

CABLINE®-VSF

帶屏蔽功能的機械鎖扣和多點接地設計，適用於高速數據傳輸 (32 Gbps/lane)
0.5 mm 間距, 水平對插款的FPC 型公頭連接器

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

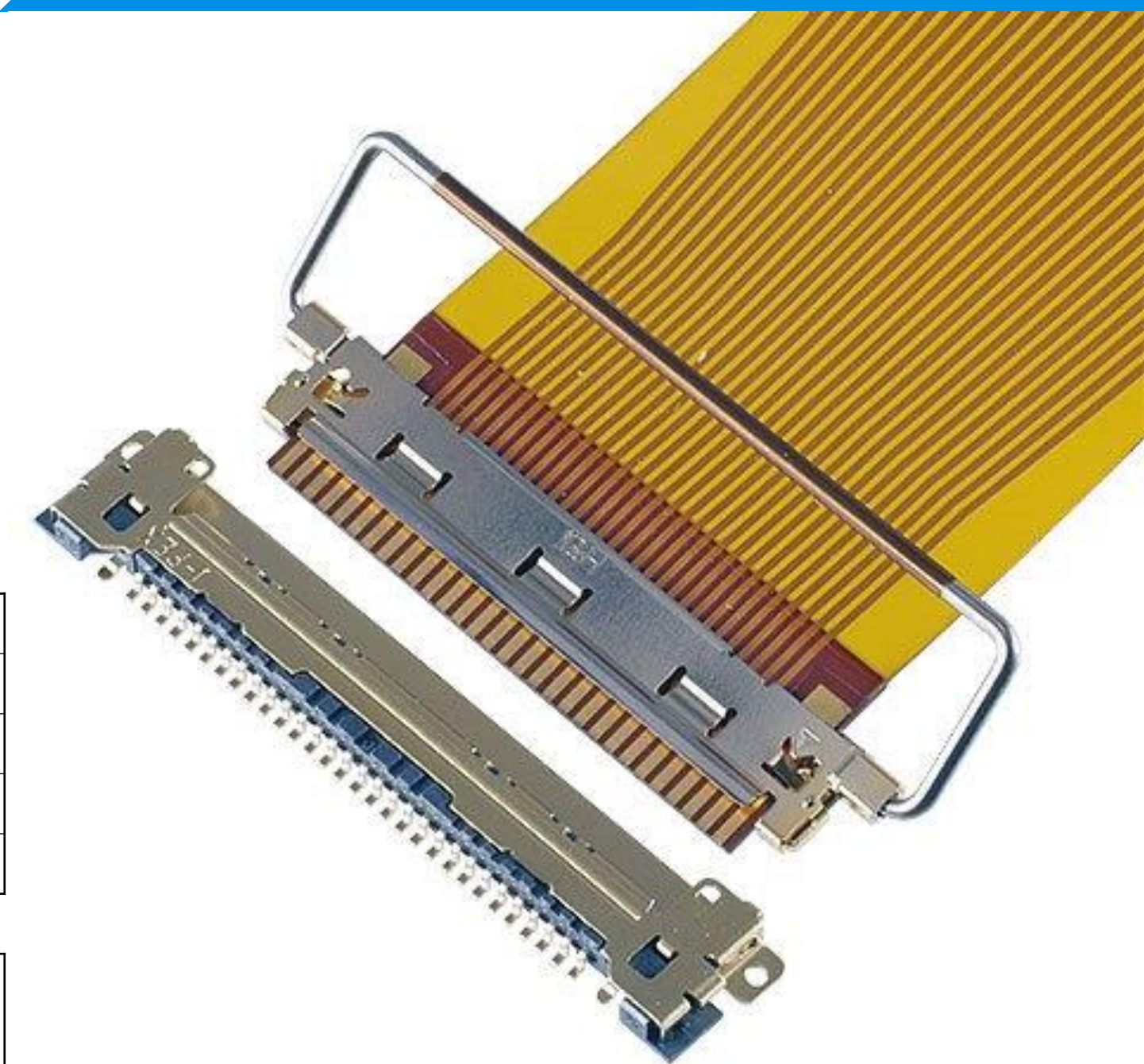
*若有規格外 Pin數需求,請與當地負責業務窗口聯繫。

Applicable FPC

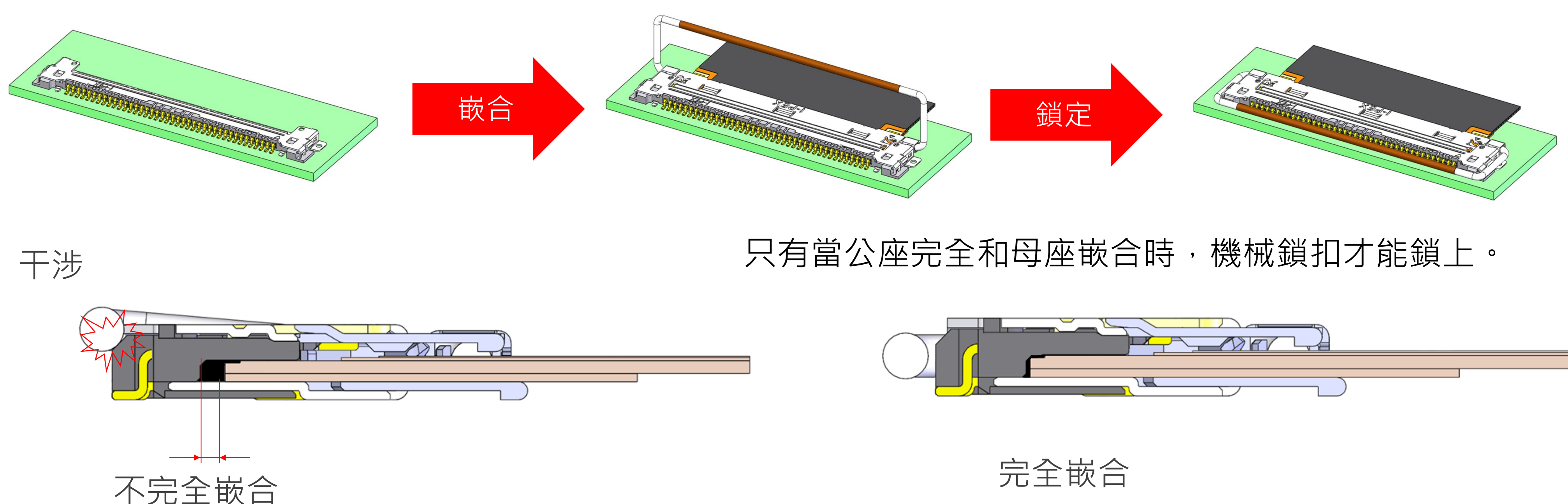
FPC Type	Shielded/Non-shielded FPC
FPC Pitch (mm)	0.5
FPC Contact Point	Top
FPC Thickness (mm)	Contact Area: 0.28 +0.02/-0.03
	Ground Area: 0.34 ± 0.05

Applicable Standards (Reference Only):

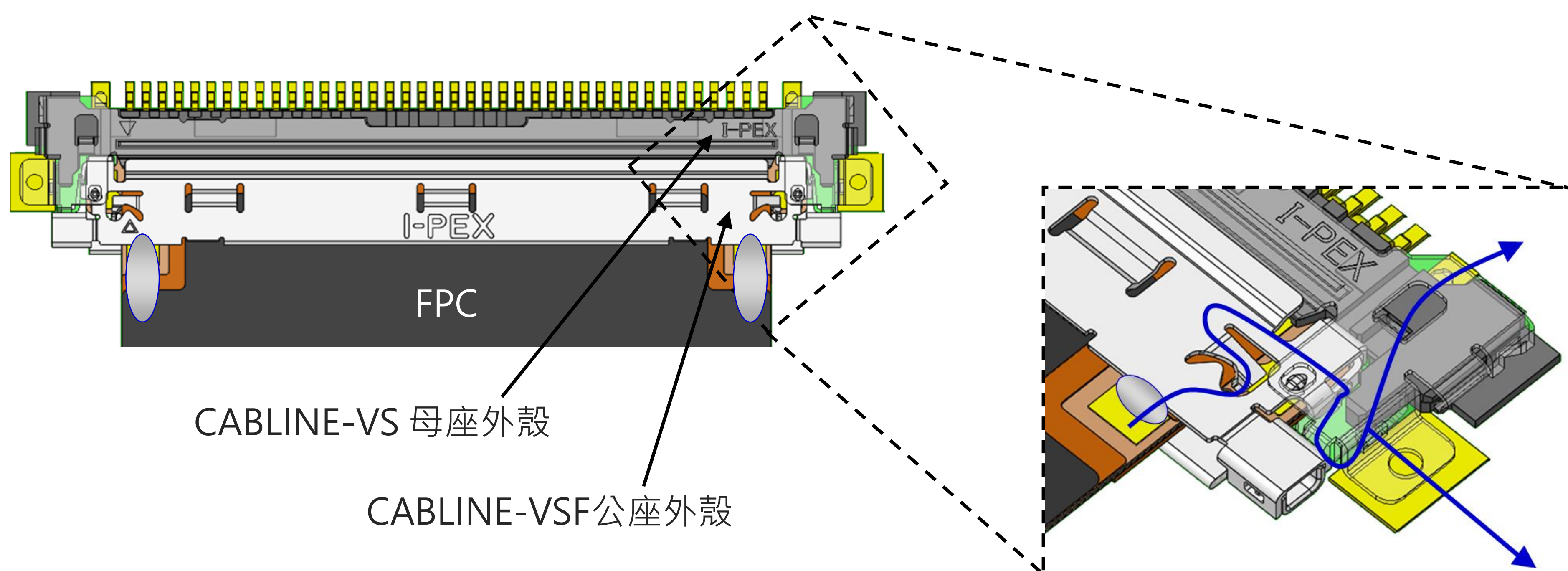
32 Gbps/ Lane, USB4 Gen4 (40 Gbps/ Lane PAM3)
Display Port UHBR20 (20 Gbps/Lane)



▶ 機械鎖扣防止連接器不完全嵌合及脫落/未嵌合



▶ EMI 屏蔽和多點接地設計



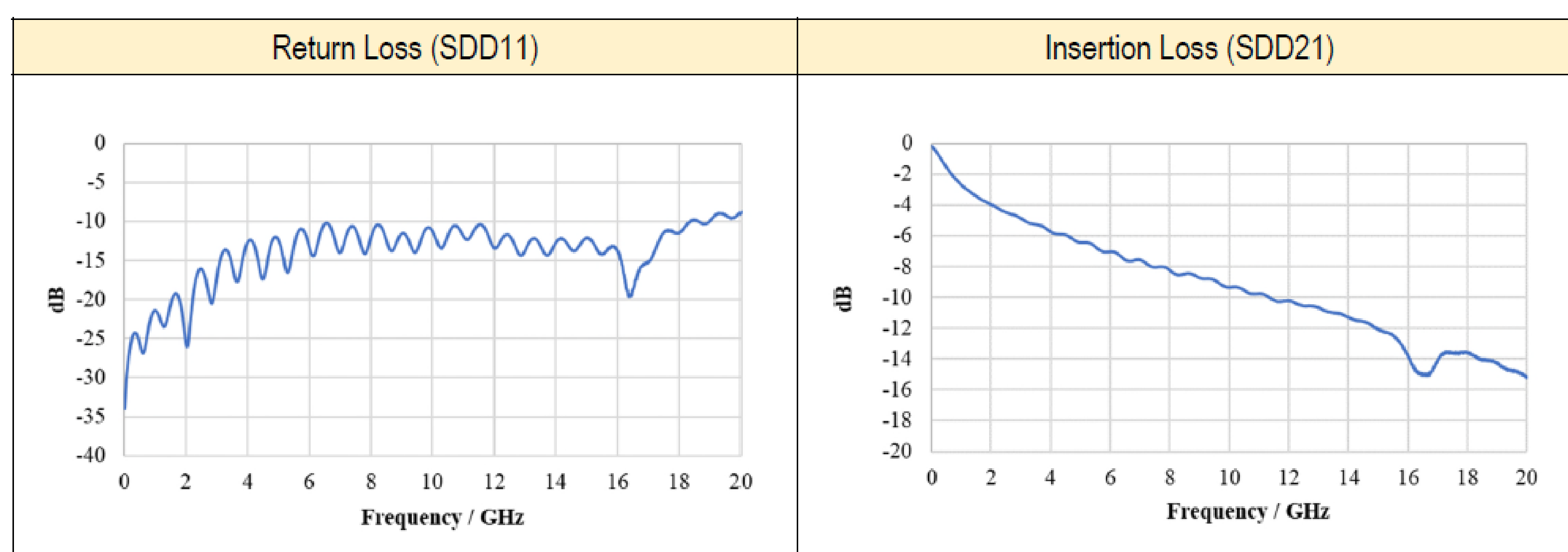
▶ 高速率傳輸, 32Gbps/lane應用的理想選擇

Measurement results

Connector: CABLINE-VSF 40P

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

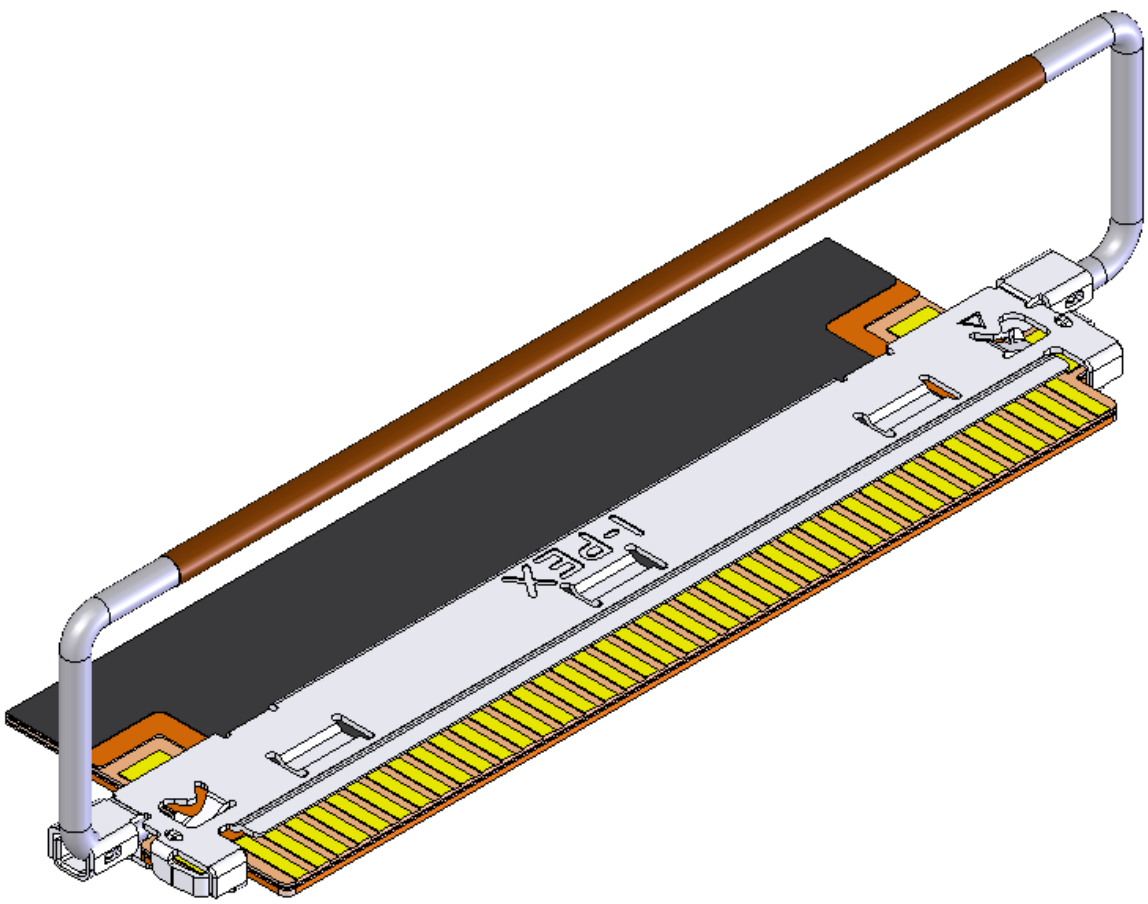
Pin Assignment: GSSGSSG



Component Parts Details

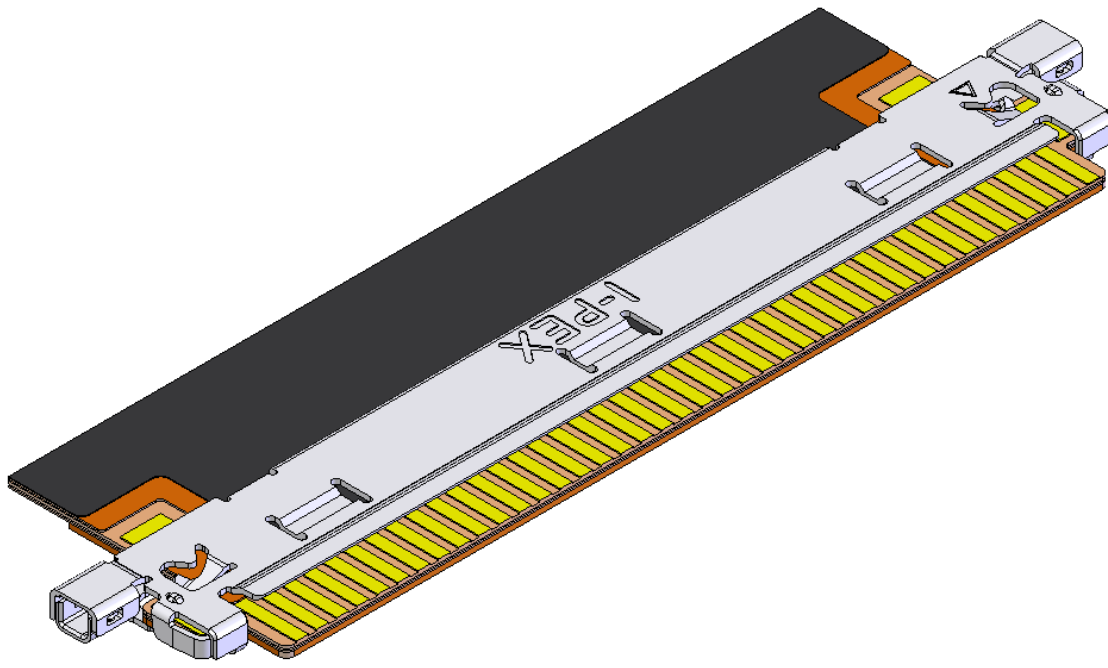
Component Parts

WITH LOCK BAR TYPE



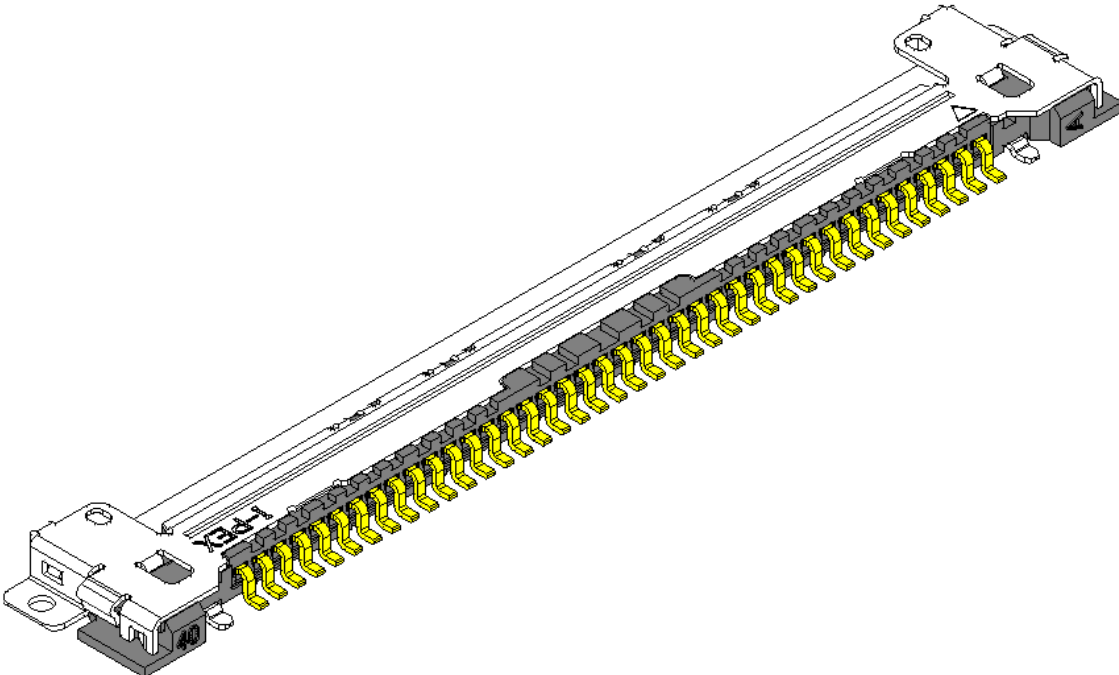
CABLINE-VSF SHELL ASS'Y PLUG with FPC

WITHOUT LOCK BAR TYPE



CABLINE-VSF SHELL PLUG with FPC

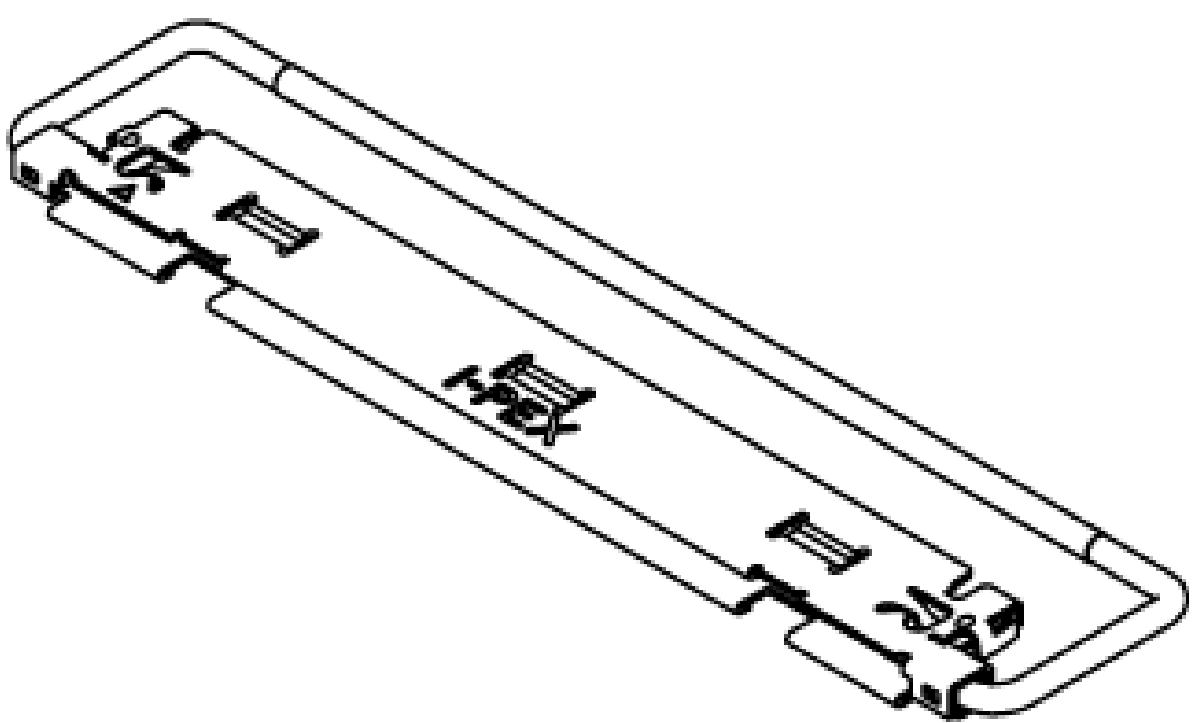
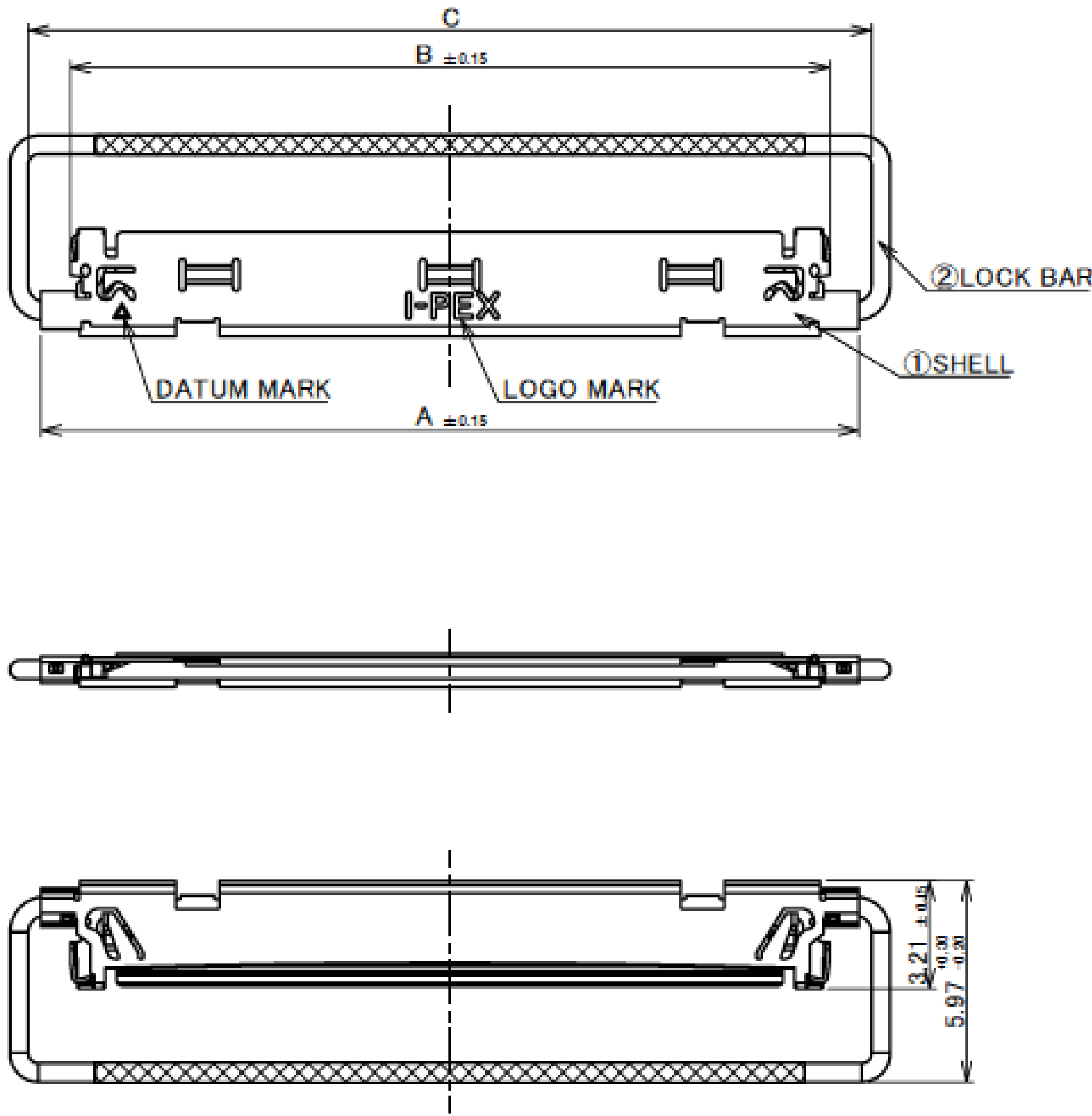
OR



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	

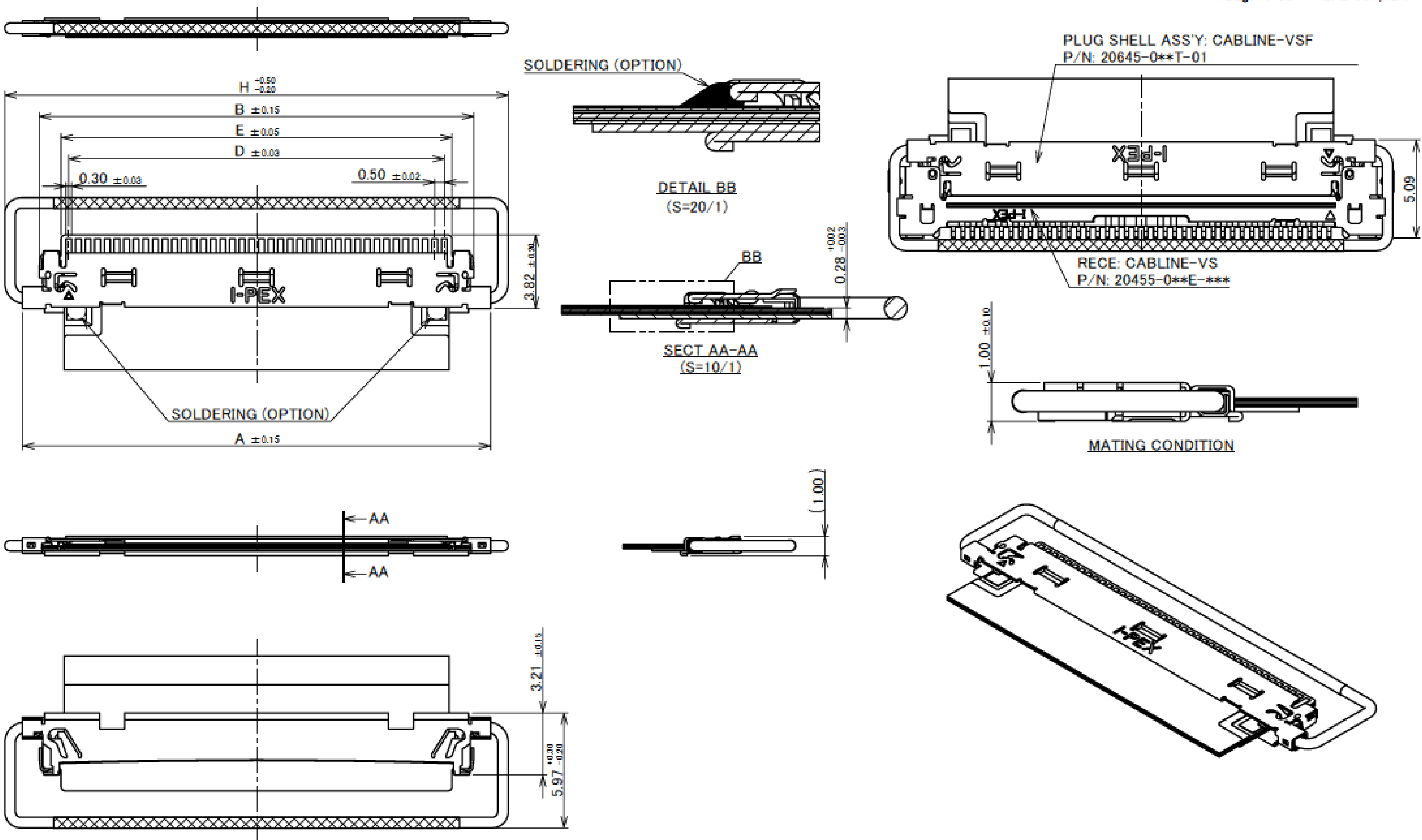
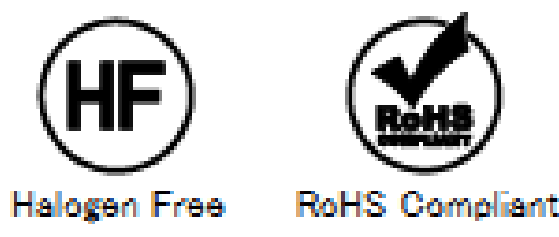


2	LOCK BAR	SUS	-
1	SHELL	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μ m MIN. CONTACT & SOLDERING AREA : Au 0.01 μ m MIN.
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

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

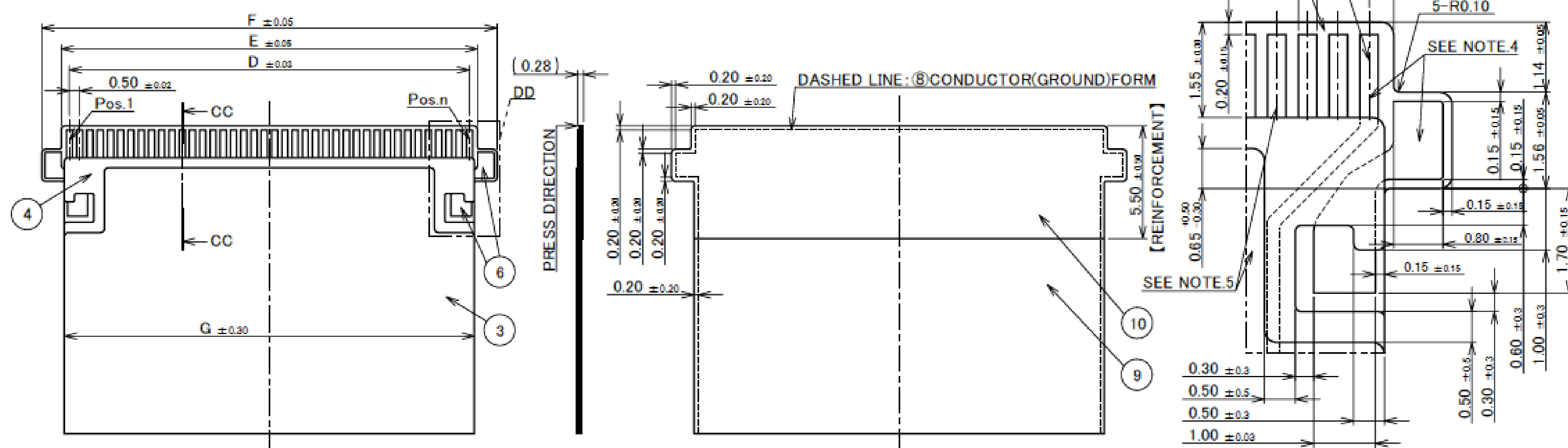


Rev.15

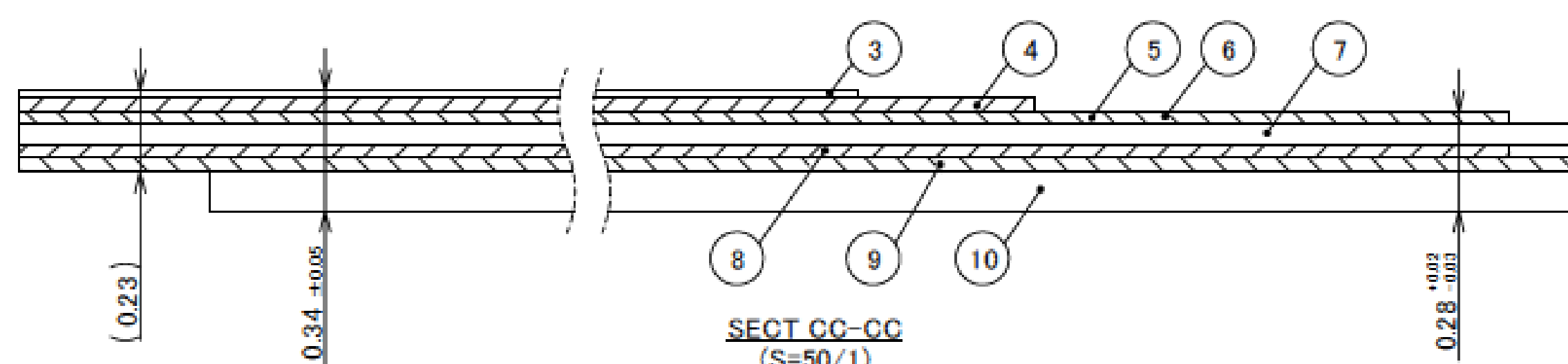
Shell Assembly

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)



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	-	-
NO	DESCRIPTION	MATERIAL	PLATING

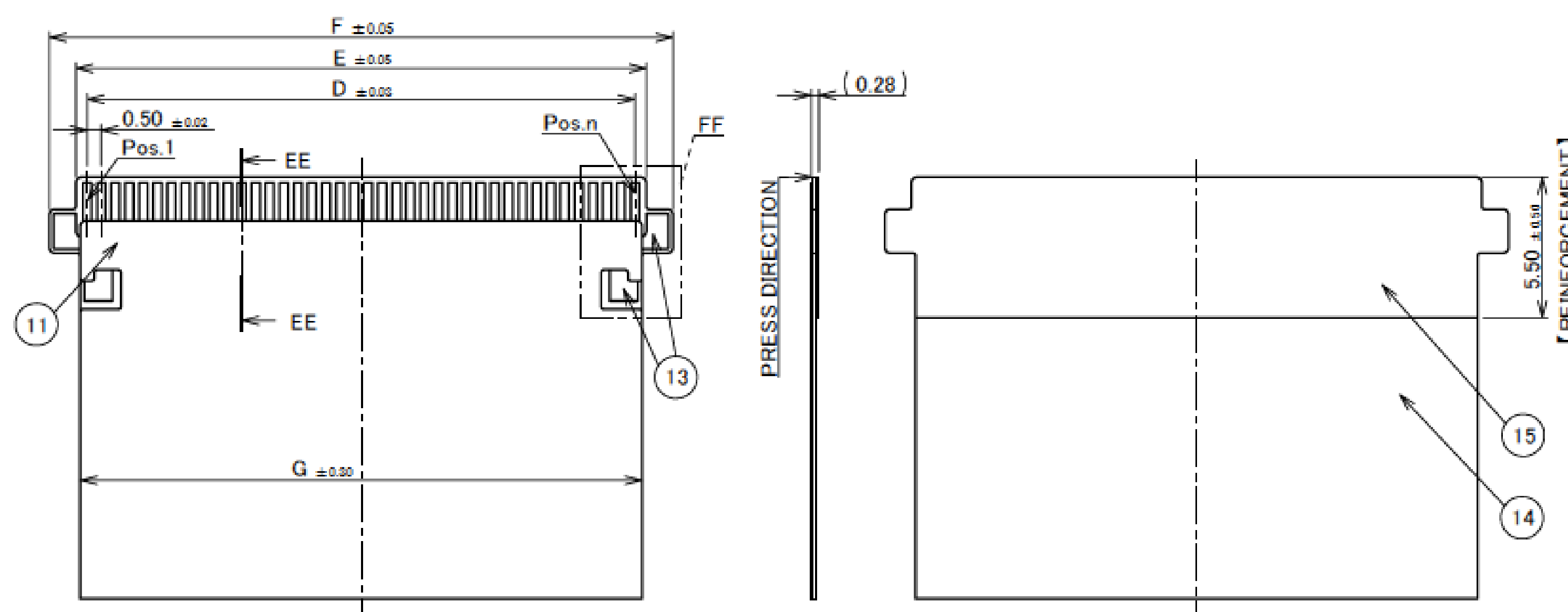
NOTES.

- NOTES:
1. ADHESIVE SHOULD USE THERMOSETTING.
 2. No.6: CONDUCTOR(GROUND) AND No.8: CONDUCTOR(GROUND) ARE CARRYING OUT THE ELECTRICAL CONNECTION.
 3. No.3: SHIELD FILM AND No.8: CONDUCTOR(GROUND) ARE CARRYING OUT THE ELECTRICAL CONNECTION.
 4. No.5: CONDUCTOR(SIGNAL) AND No.6.8: CONDUCTOR(GROUND) ARE NOT CONTACTING.
 5. No.5: CONDUCTOR(SIGNAL) AND No.3: SHIELD FILM ARE NOT CONTACTING.

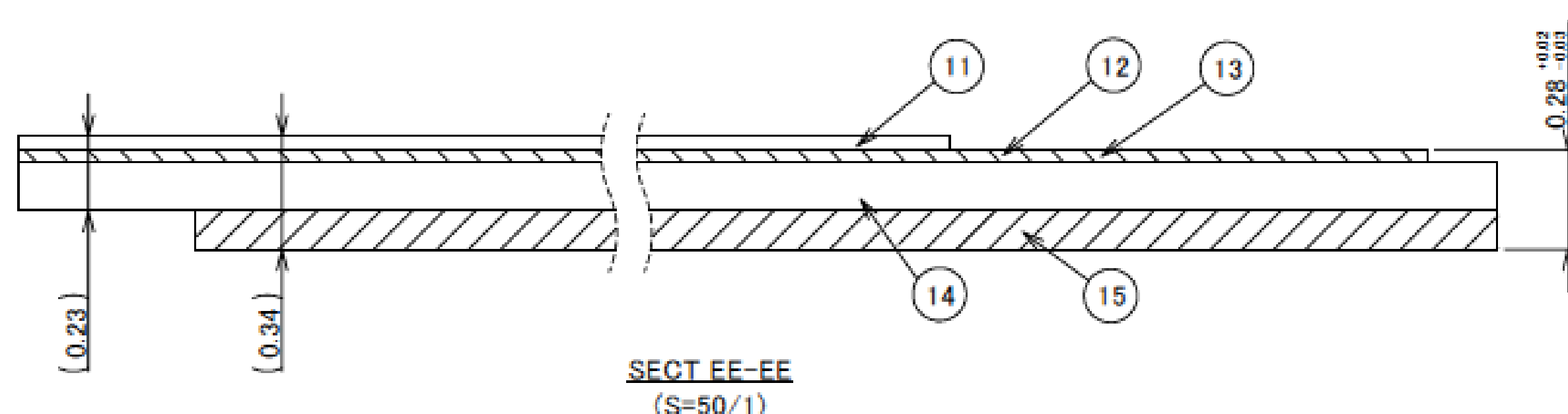
Rev.15

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)



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

NOTES

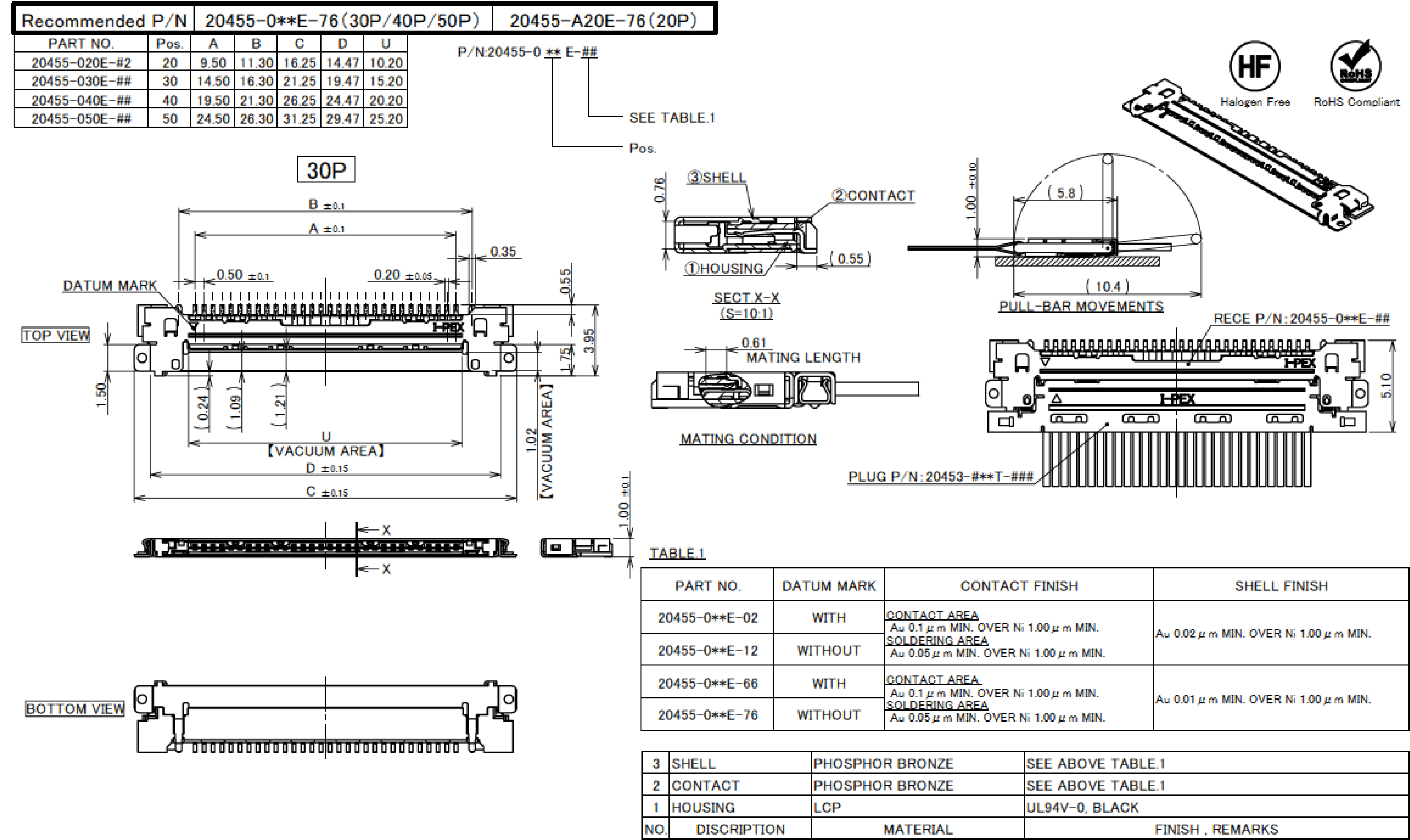
- NOTES:
- ADHESIVE SHOULD USE THERMOSETTING.
 - No.12: CONDUCTOR(SIGNAL) AND No.13: CONDUCTOR(GROUND) ARE NOT CONTACTING.

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

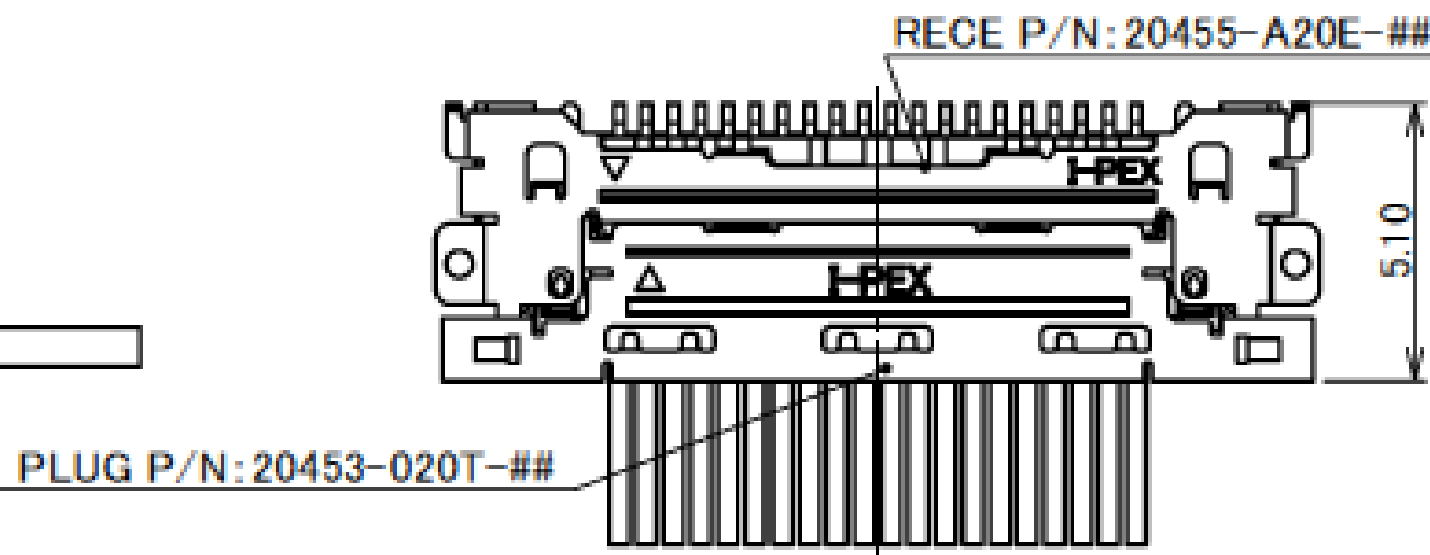
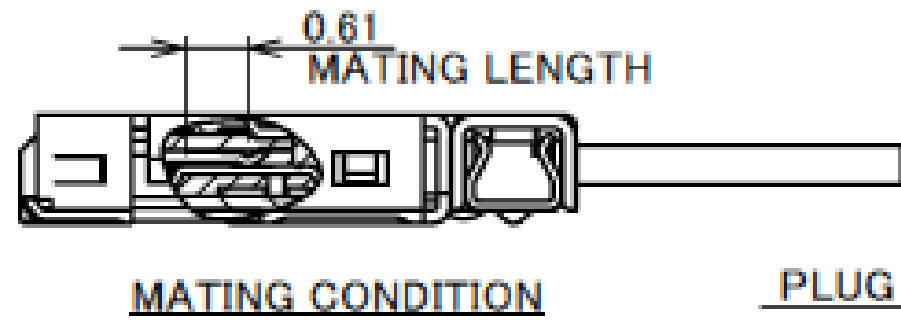
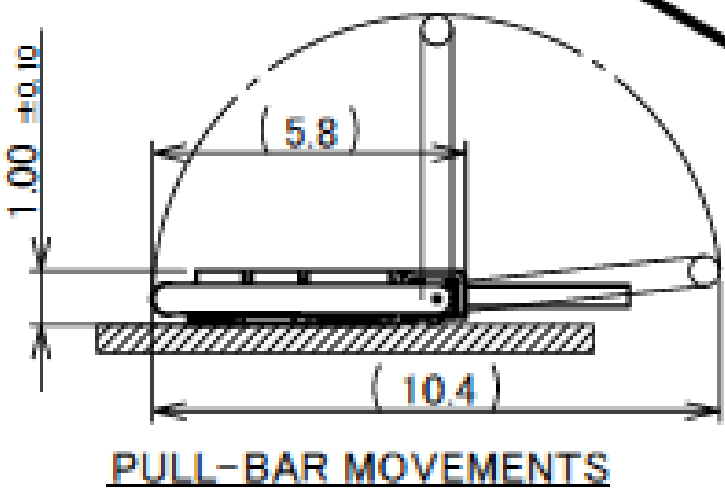
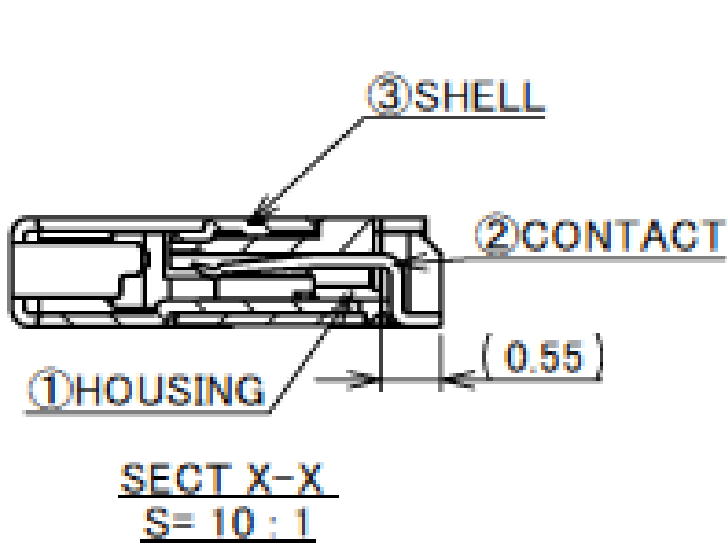
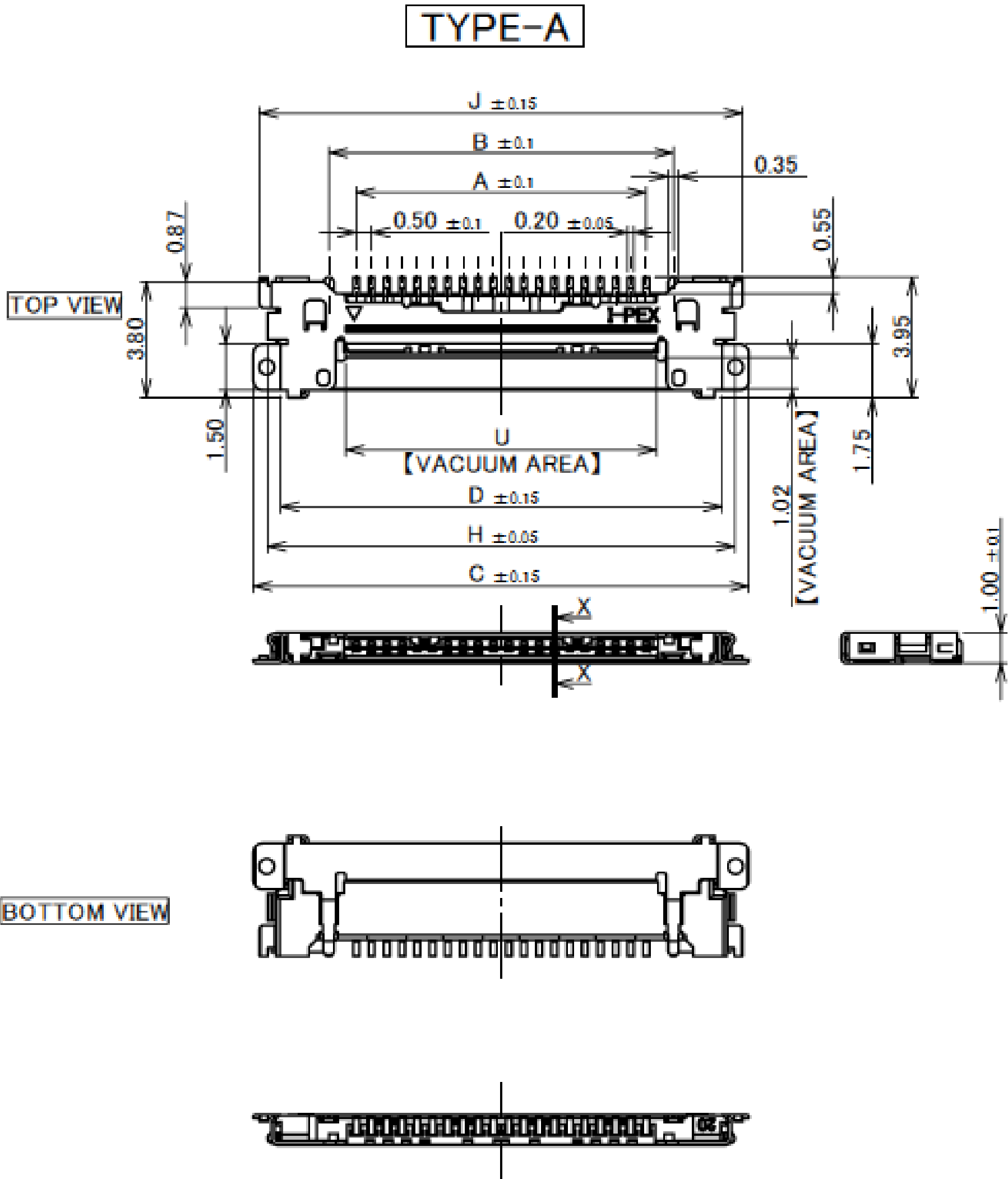
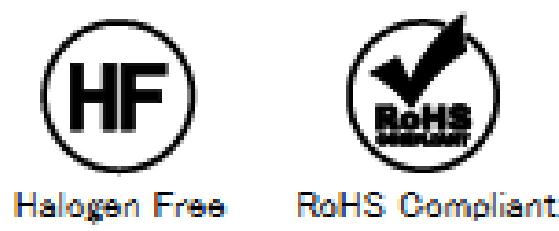
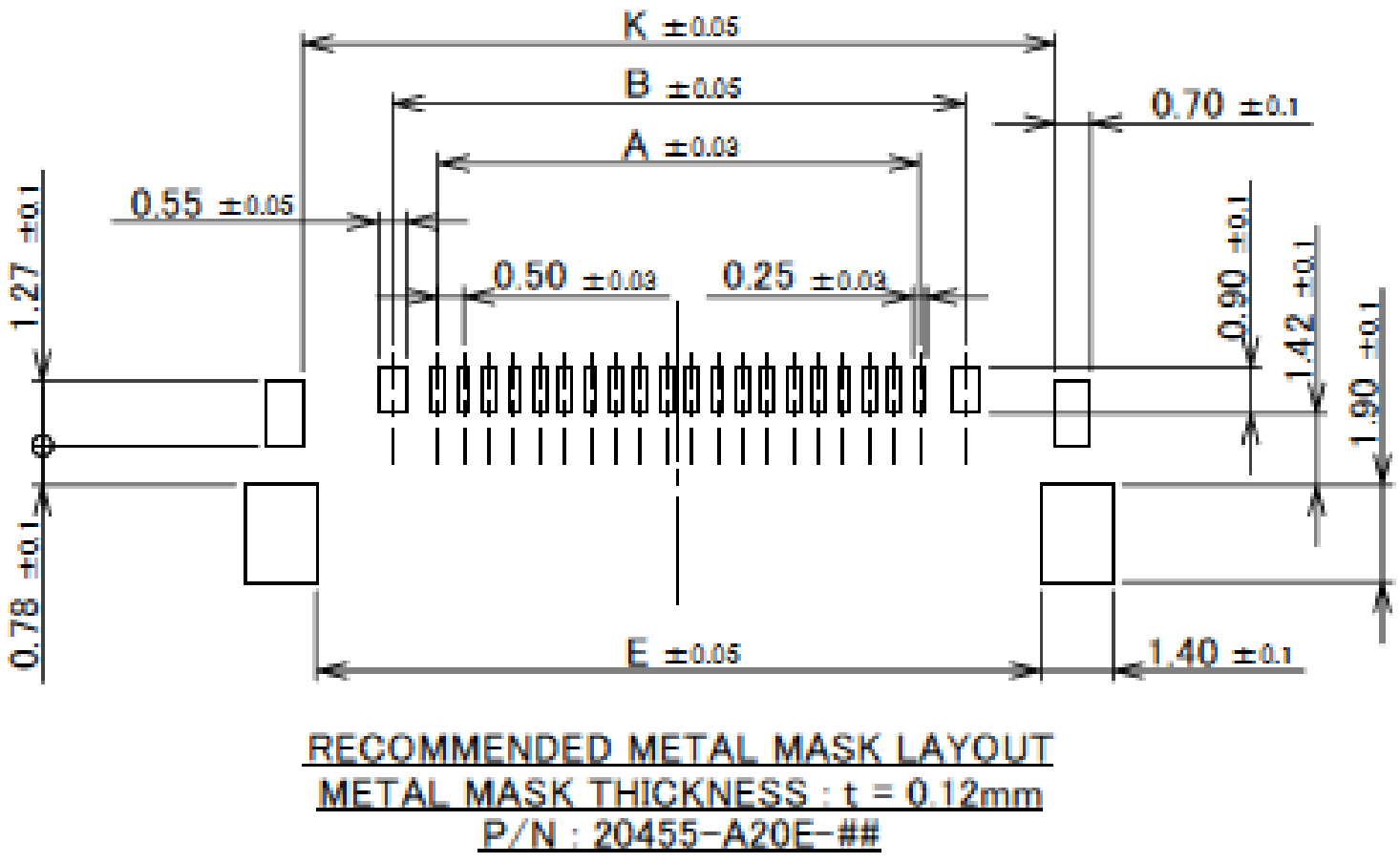
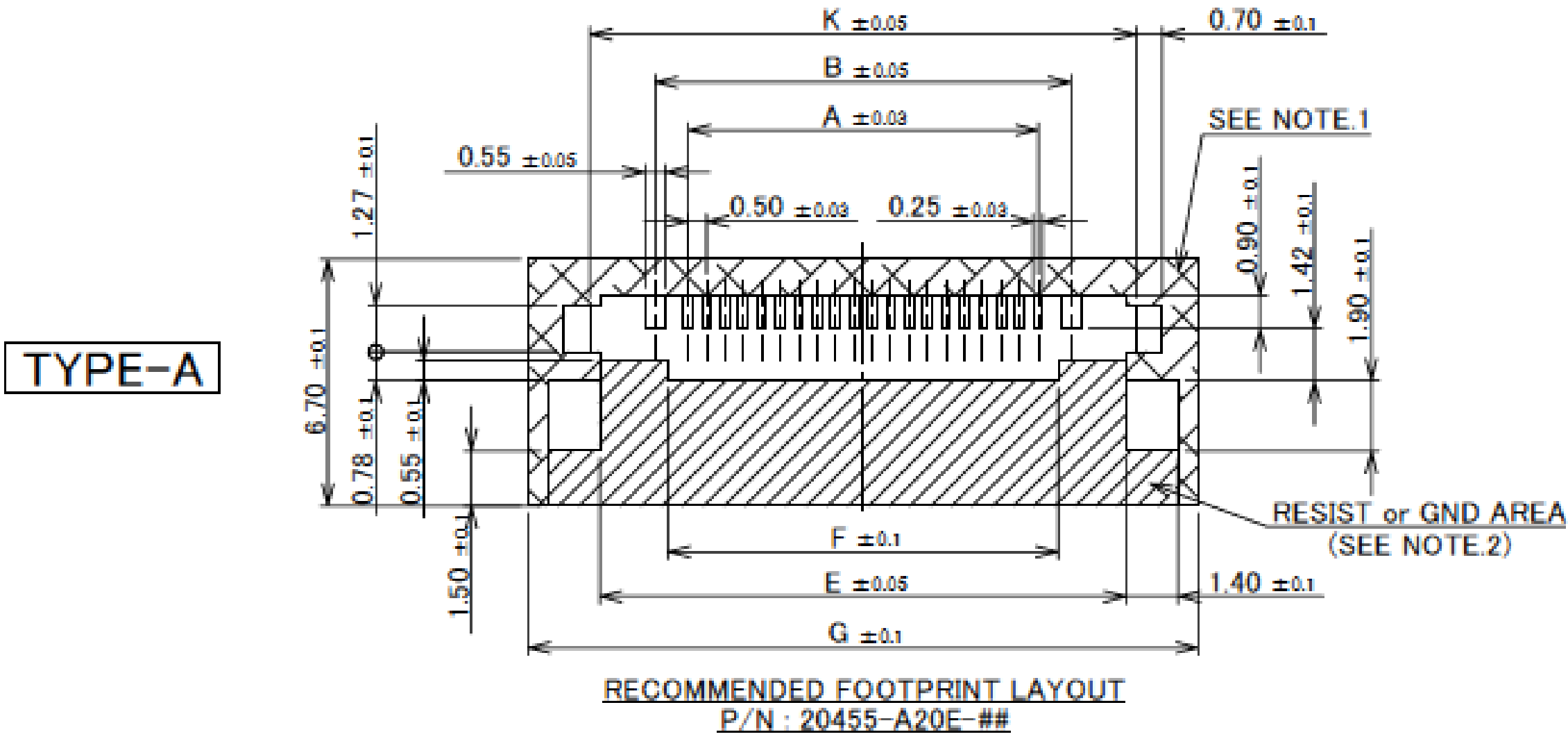
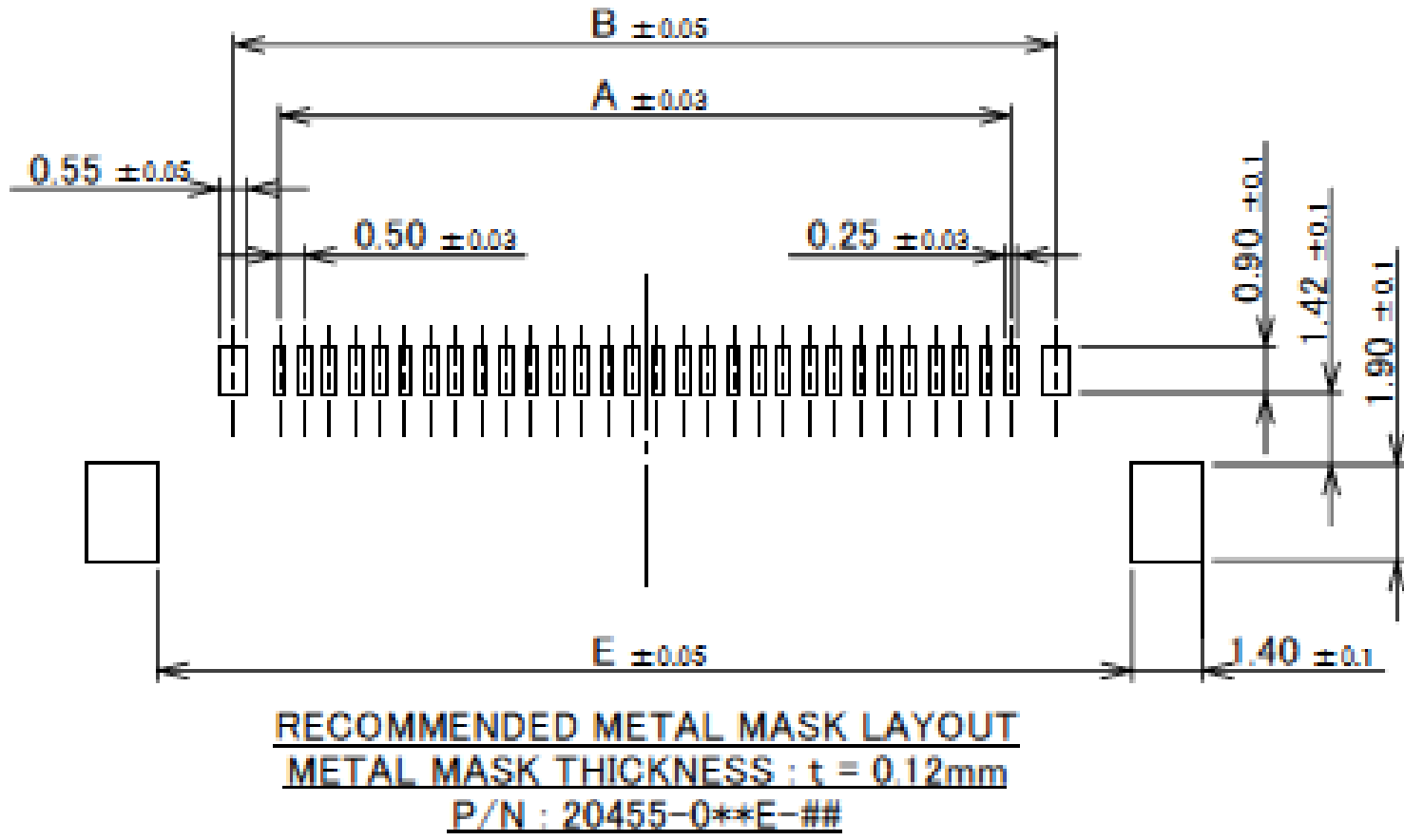
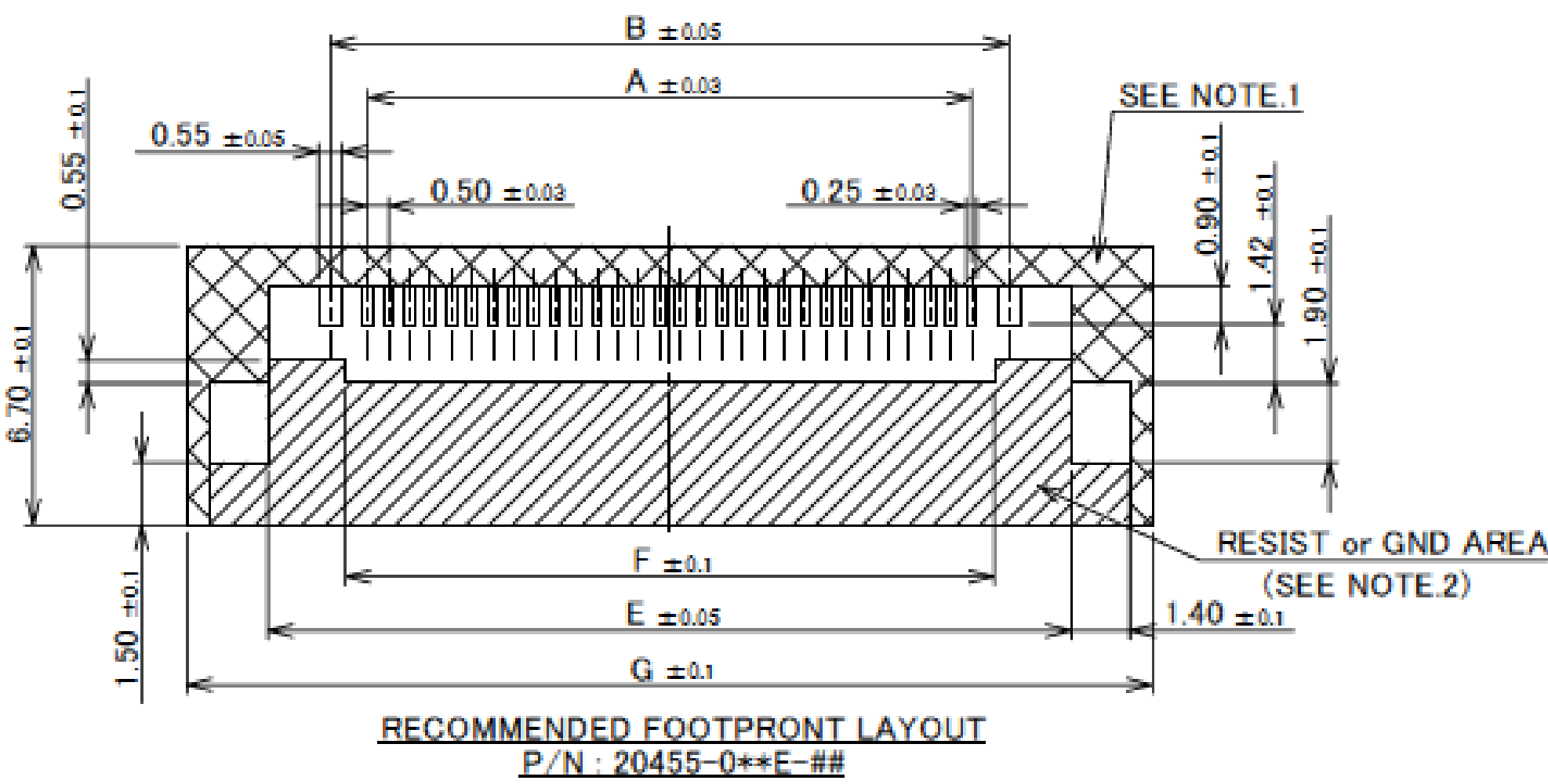


TABLE 2			
PART NO.	DATUM MARK	CONTACT FINISH	SHELL FINISH
20455-A20E-02	WITH	CONTACT AREA Au 0.1 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA Au 0.05 μm MIN. OVER Ni 1.00 μm MIN.	Au 0.02 μm MIN. OVER Ni 1.00 μm MIN.
20455-A20E-12	WITHOUT	CONTACT AREA Au 0.1 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA 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

Rev.34

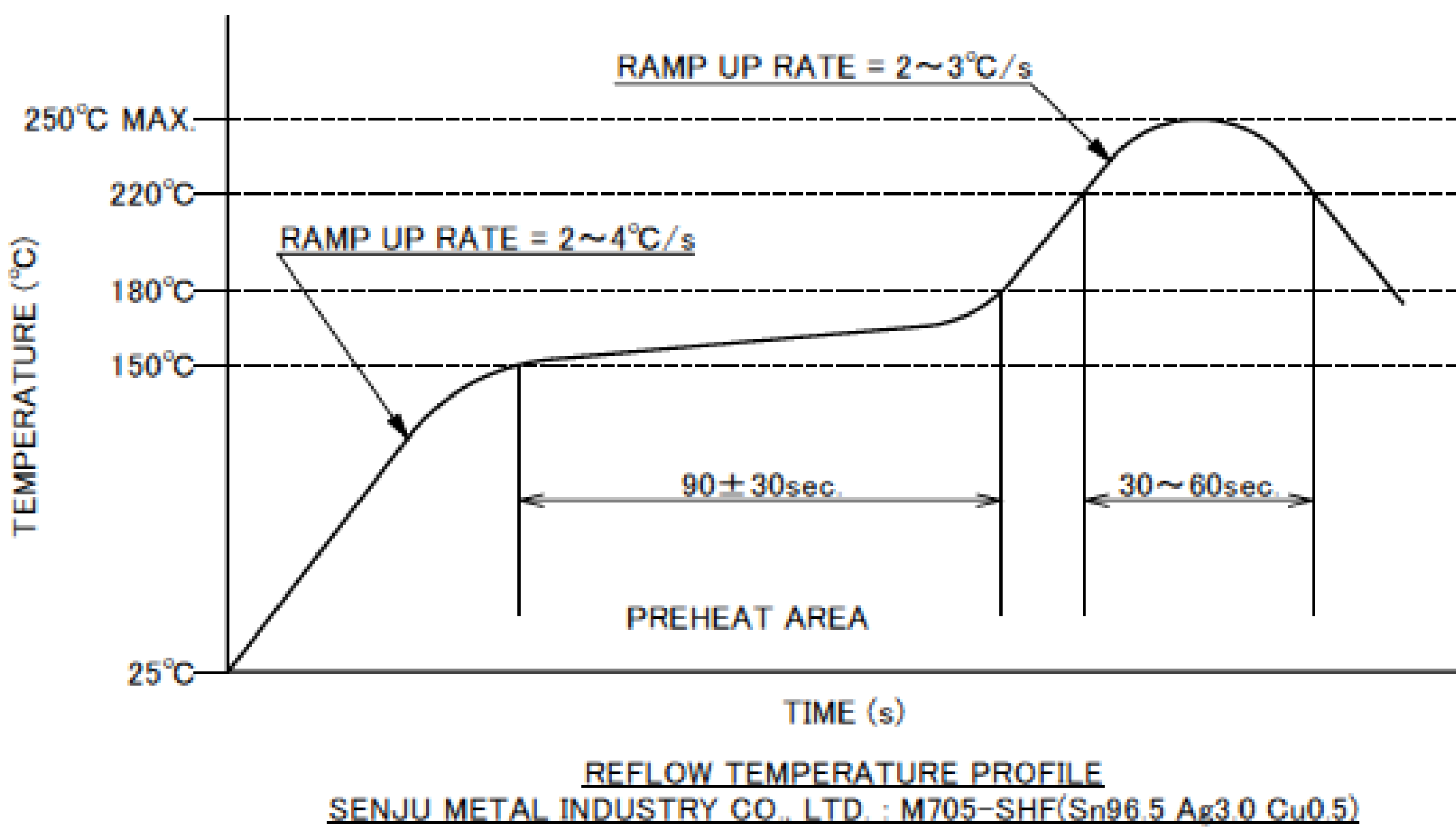
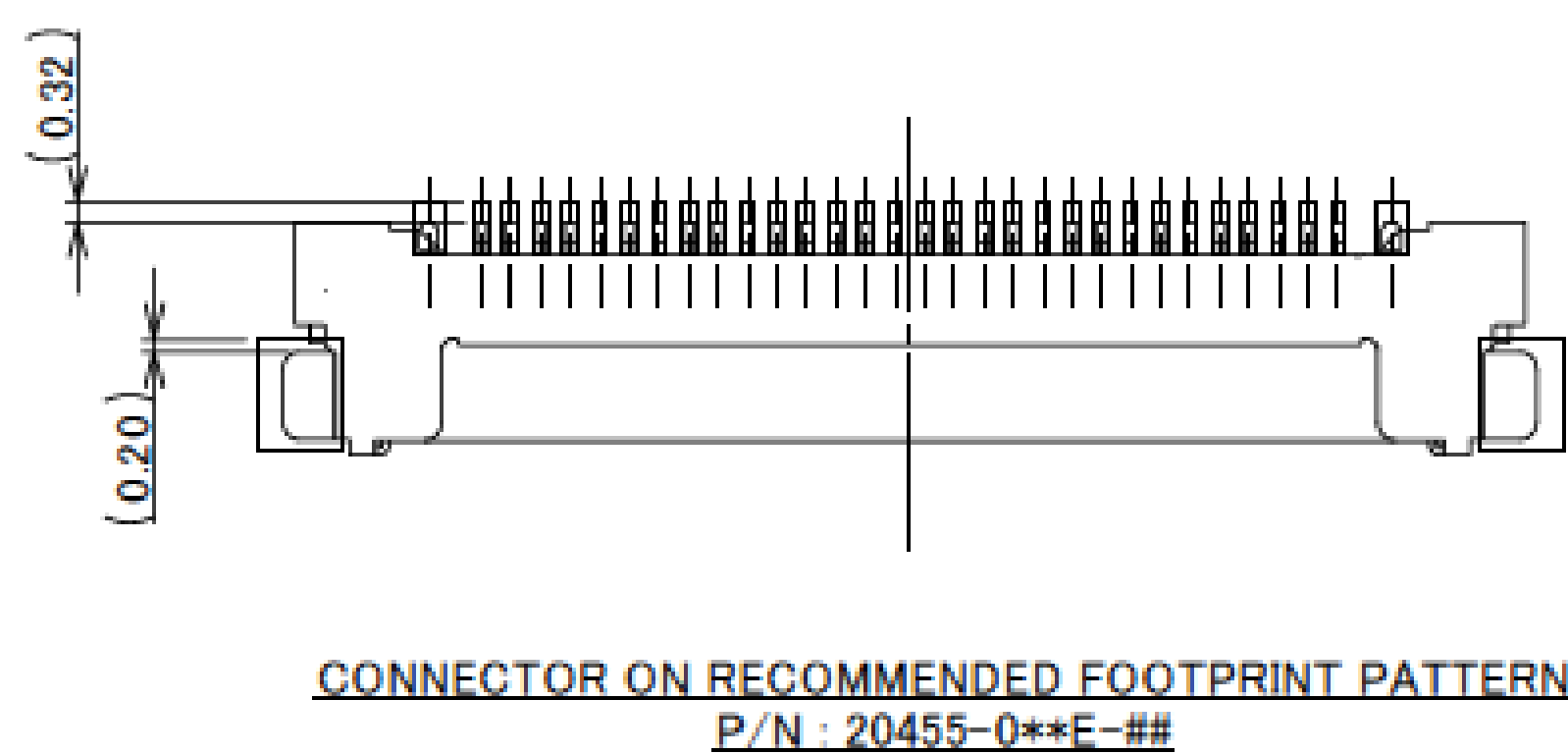
PART NO.	Pos.	A	B	E	F	G	H	J	K
20455-#20E-##	20	9.50	11.30	14.30	10.60	18.20	15.32	15.84	14.84
20455-030E-##	30	14.50	16.30	19.30	15.60	23.20	-	-	-
20455-040E-##	40	19.50	21.30	24.30	20.60	28.20	-	-	-
20455-050E-##	50	24.50	26.30	29.30	25.60	33.20	-	-	-



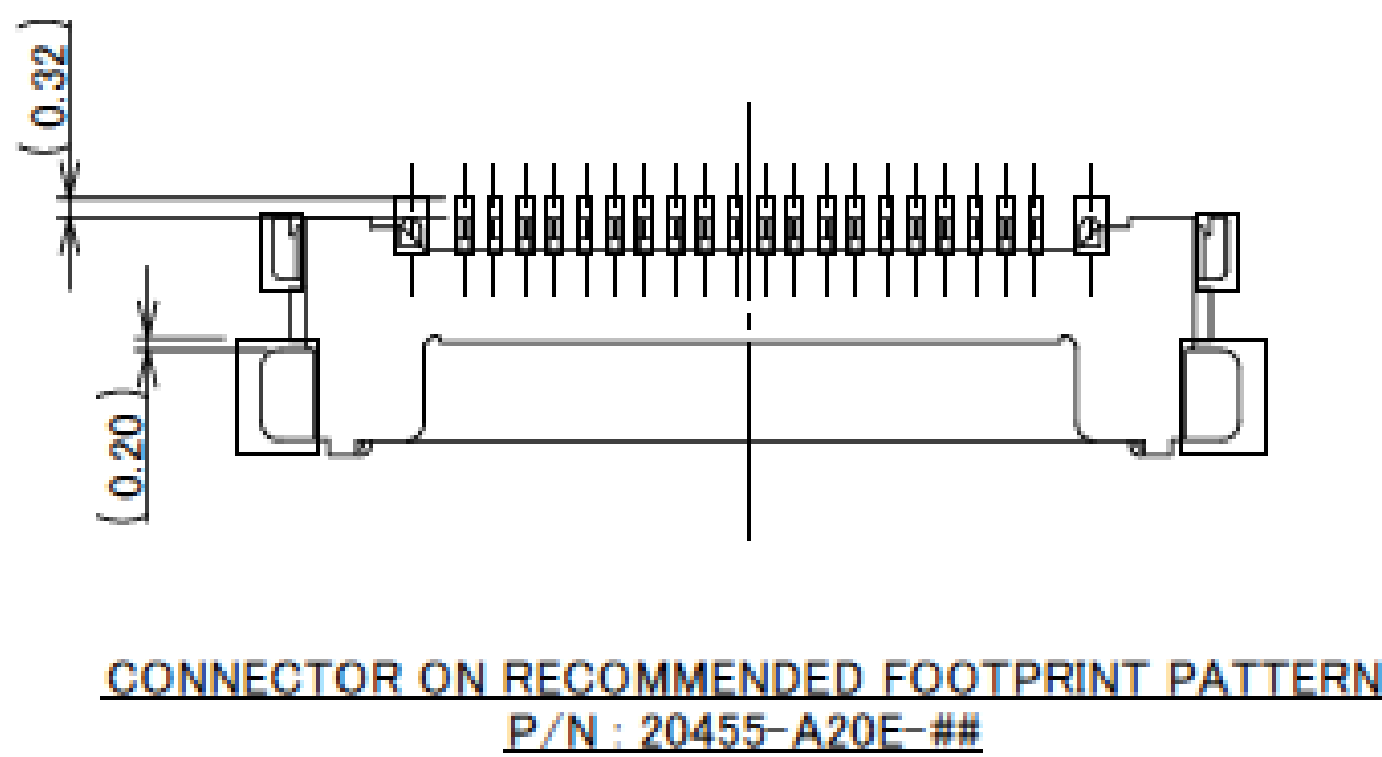
NOTES.
1. IN CASE OF PLUG WITH PULL-BAR, DO NOT MOUNT ANOTHER COMPONENT IN THIS AREA.
2. SOLDER RESIST MUST BE APPLIED TO THIS AREA.

Rev.34

Receptacle Assembly



TYPE-A



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



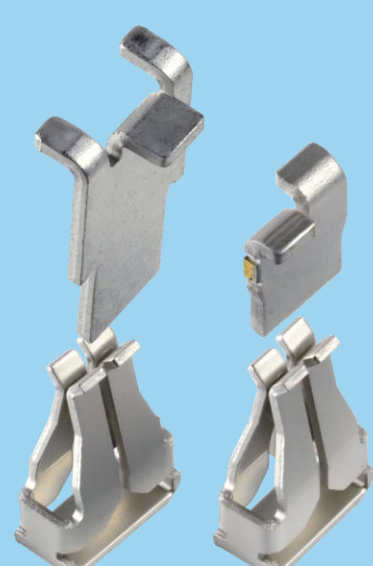
CABLIME® series

 Micro-Coaxial/Twinax
Connectors

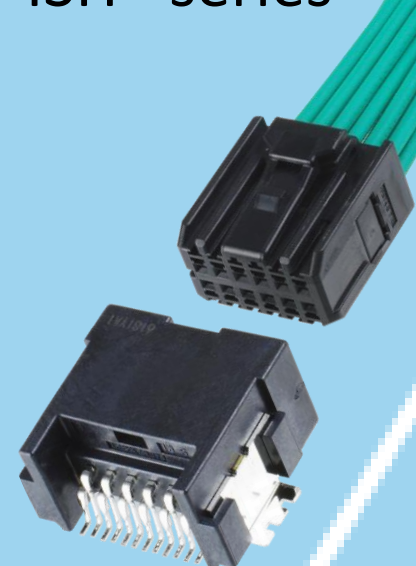


Wire-to-Board
Connectors/
Terminals

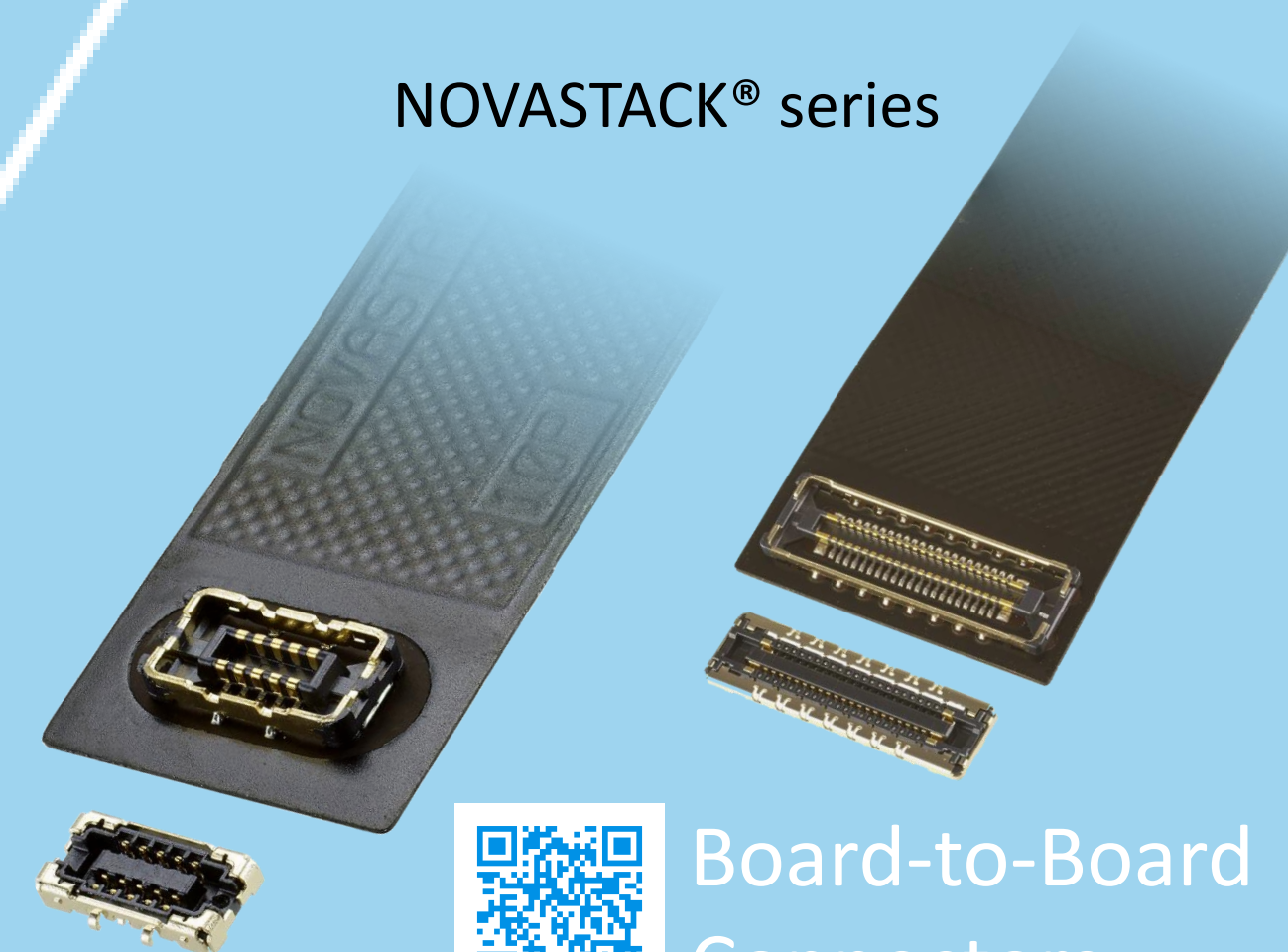
AP series



ISH® series



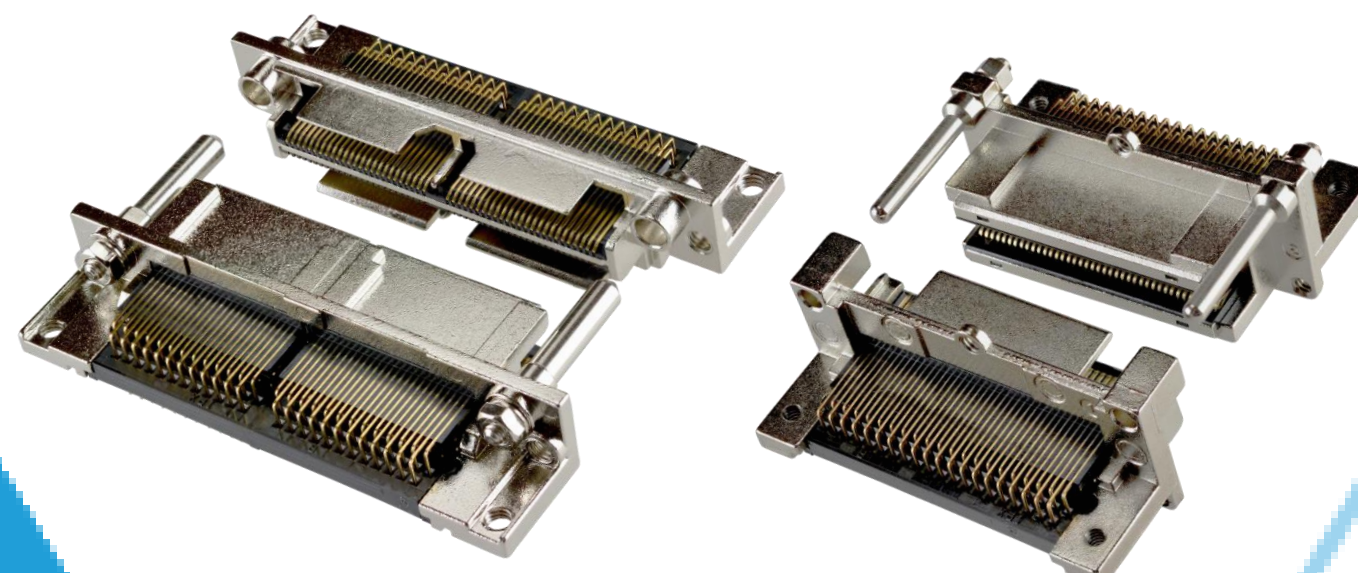
NOVASTACK® series



Board-to-Board
Connectors



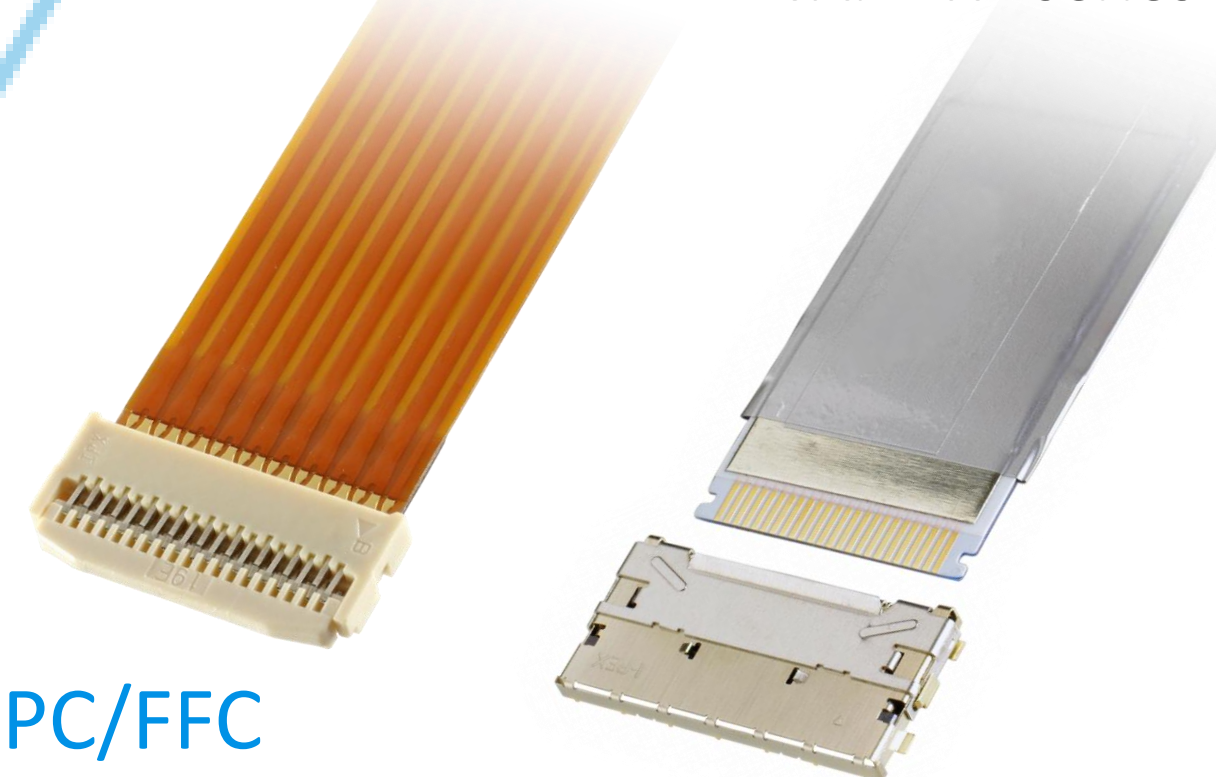
I/O
Connectors



MINIDOCK™ series

MINIFLEX® series

EVAFLEX® series



FPC/FFC
Connectors



Inquiry



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