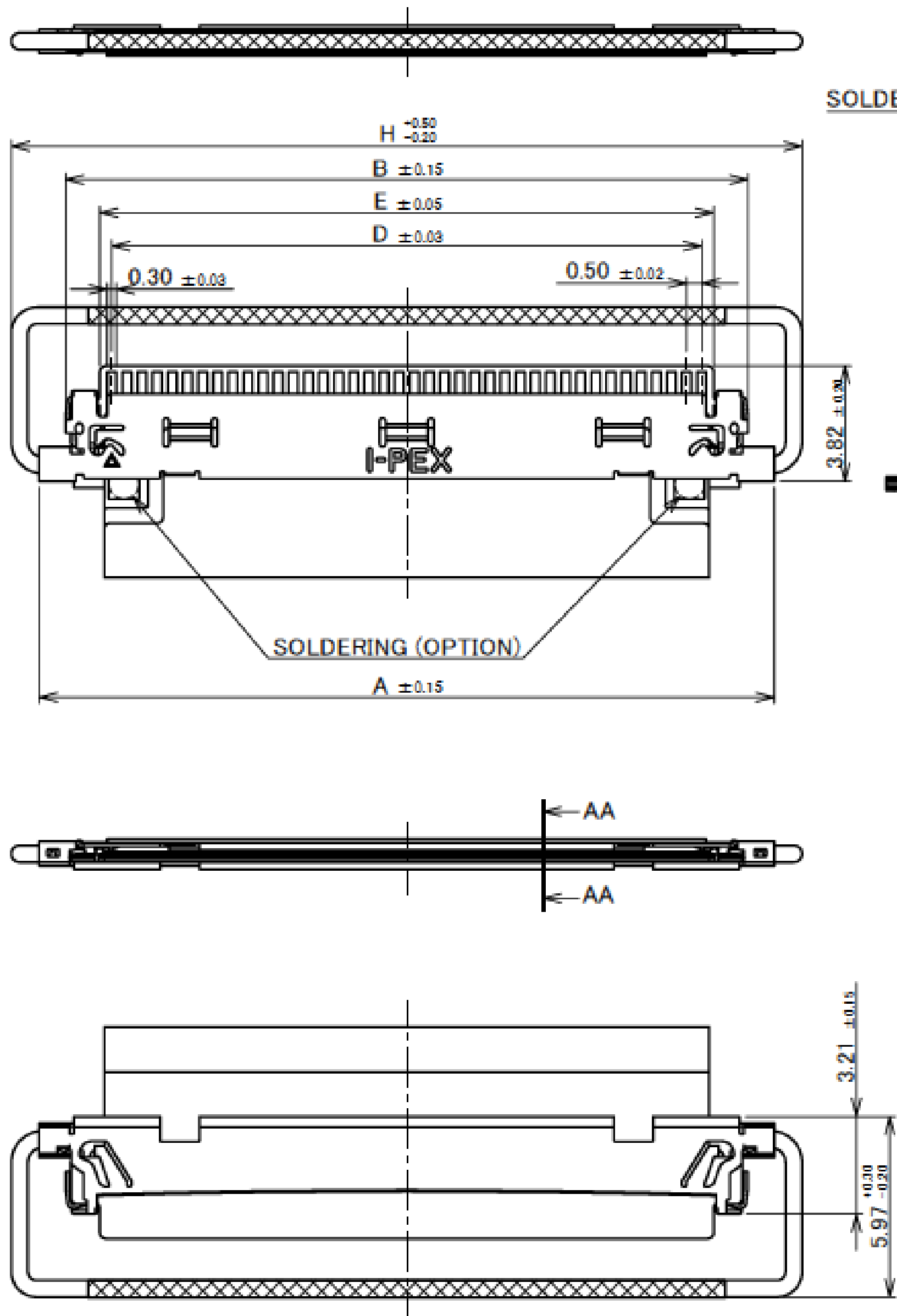
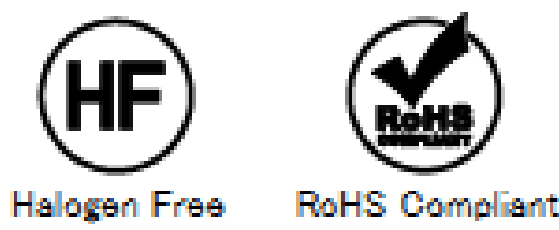


2	LOCK BAR	SUS	-
1	SHELL	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μ m MIN. CONTACT & SOLDERING AREA : Au 0.01 μ m MIN.
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

Rev.15

POS.	A	B	D	E	H
30	19.30	17.56	14.50	15.30	21.15
40	24.30	22.56	19.50	20.30	26.15

FPC ASS'Y STATE

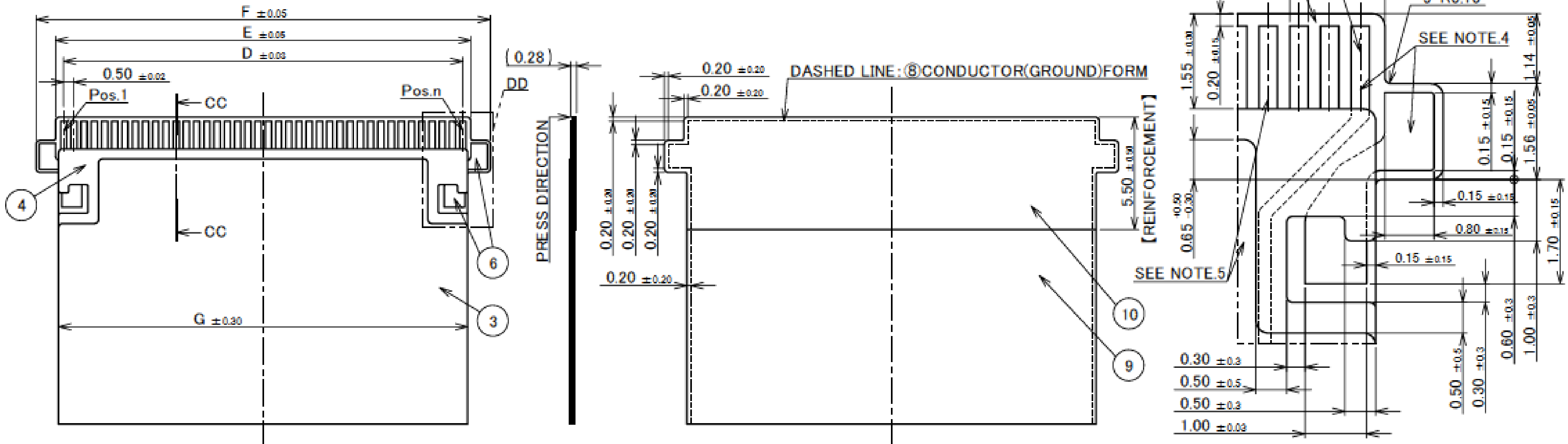


Rev.15

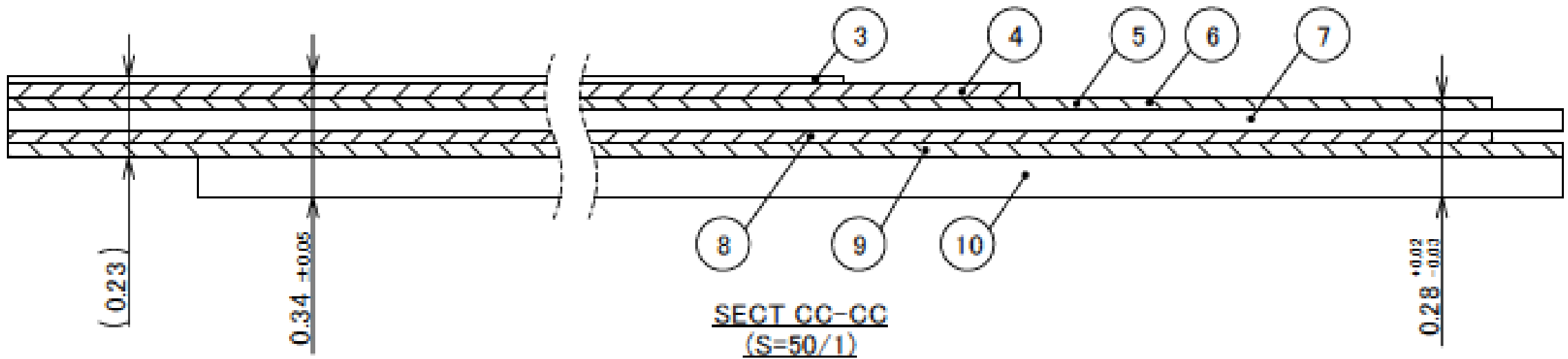
Shell Assembly

POS.	D	E	F	G
30	14.50	15.30	17.20	15.00
40	19.50	20.30	22.20	20.00

RECOMMENDED FPC LAYOUT
【SHIELDED TYPE】



DETAIL DD
(S=15/1)



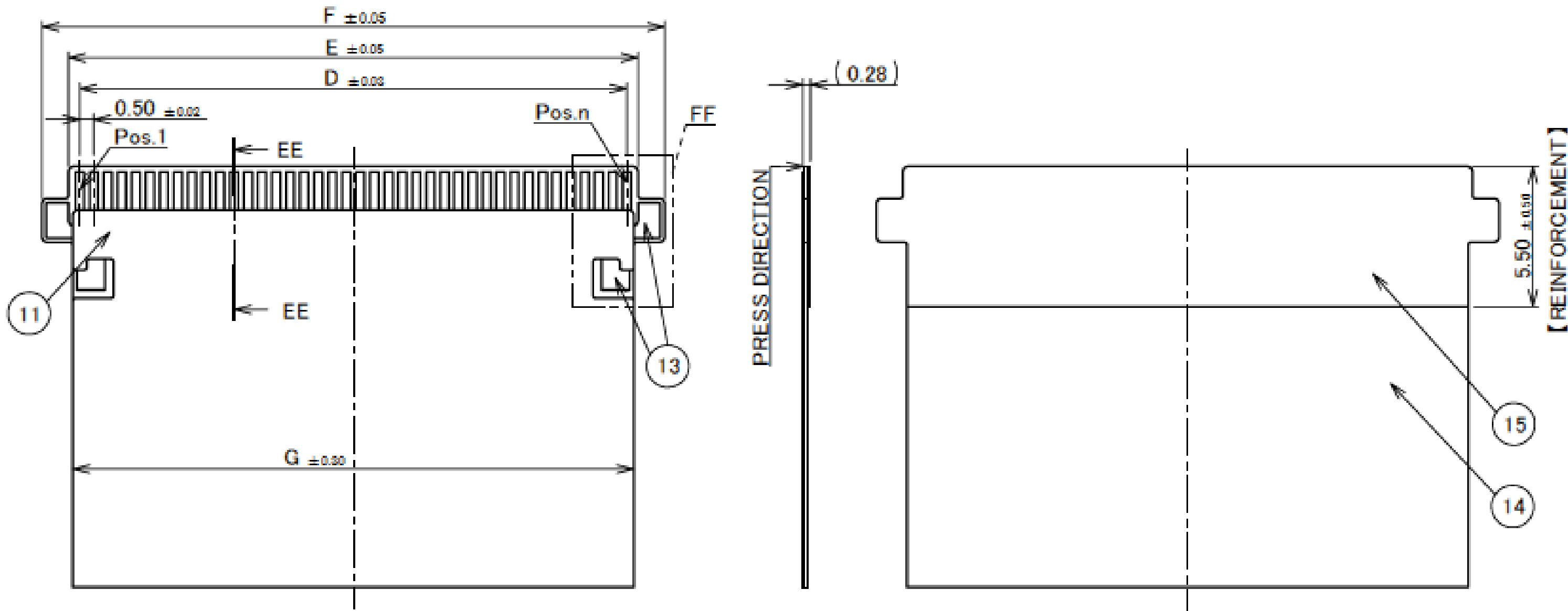
NO.	DESCRIPTION	MATERIAL	PLATING
10	REINFORCING TAPE	-	-
9	INSULATOR	-	-
8	CONDUCTOR (GROUND)	Cu	-
7	INSULATOR	-	-
6	CONDUCTOR (GROUND)	Cu	Ni, Au
5	CONDUCTOR (SIGNAL)	Cu	Ni, Au
4	INSULATOR	-	-
3	SHIELD FILM	-	-

- NOTES.
- ADHESIVE SHOULD USE THERMOSETTING.
 - No.6: CONDUCTOR(GROUND) AND No.8: CONDUCTOR(GROUND) ARE CARRYING OUT THE ELECTRICAL CONNECTION.
 - No.3: SHIELD FILM AND No.8: CONDUCTOR(GROUND) ARE CARRYING OUT THE ELECTRICAL CONNECTION.
 - No.5: CONDUCTOR(SIGNAL) AND No.6,8: CONDUCTOR(GROUND) ARE NOT CONTACTING.
 - No.5: CONDUCTOR(SIGNAL) AND No.3: SHIELD FILM ARE NOT CONTACTING.

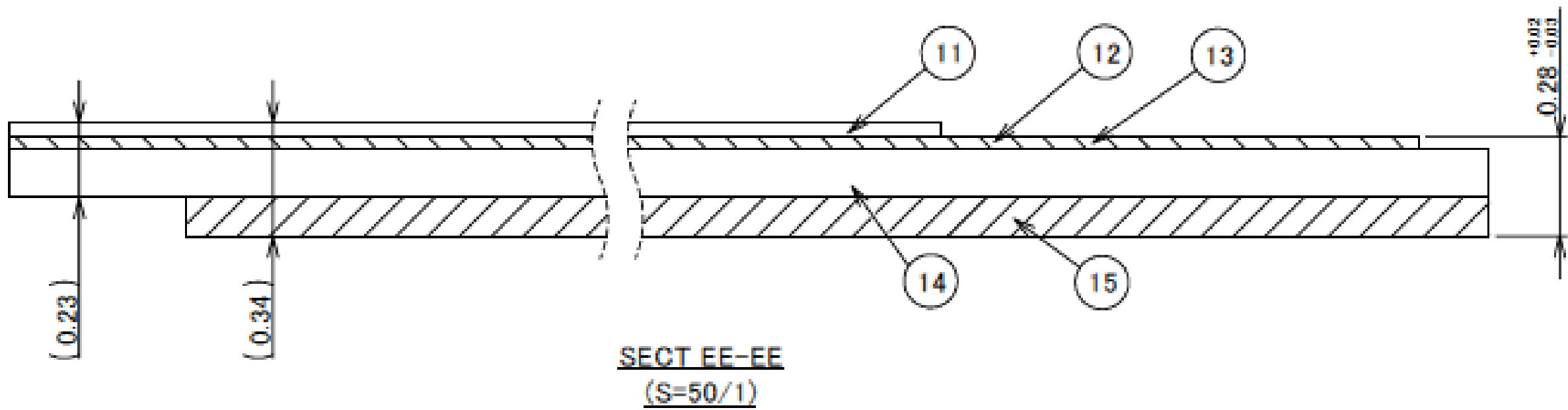
Rev.15

POS.	D	E	F	G
30	14.50	15.30	17.20	15.00
40	19.50	20.30	22.20	20.00

RECOMMENDED FPC LAYOUT
【NON SHIELDED TYPE】



DETAIL FF
(S=15/1)



NO.	DESCRIPTION	MATERIAL	PLATING
15	REINFORCING TAPE	-	-
14	INSULATOR	-	-
13	CONDUCTOR (GROUND)	Cu	Ni, Au
12	CONDUCTOR (SIGNAL)	Cu	Ni, Au
11	INSULATOR	-	-

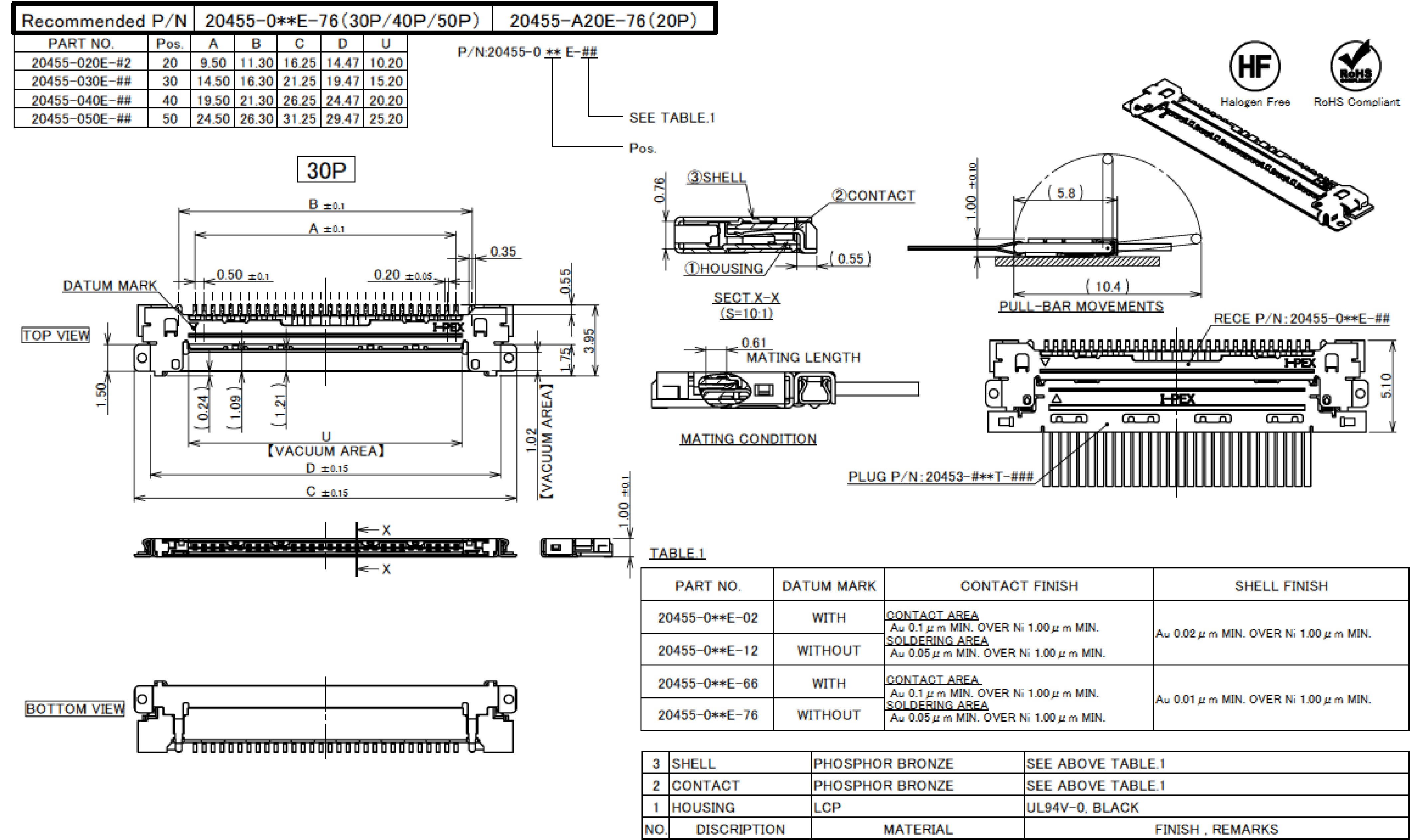
- NOTES.
- ADHESIVE SHOULD USE THERMOSETTING.
 - No.12: CONDUCTOR(SIGNAL) AND No.13: CONDUCTOR(GROUND) ARE NOT CONTACTING.

Rev.15

ITEMS	SPECIFICATION
RATING VOLTAGE	100V AC (PER CONTACT)
RATING AMPERAGE (FOR SIGNAL CONTACT)	0.5A AC/DC (PER CONTACT PIN) ※AVAILABLE UP TO 20PIN 0.3A AC/DC (PER CONTACT PIN) ※AVAILABLE FOR ALL PIN
OPERATING TEMPERATURE	233~358K(−40°C~+85°C)
OPERATING HUMIDITY	85% MAX.
CONTACT RESISTANCE (FOR SIGNAL CONTACT)	INITIAL : 60mohm MAX. / AFTER TEST : $\triangle$ 40mohm MAX.
GROUND SHELL RESISTANCE	INITIAL : 60mohm MAX. / AFTER TEST : $\triangle$ 40mohm MAX.
INSULATION RESISTANCE	INITIAL : 1000Mohm MIN. / AFTER TEST : 500Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	30 CYCLES
MATING FORCE (INITIAL / AFTER TEST)	30P : 24.0N MAX. / 40P : 32.0N MAX.
UNMATING FORCE (INITIAL / AFTER TEST)	30P : 1.1N MIN. / 40P : 1.4N MIN.
PRODUCT SPECIFICATION	PRS-1878
TEST REPORT	TR-14095, TR-17048
PACKING STANDARD	PST-14087
INSTRUCTION MANUAL	HIM-13010
ASSEMBLY MANUAL	ASM-13003
APPEARANCE CRITERIA No.	QLS-A***

Rev.15

Receptacle Assembly



Rev.34

Receptacle Assembly

Recommended P/N		20455-0**E-76(30P/40P/50P)							20455-A20E-76(20P)	
PART NO.	Pos.	A	B	C	D	H	J	U		
20455-A20E-##	20	9.50	11.30	16.25	14.47	15.32	15.84	10.20		

P/N:20455-A20E-##
A : TYPE-A
SEE TABLE 2

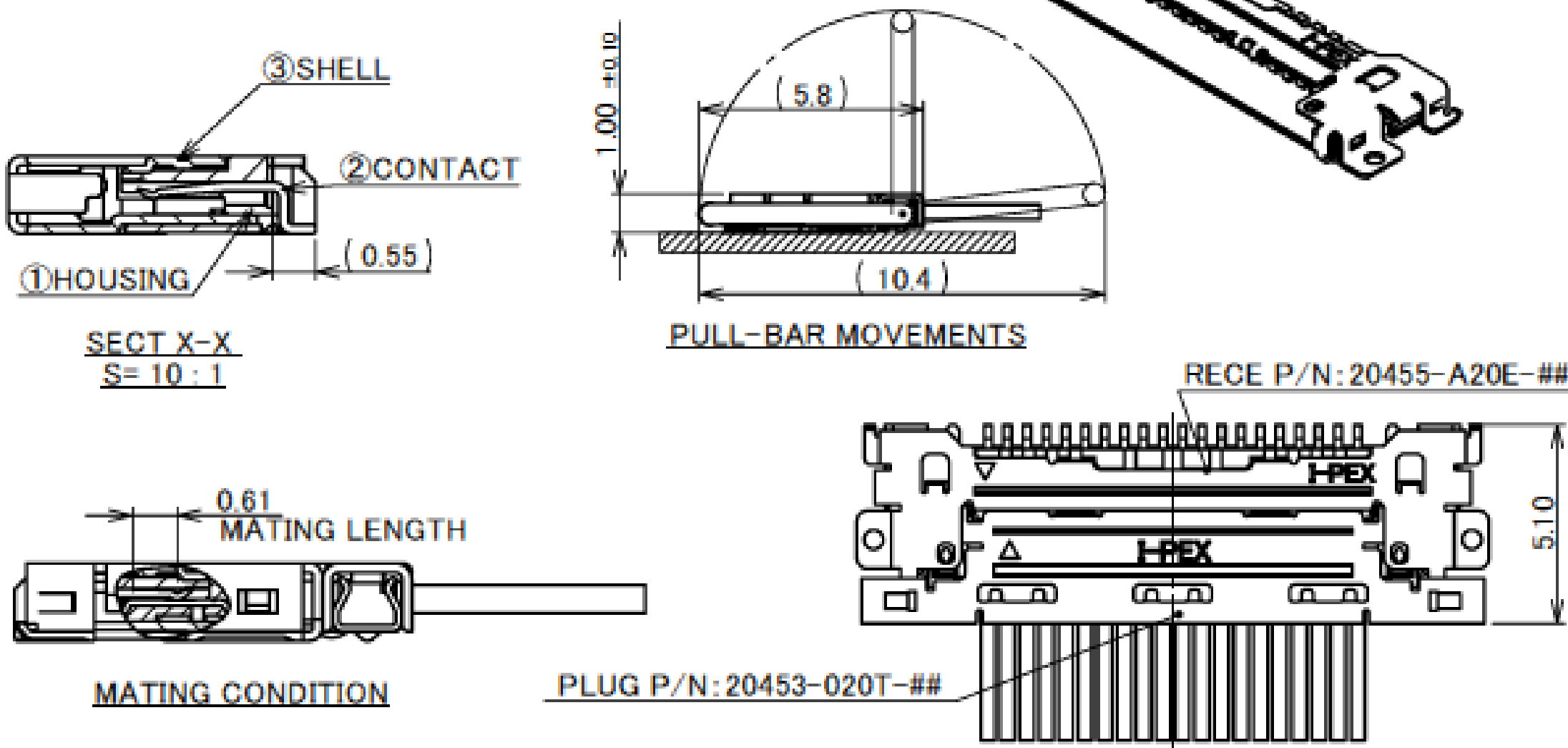
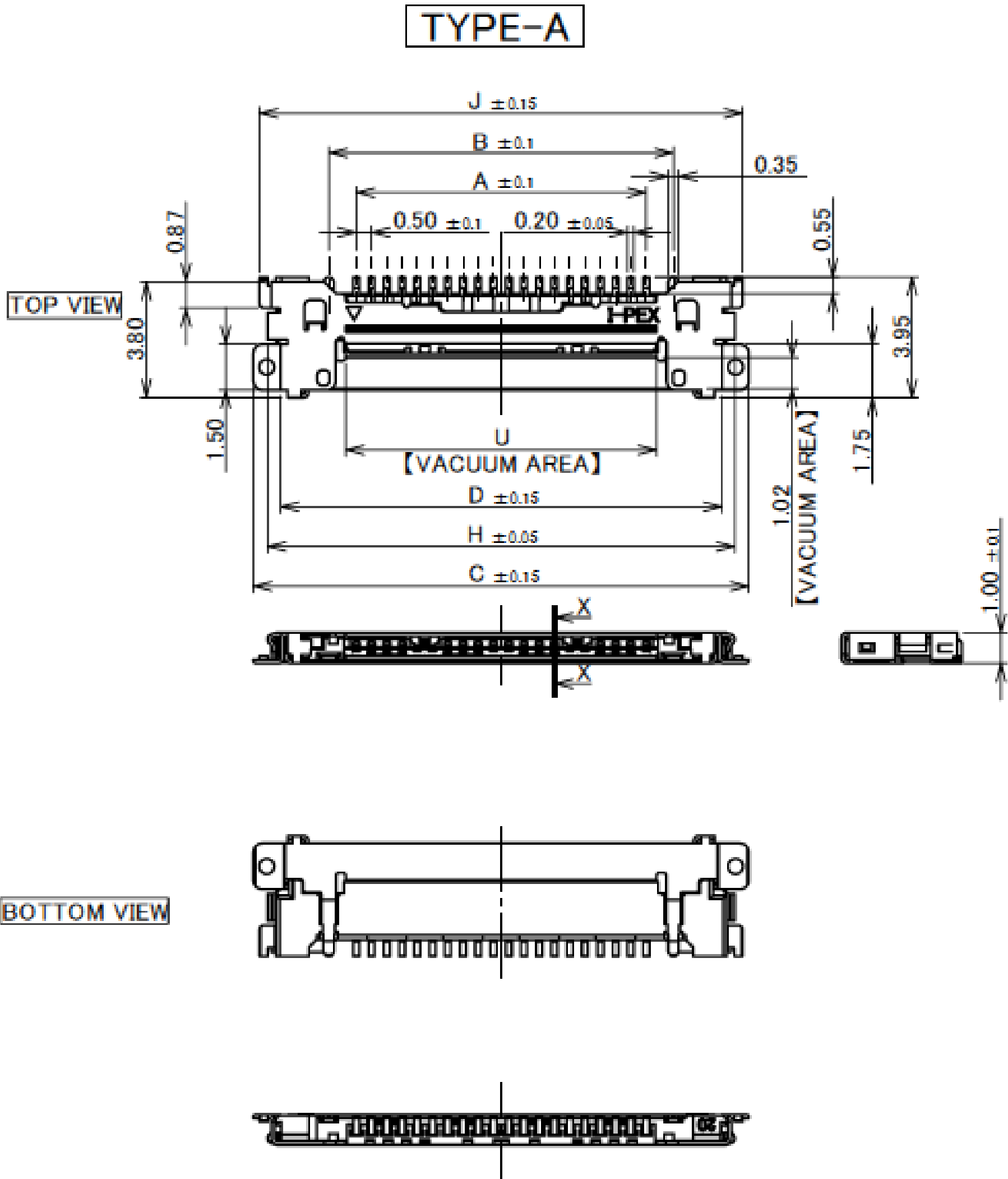
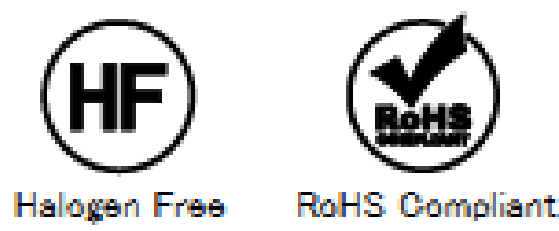
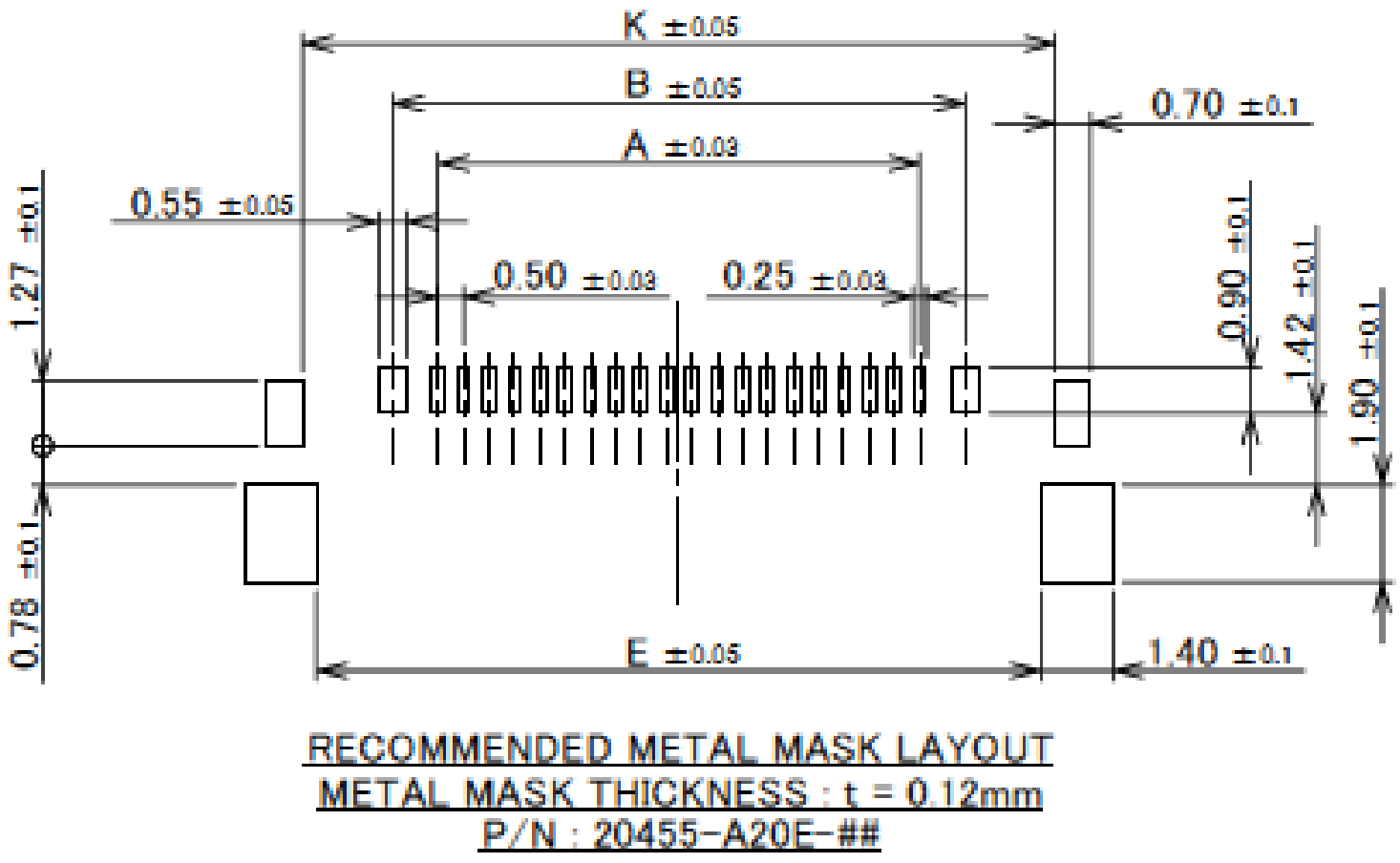
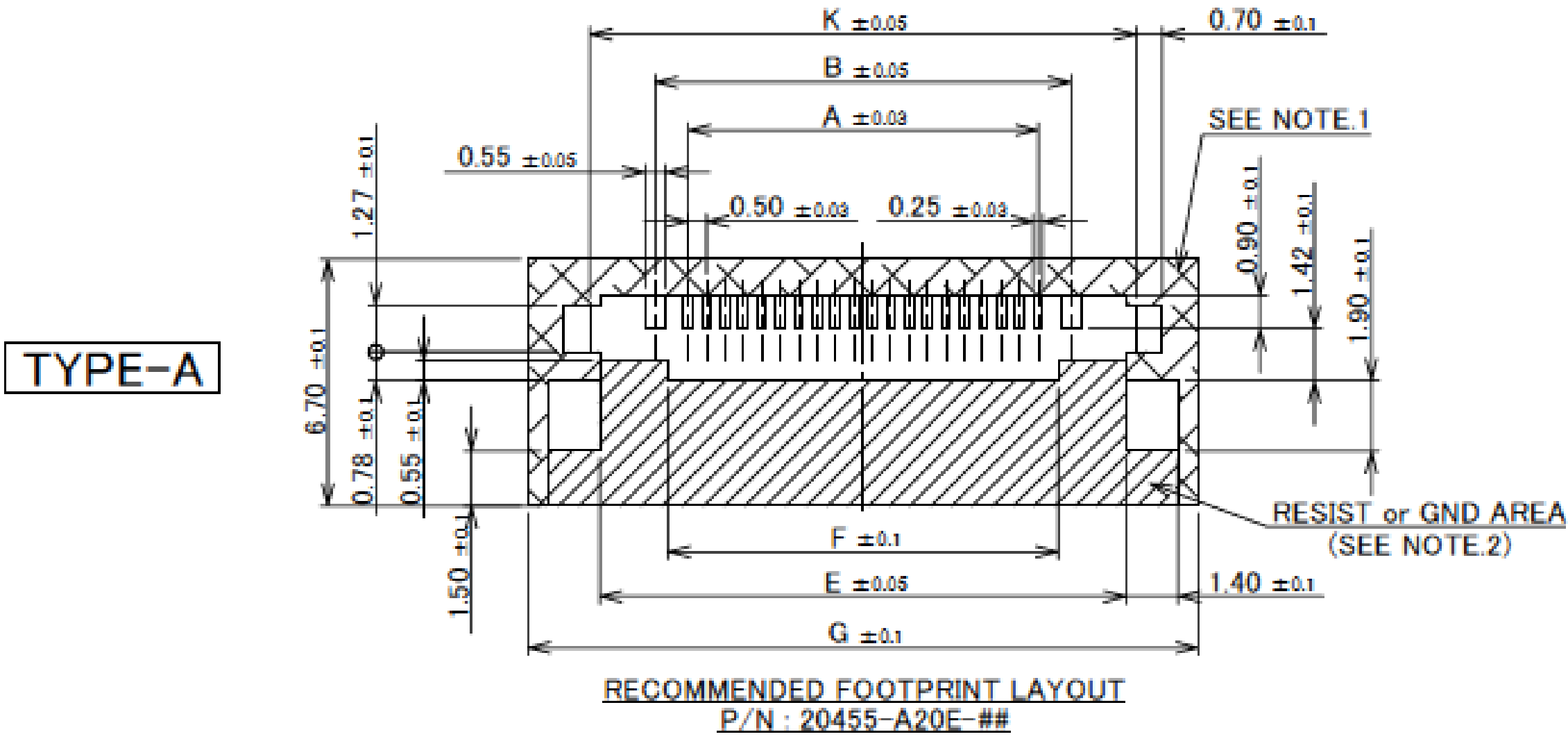
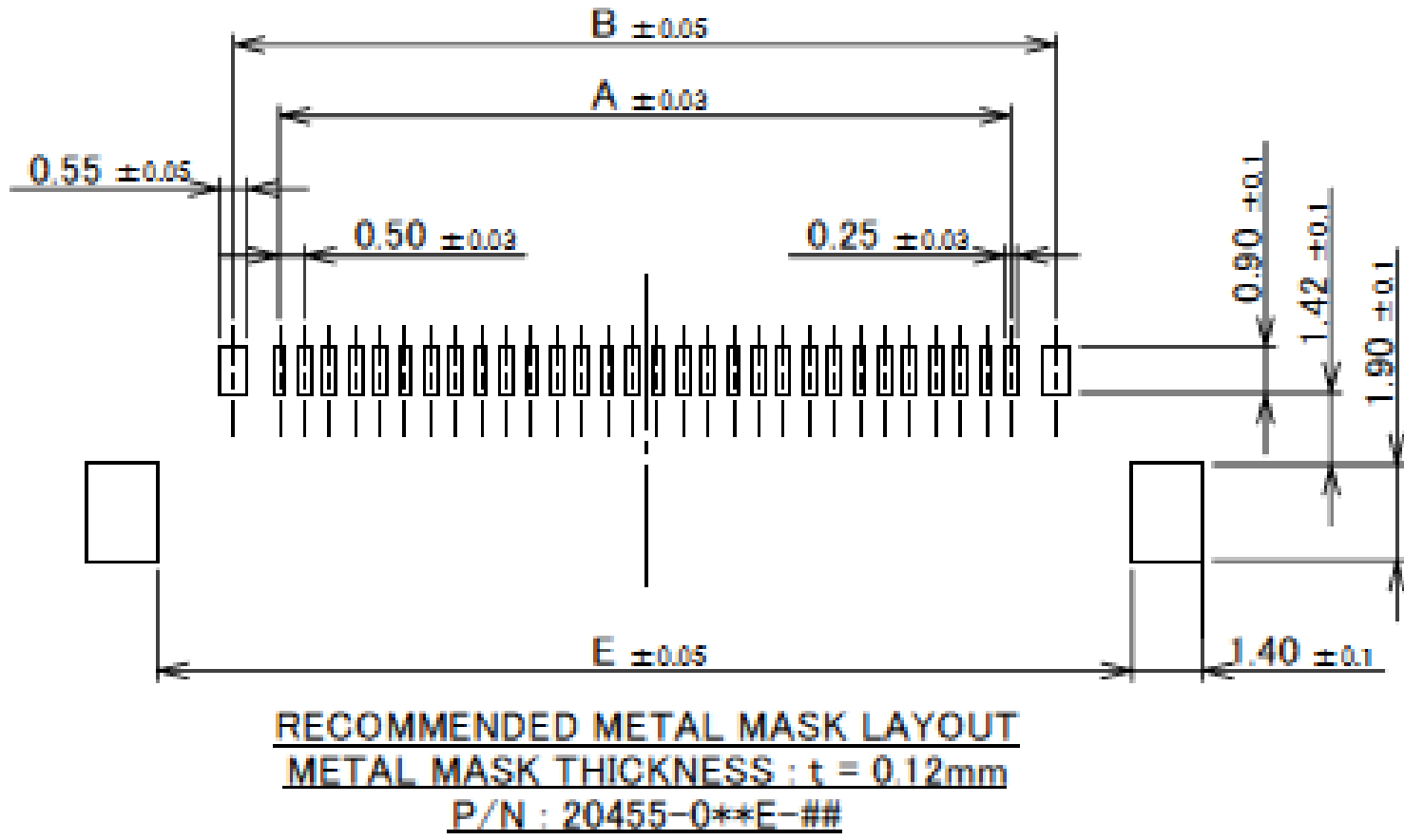
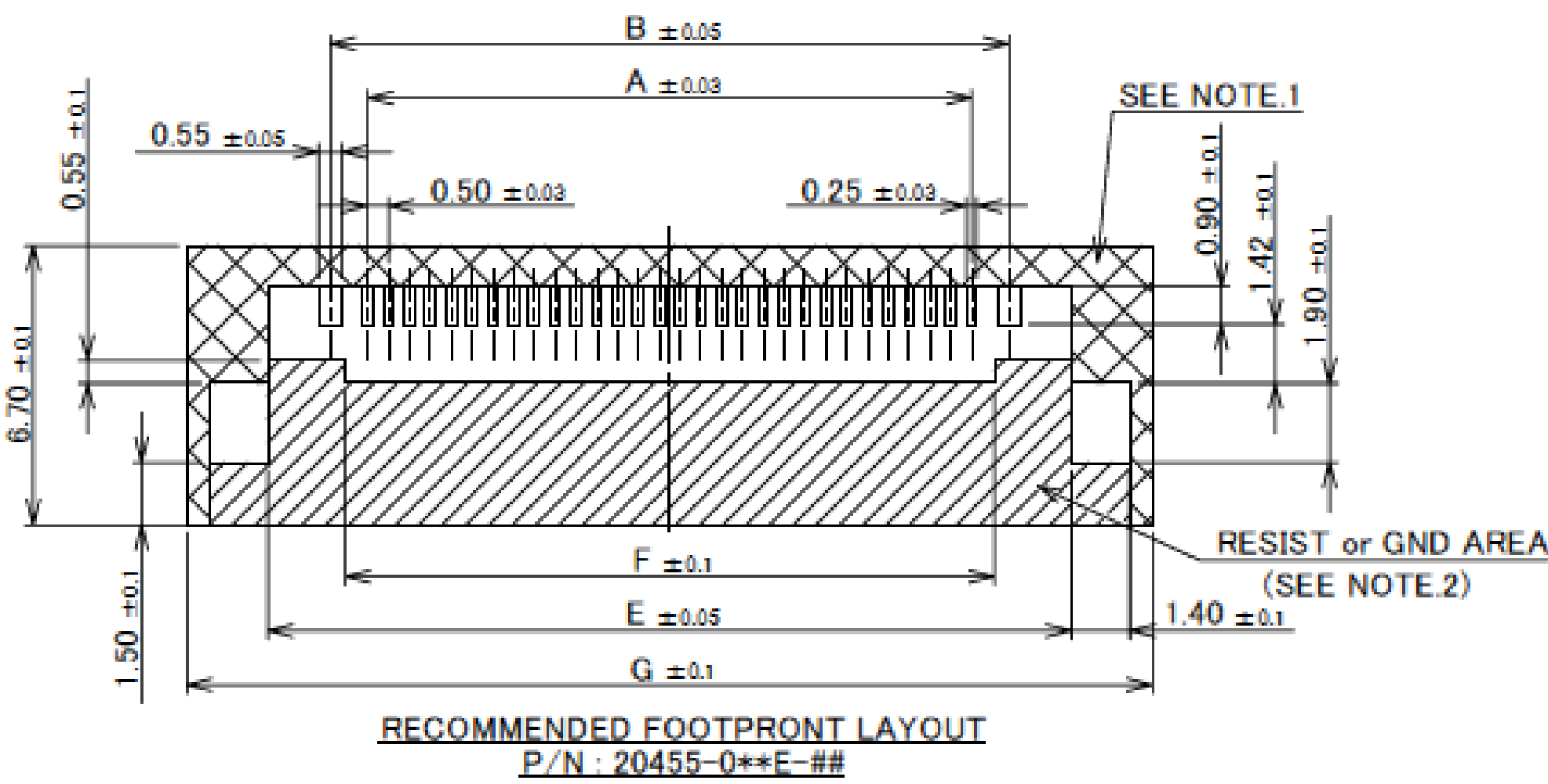


TABLE 2

PART NO.	DATUM MARK	CONTACT FINISH	SHELL FINISH
20455-A20E-02	WITH	CONTACT AREA Au 0.1 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA Au 0.05 μm MIN. OVER Ni 1.00 μm MIN.	Au 0.02 μm MIN. OVER Ni 1.00 μm MIN.
20455-A20E-12	WITHOUT	CONTACT AREA Au 0.1 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA Au 0.05 μm MIN. OVER Ni 1.00 μm MIN.	Au 0.01 μm MIN. OVER Ni 1.00 μm MIN.
20455-A20E-66	WITH	CONTACT AREA Au 0.1 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA Au 0.05 μm MIN. OVER Ni 1.00 μm MIN.	Au 0.01 μm MIN. OVER Ni 1.00 μm MIN.
20455-A20E-76	WITHOUT	CONTACT AREA Au 0.1 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA Au 0.05 μm MIN. OVER Ni 1.00 μm MIN.	Au 0.01 μm MIN. OVER Ni 1.00 μm MIN.
3	SHELL	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
2	CONTACT	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
1	HOUSING	LCP	UL94V-0, BLACK
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

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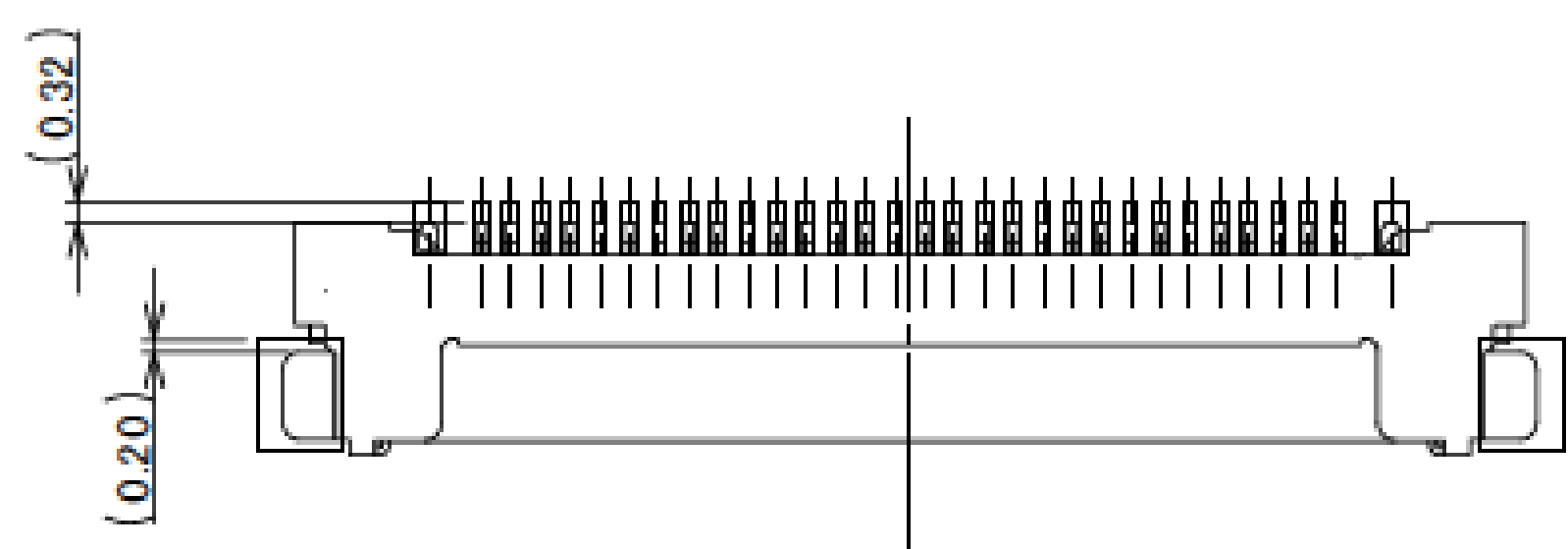
PART NO.	Pos.	A	B	E	F	G	H	J	K
20455-#20E-##	20	9.50	11.30	14.30	10.60	18.20	15.32	15.84	14.84
20455-030E-##	30	14.50	16.30	19.30	15.60	23.20	-	-	-
20455-040E-##	40	19.50	21.30	24.30	20.60	28.20	-	-	-
20455-050E-##	50	24.50	26.30	29.30	25.60	33.20	-	-	-



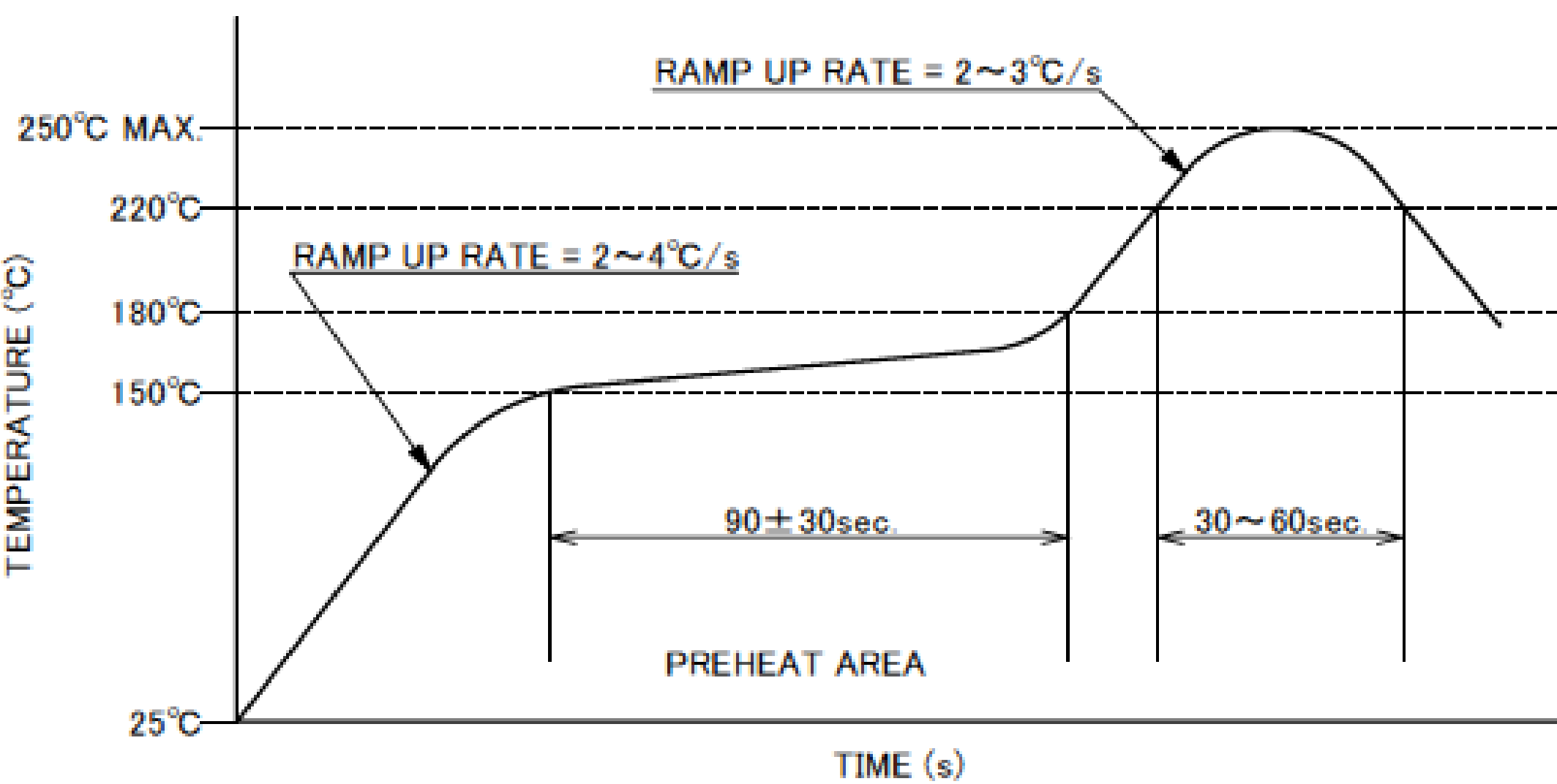
NOTES.
1. IN CASE OF PLUG WITH PULL-BAR, DO NOT MOUNT ANOTHER COMPONENT IN THIS AREA.
2. SOLDER RESIST MUST BE APPLIED TO THIS AREA.

Rev.34

Receptacle Assembly

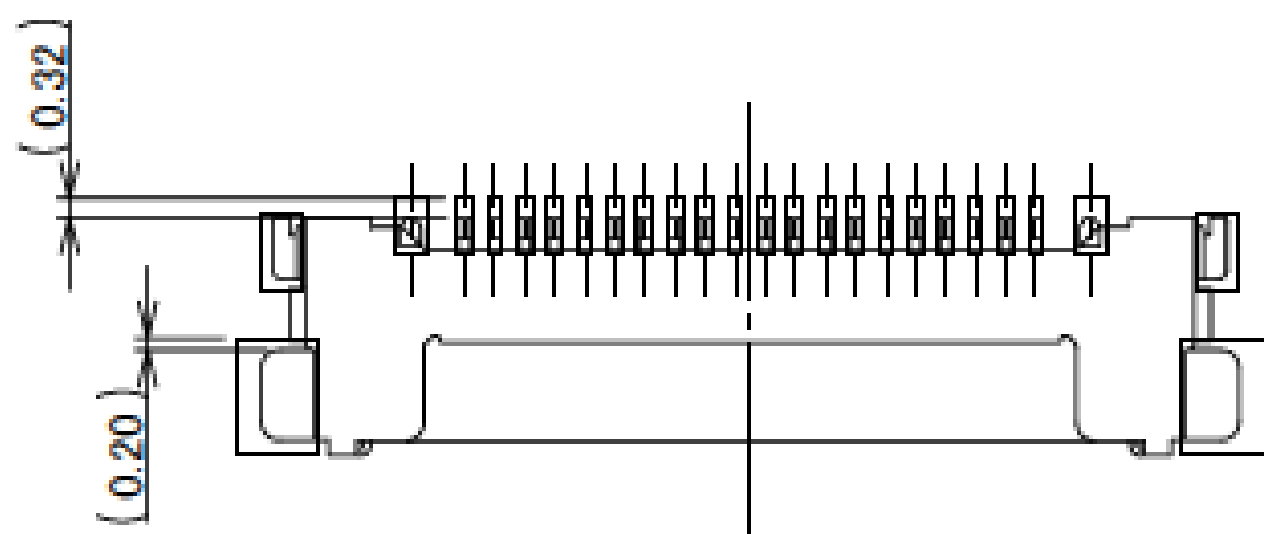


CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN
P/N : 20455-0**E-##



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

TYPE-A



CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN
P/N : 20455-A20E-##

Rev.34

FOR CABLINE-VSF PLUG SHELL ASSEMBLY (DWG NO. 20645)

ITEMS	SPECIFICATION
RATING VOLTAGE	100V AC (PER CONTACT PIN)
RATING AMPERAGE (FOR CONTACT)	0.5A AC/DC (PER CONTACT PIN) ※AVAILABLE UP TO 20PIN 0.3A AC/DC (PER CONTACT PIN) ※AVAILABLE FOR ALL PIN ※TESTING BY A REAL MACHINE IS RECOMMENDED BECAUSE TEMPERATURE RISE MAY AFFECTED BY ACTUAL SITUATION.
OPERATING TEMPERATURE	233~358K(-40°C~+85°C)
OPERATING HUMIDITY	85% R.H. MAX.
CONTACT RESISTANCE (FOR SIGNAL CONTACT)	INITIAL : 60mohm MAX. / AFTER TEST : ≦40mohm MAX.
GROUND SHELL RESISTANCE	INITIAL : 60mohm MAX. / AFTER TEST : ≦40mohm MAX.
INSULATION RESISTANCE	INITIAL : 1000Mohm MIN. / AFTER TEST : 500Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	30 CYCLES
MATING FORCE (INITIAL / AFTER TEST)	30P : 24.0N MAX. 40P : 32.0N MAX.
UNMATING FORCE (INITIAL / AFTER TEST)	30P : 1.1N MIN. 40P : 1.4N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-1878
TEST REPORT	TR-14095 (20455-0**E-#2#) TR-17048 (20455-0**E-#9#)
PACKING STANDARD	300-643
INSTRUCTION MANUAL	HIM-13010
APPEARANCE CRITERIA NO.	QLS-A***

Rev.34

Custom Connectors Available

 RF
Connectors

MHF® series



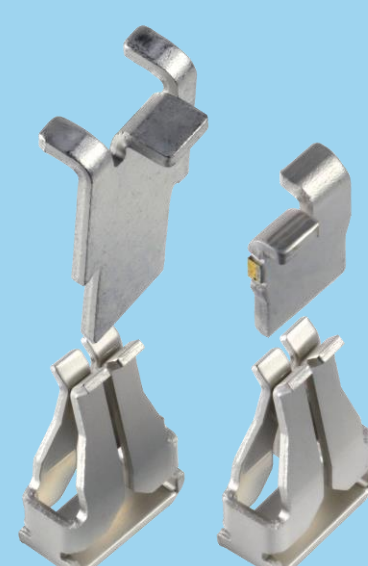
CABLIME® series

 Micro-Coaxial/Twinax
Connectors

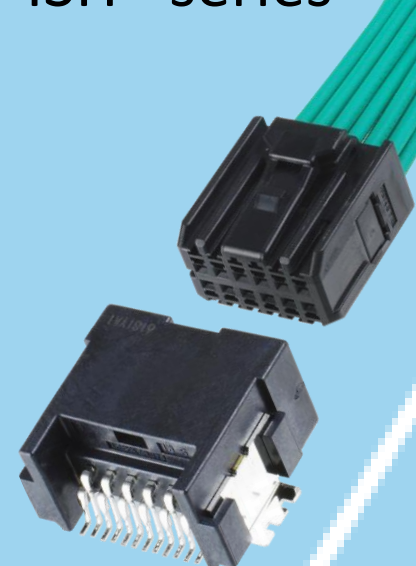


Wire-to-Board
Connectors/
Terminals

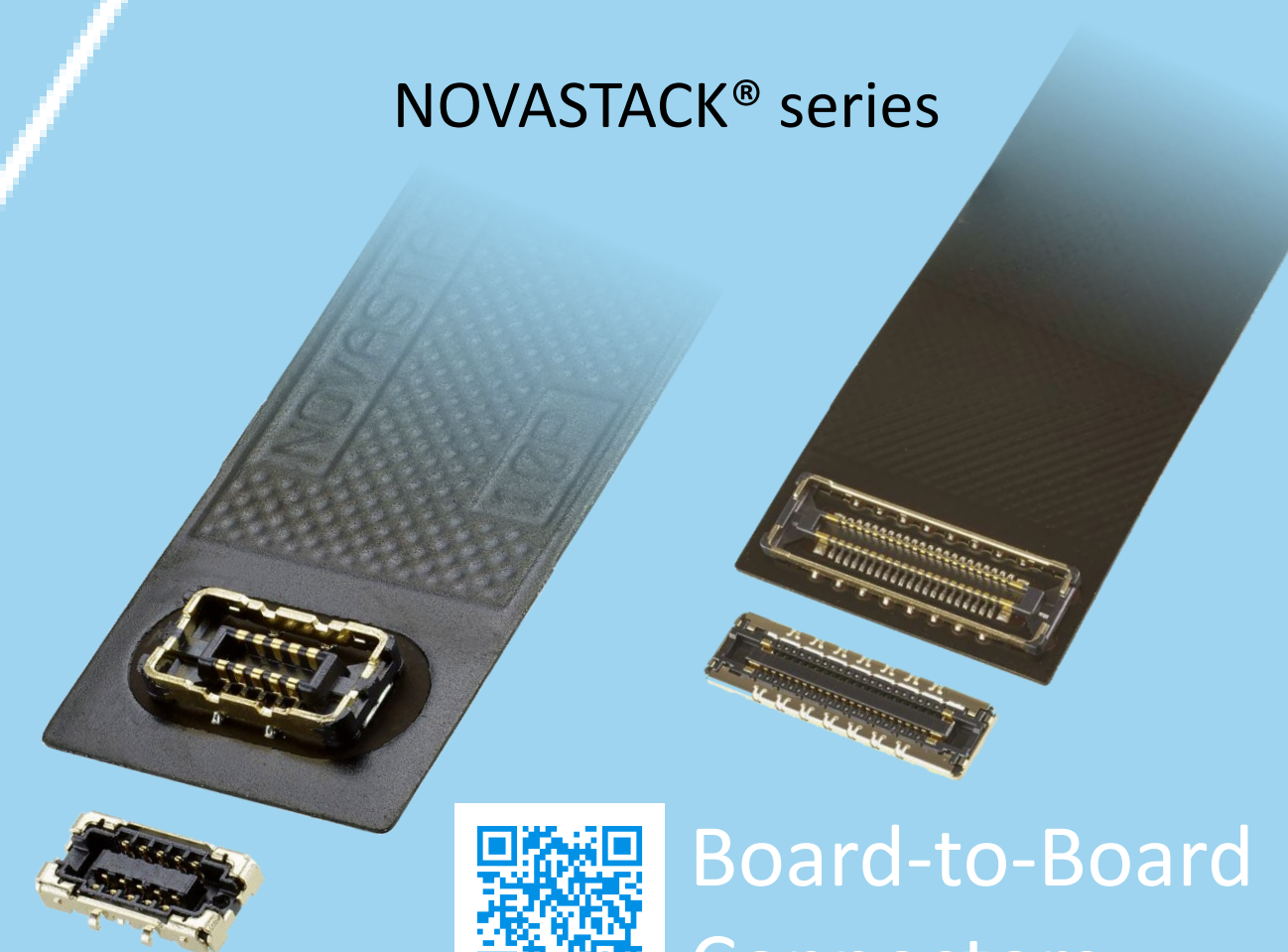
AP series



ISH® series



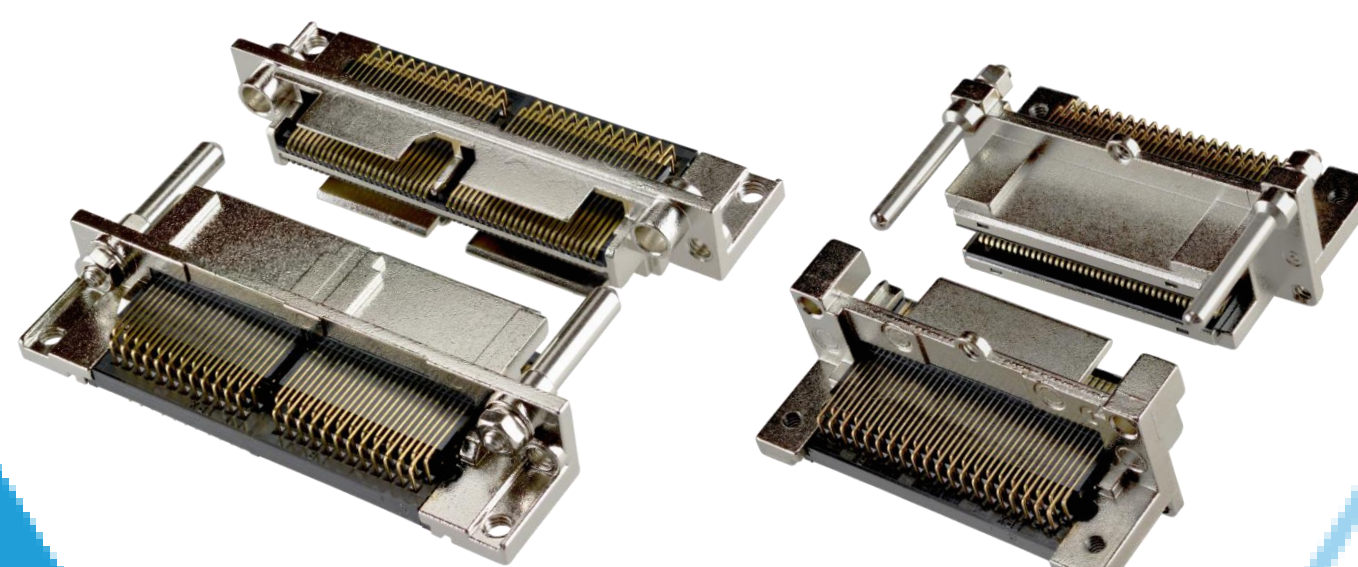
NOVASTACK® series



Board-to-Board
Connectors



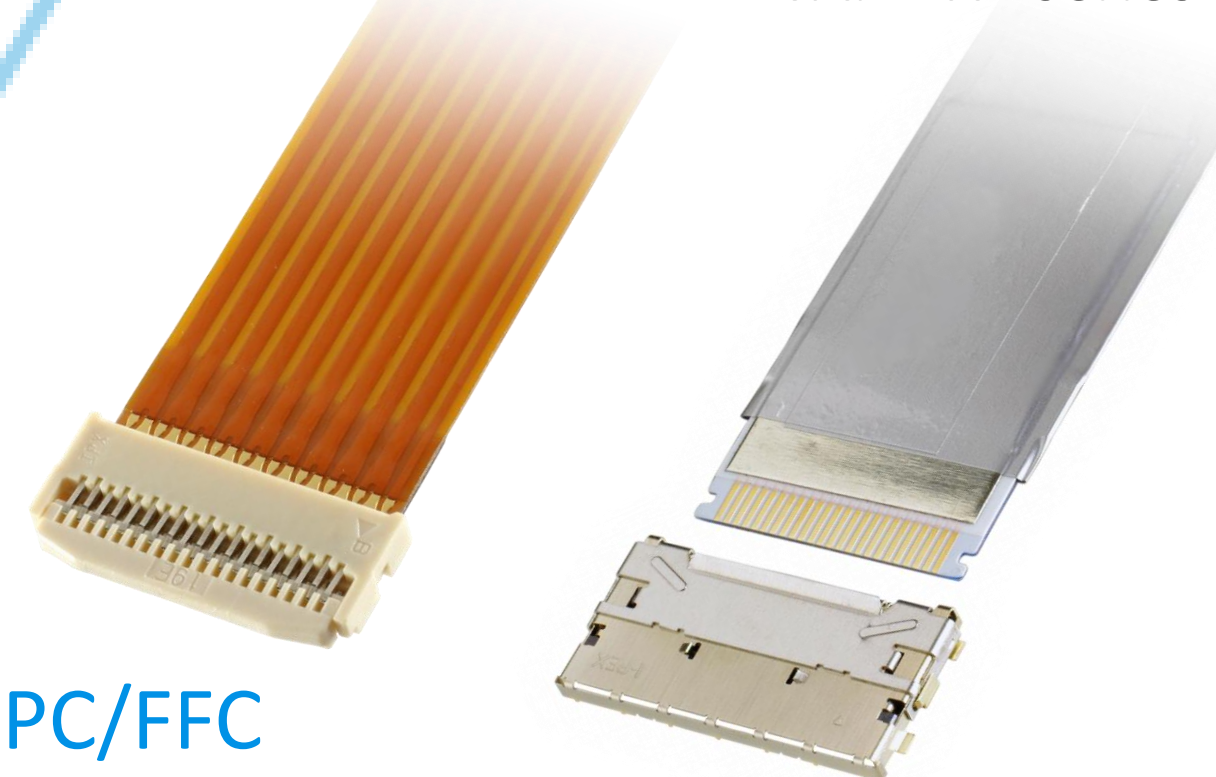
I/O
Connectors



MINIDOCK™ series

MINIFLEX® series

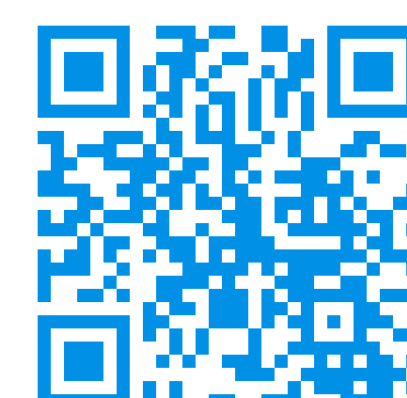
EVAFLEX® series



FPC/FFC
Connectors



Inquiry



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