

CABLINE®- VS

VESA規格標準コネクタ、高速伝送対応(20Gbps/lane)、メカニカルロック付き、0.5mmピッチ、水平嵌合タイプ細線同軸コネクタ

Product Specifications:

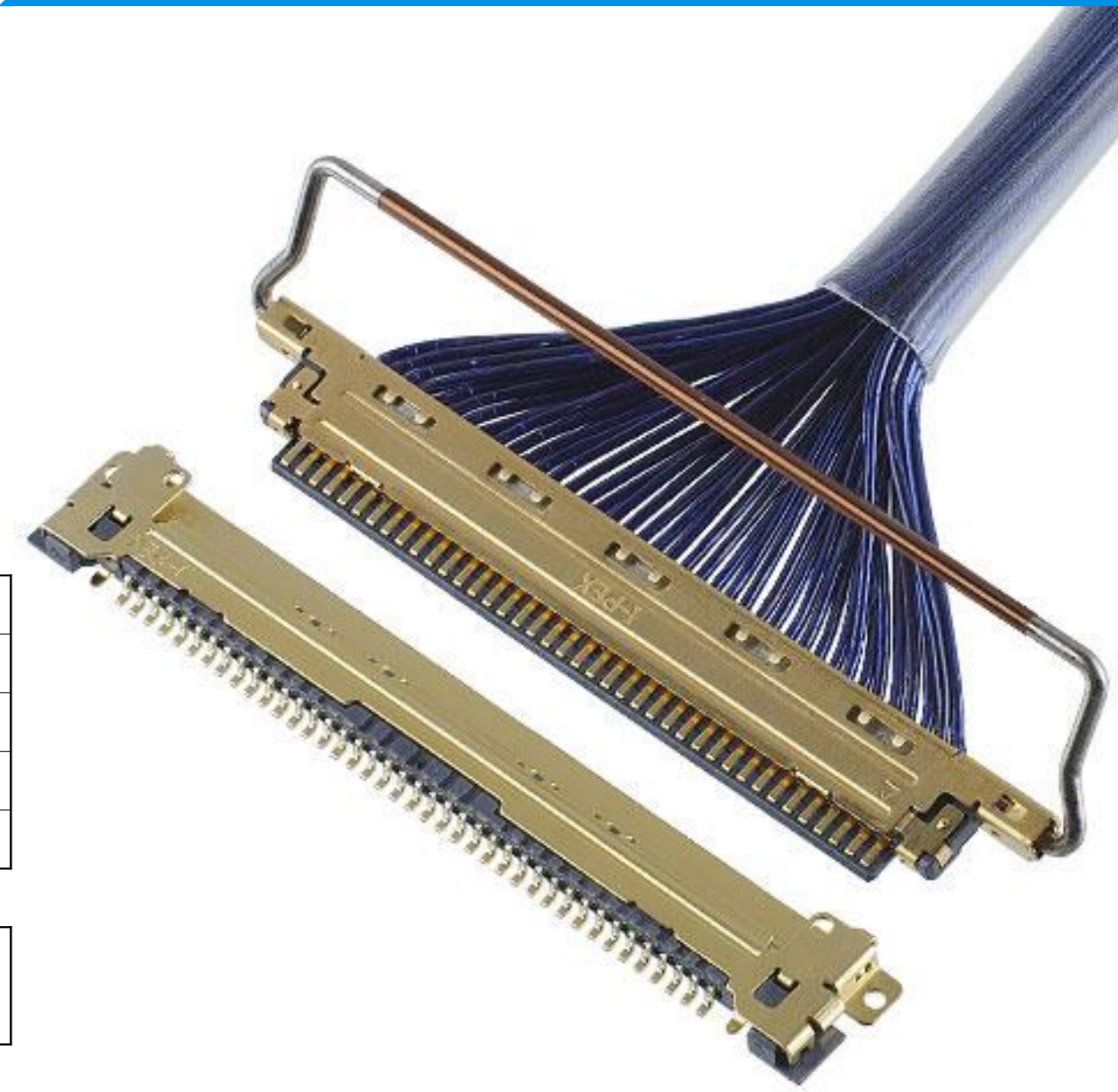
Mating type	Horizontal	
Board Pitch (mm)	0.5	
Wiping Length (mm)	0.61	
Mated size (mm)	Height	1.0 +/- 0.1
	Width	Formula: 7.55 + (0.5*?p)
	Depth	5.8
Pin Counts	Range	Up to 50
	Available	20, 30, 40, 50

Applicable Cable Size:

Maximum O.D. (mm)	0.5
Micro-Coaxial for Signal (AWG)	45 ohm: #36 or smaller
	50 ohm: #38 or smaller
Twinax (AWG)	#40
Discrete (AWG)	#32 or smaller

Applicable Standards (Reference Only):

USB4 Gen3 /Thunderbolt 4 (20 Gbps/lane), PCIe (16 GT/s), eDP (8.1 Gbps)



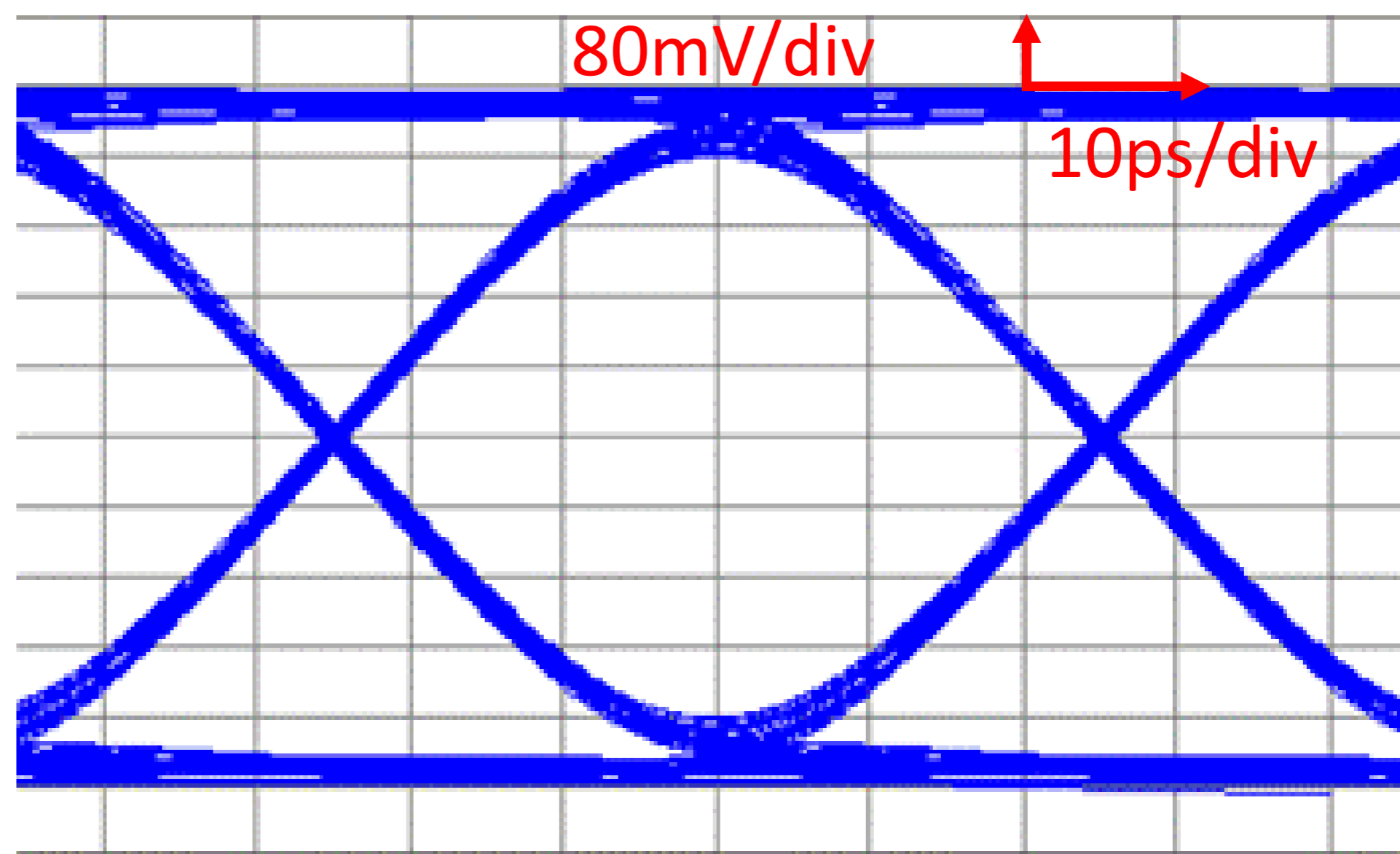
*記載のない極数の対応状況についてはお問い合わせください。

▶ USB4 Gen3/Thunderbolt 4(20Gbps/lane) の高速伝送内部接続に最適

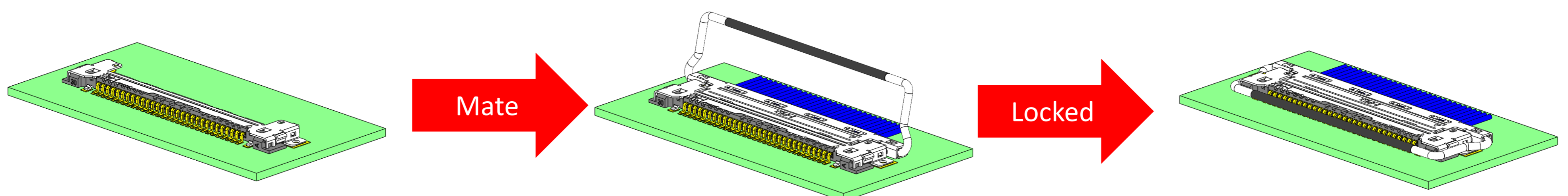
USB4 Gen3/Thunderbolt 4 (20Gbps/lane)

Eye pattern (Differential)
Bit rate : 20Gbps
Rise time : 30ps (10-90%)
Input voltage : 800mVp-p

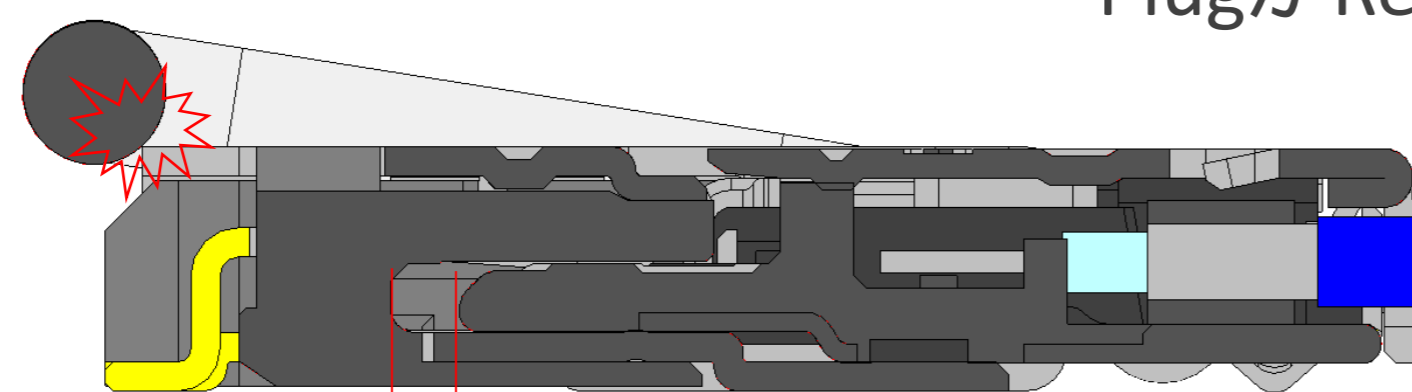
*試験データの詳細はI-PEX Connectorsにお問い合わせください



▶ 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

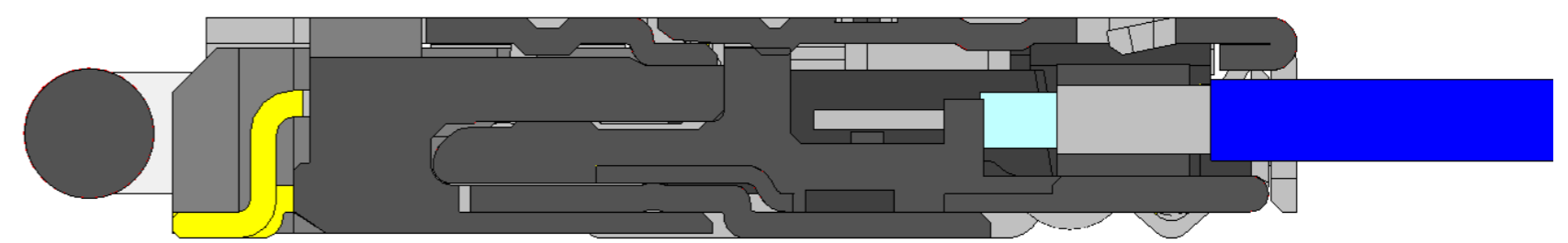


干渉



不完全嵌合

PlugがReceptacleに完全に嵌合されている場合にのみロックが可能



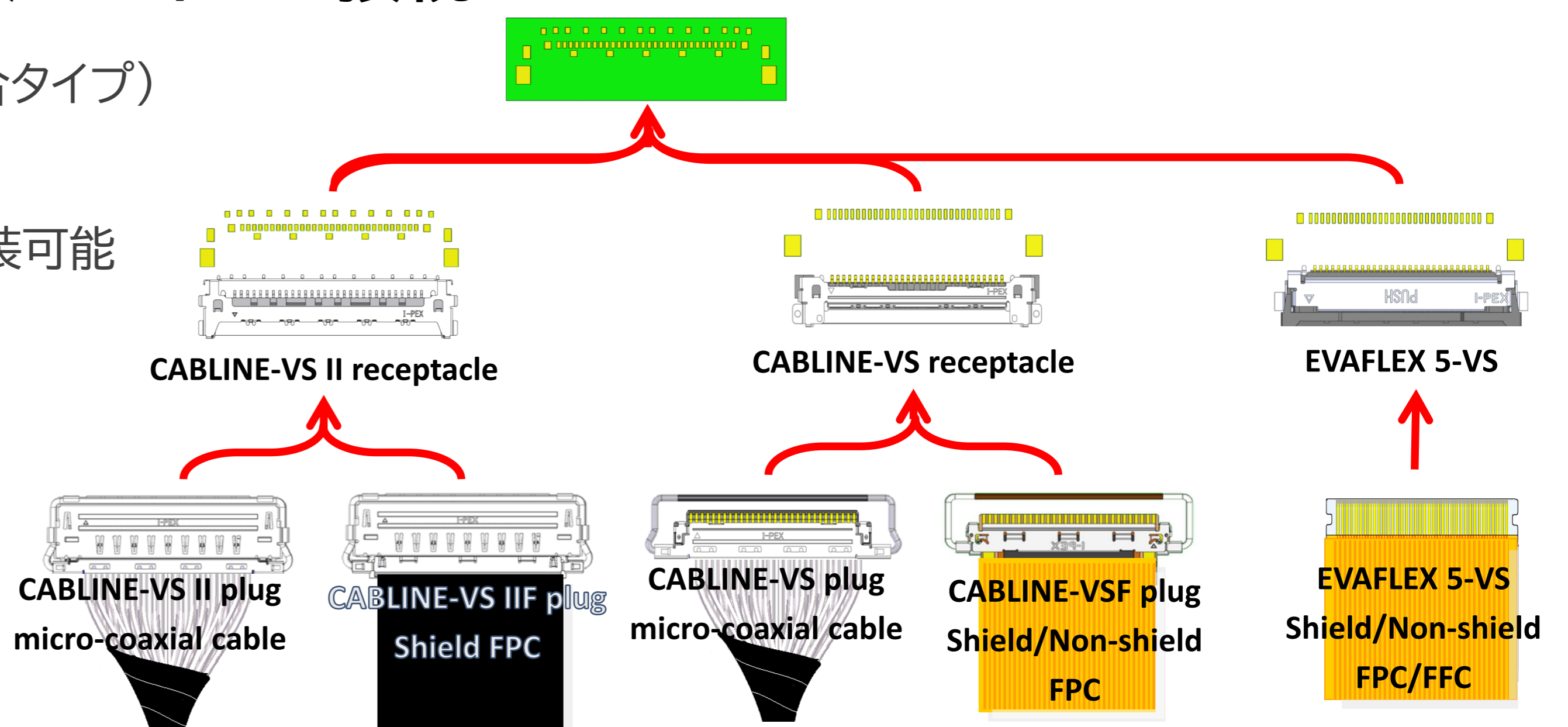
完全嵌合

▶ I-PEX VSシリーズにおける複数のコネクタ接続オプション

I-PEX VSシリーズ (0.5mmピッチ、水平嵌合タイプ)

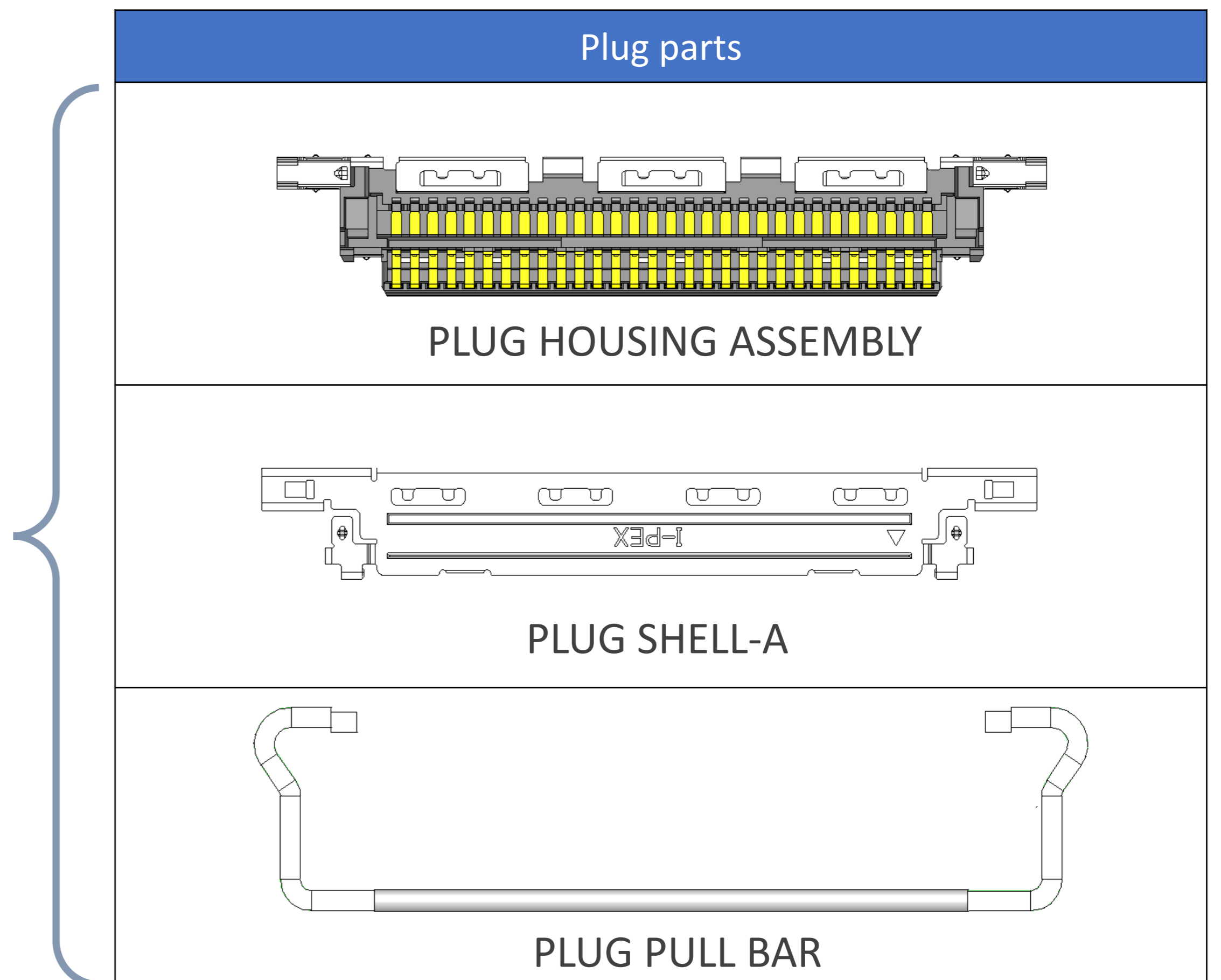
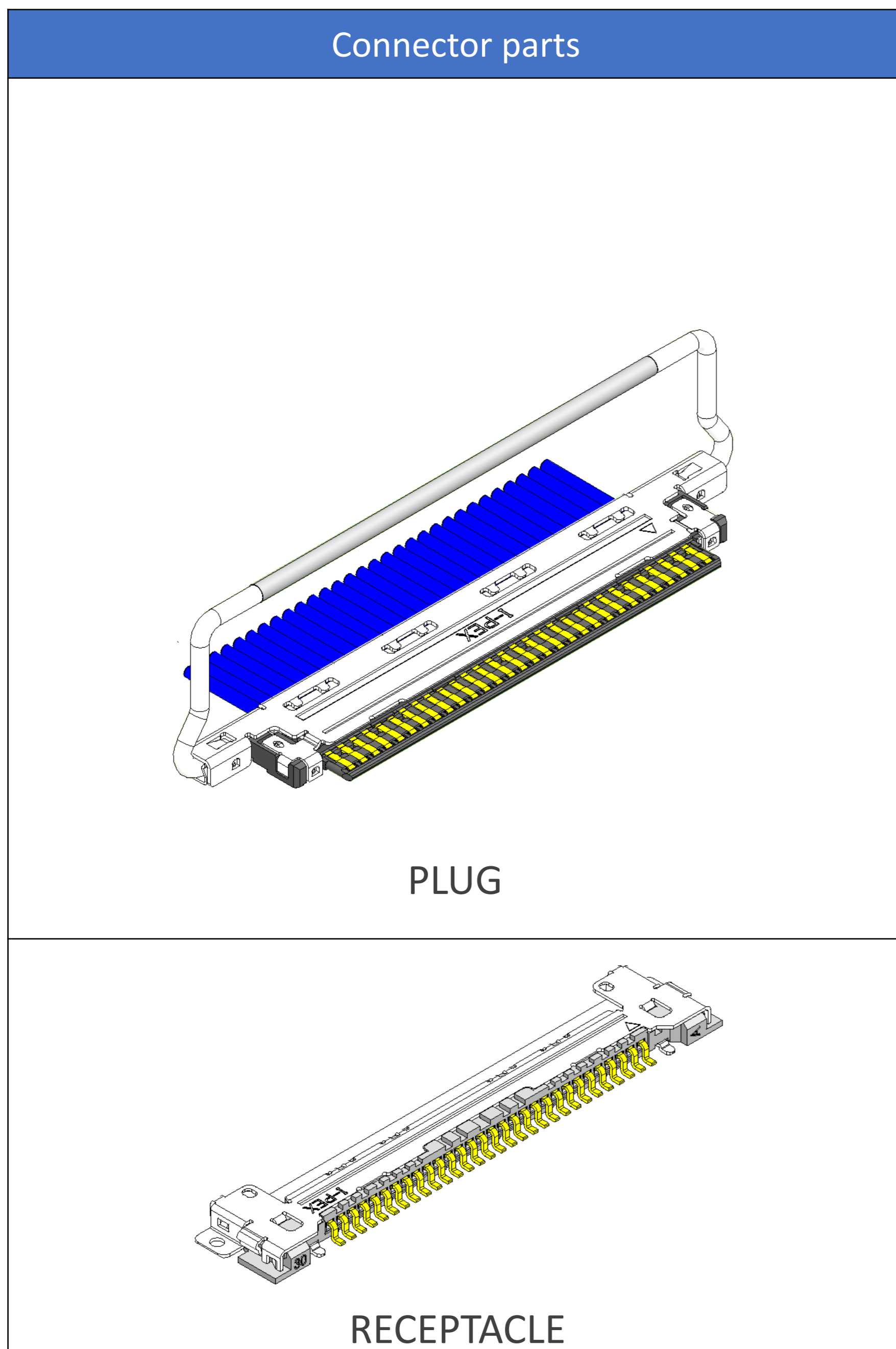
CABLINE-VS、VS II Receptacles と EVAFLEX®5-VSは同じPCBレイアウトに実装可能

CABLINE-VS Receptacle:
VESA規格の標準コネクタとして、
ノートPC パネル市場のシェア No.1を獲得



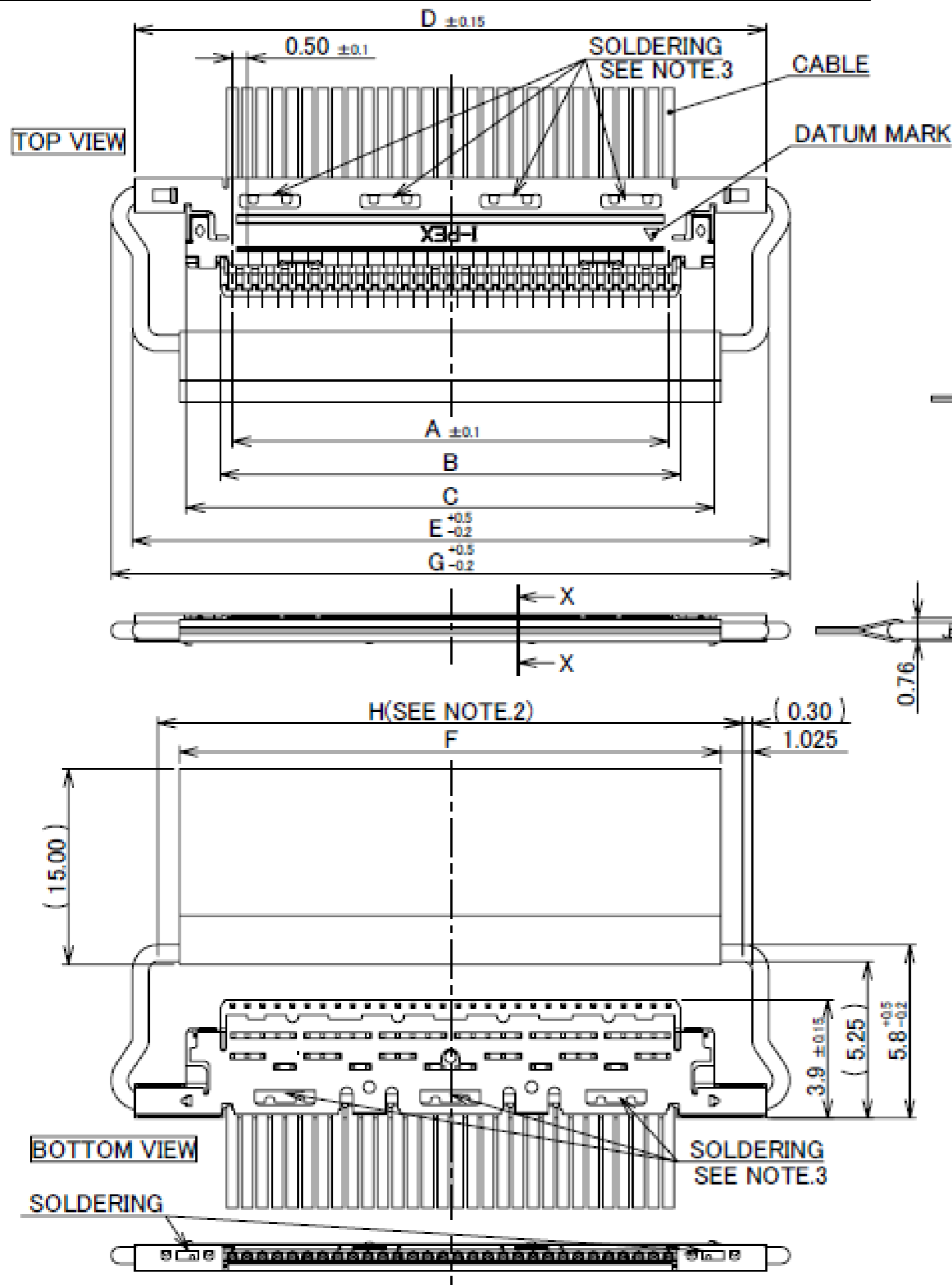
Component Parts Details

Component Parts



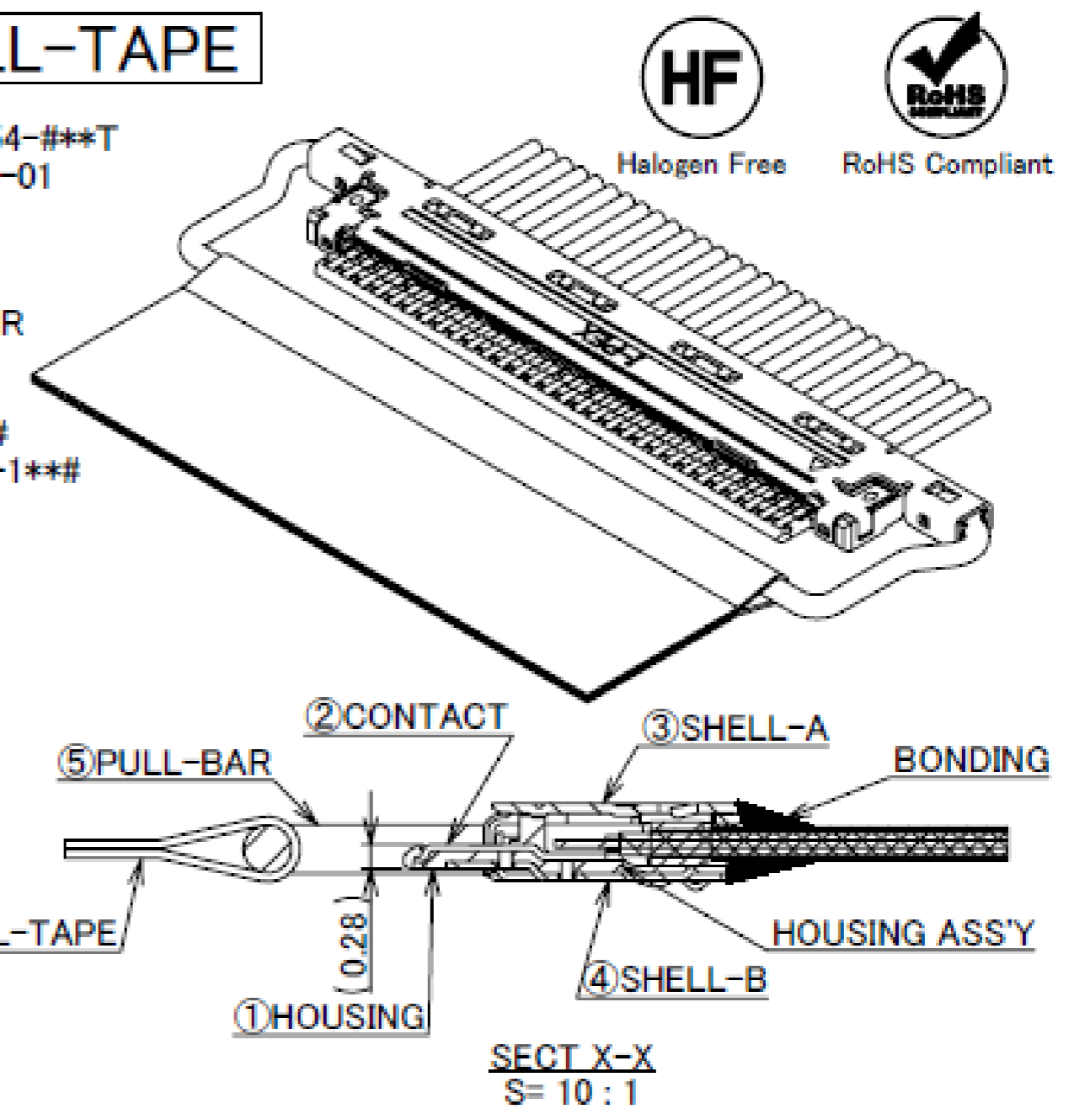
Plug for Cable Assembly

Recommended P/N	20453-2**T-03(20P/30P/40P)								20453-250T-03S(50P)		
PART NO.	Pos.	A	B	C	D	E	F	G	H		
20453-#20T-#1	20	9.50	10.30	12.56	16.00	16.15	13.00	17.55	14.45		
20453-#30T-#1	30	14.50	15.30	17.56	21.00	21.15	18.00	22.55	19.45		
20453-#40T-#1	40	19.50	20.30	22.56	26.00	26.15	23.00	27.55	24.45		
20453-#50T-#1S	50	24.50	25.30	27.56	31.00	31.15	28.00	32.55	29.45		



WITH PULL-BAR & PULL-TAPE

- P/N:20453-#**T-###
- NOTHING : HOUSING ASS'Y P/N 20454-##*T
S : HOUSING ASS'Y P/N 20454-##*T-01
- 1 : WITH PULL-BAR P/N 2576-0**-00
2 : WITHOUT PULL-BAR
3 : WITH INSULATION COAT PULL-BAR P/N 2576-1**-00
0 : WITH DATUM MARK P/N 2574-0**#
1 : WITHOUT DATUM MARK P/N 2574-1**#
- SEE TABLE.1



CABLE ASS'Y PART NO.	HOUSING ASS'Y PART NO.	SHELL-A PART NO.	PULL-BAR PART NO.
20453-0**T-#1#	20454-0**T-##	2574-##*	2576-0**-00
20453-2**T-#1#	20454-2**T-##	2574-##*2	2576-0**-00

TABLE.1

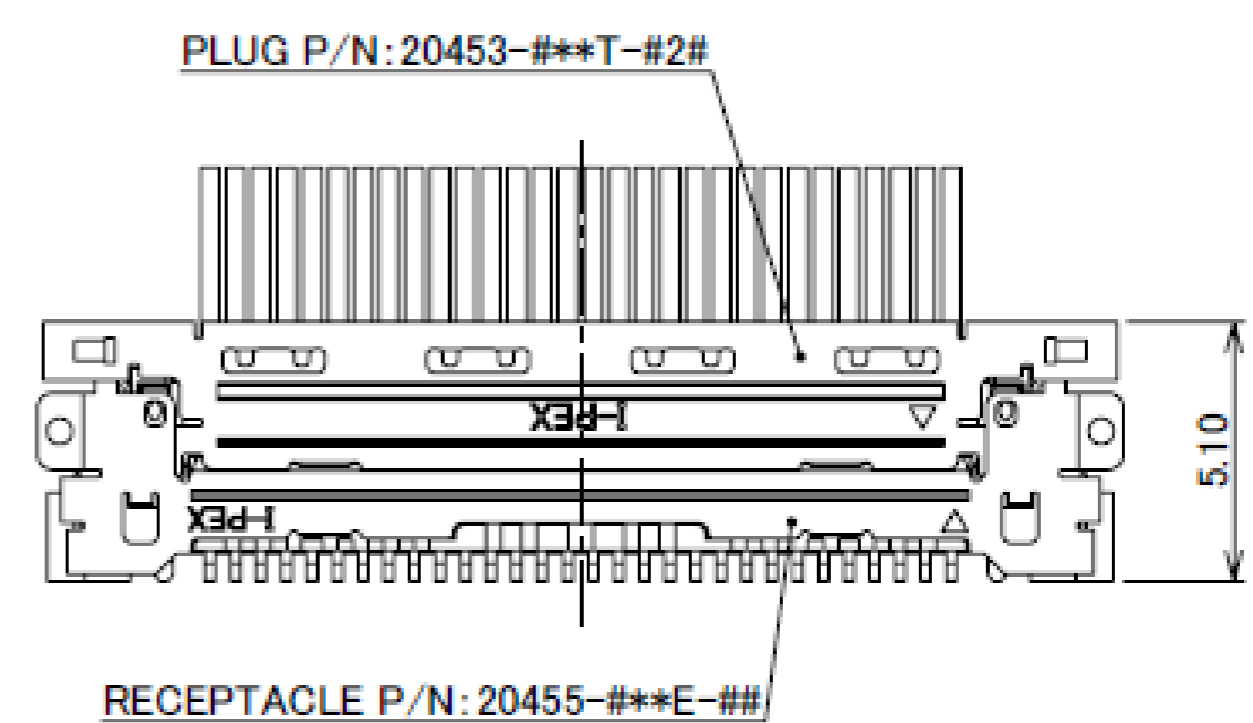
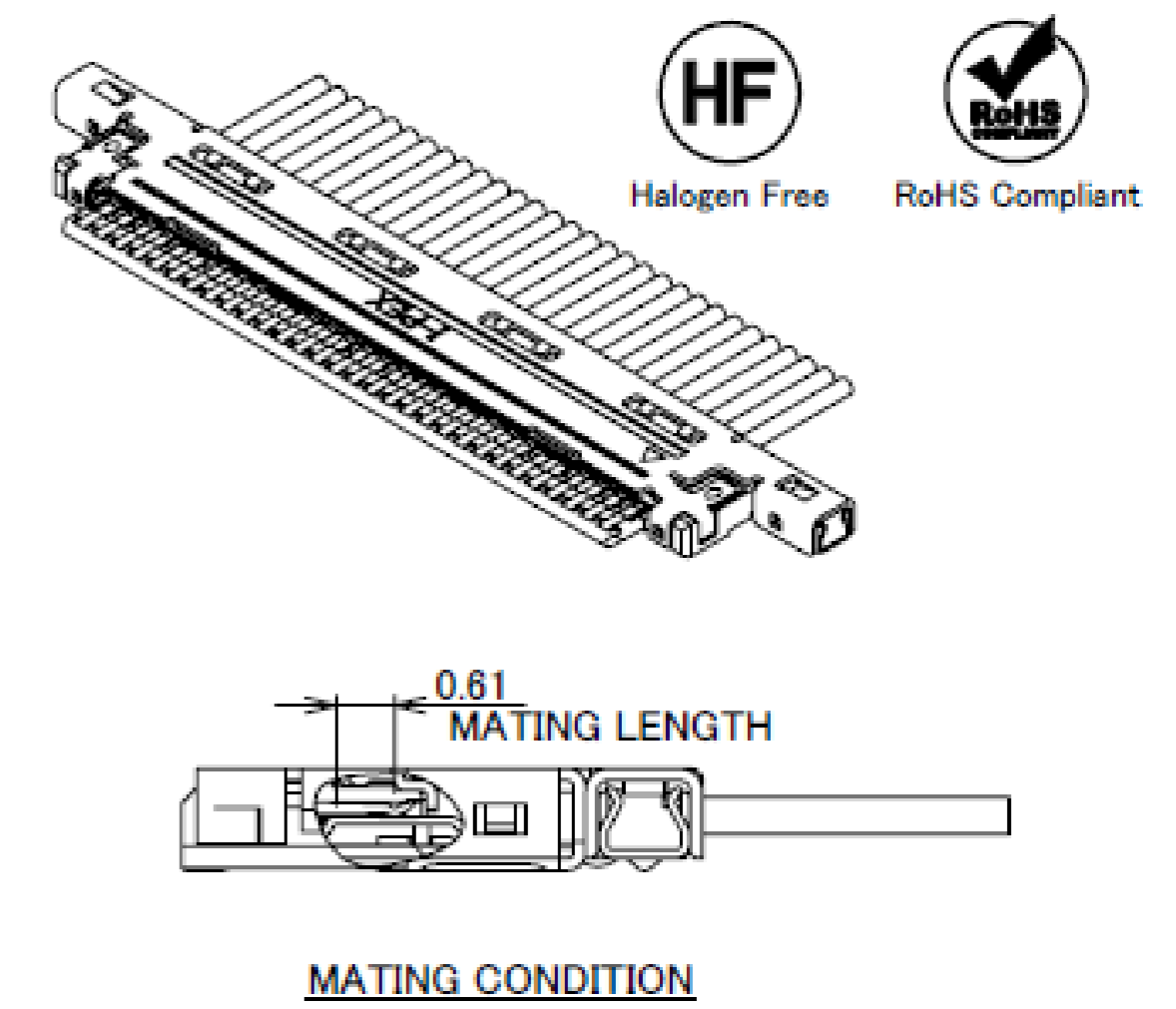
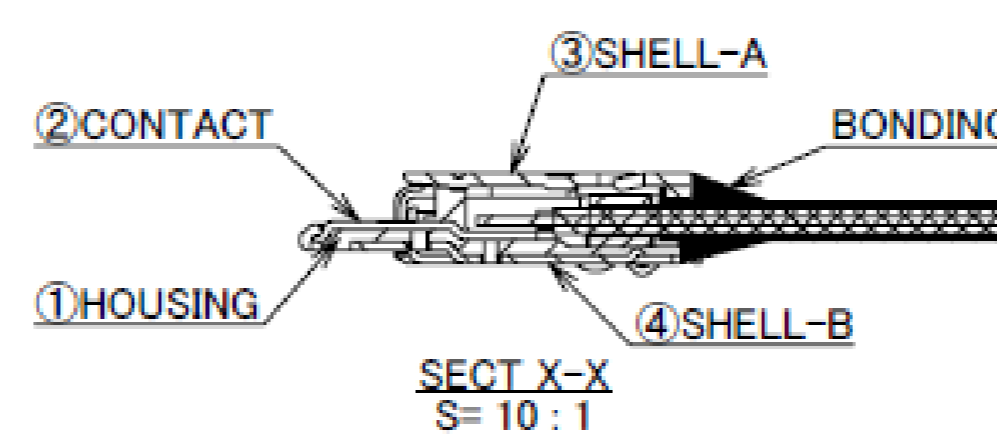
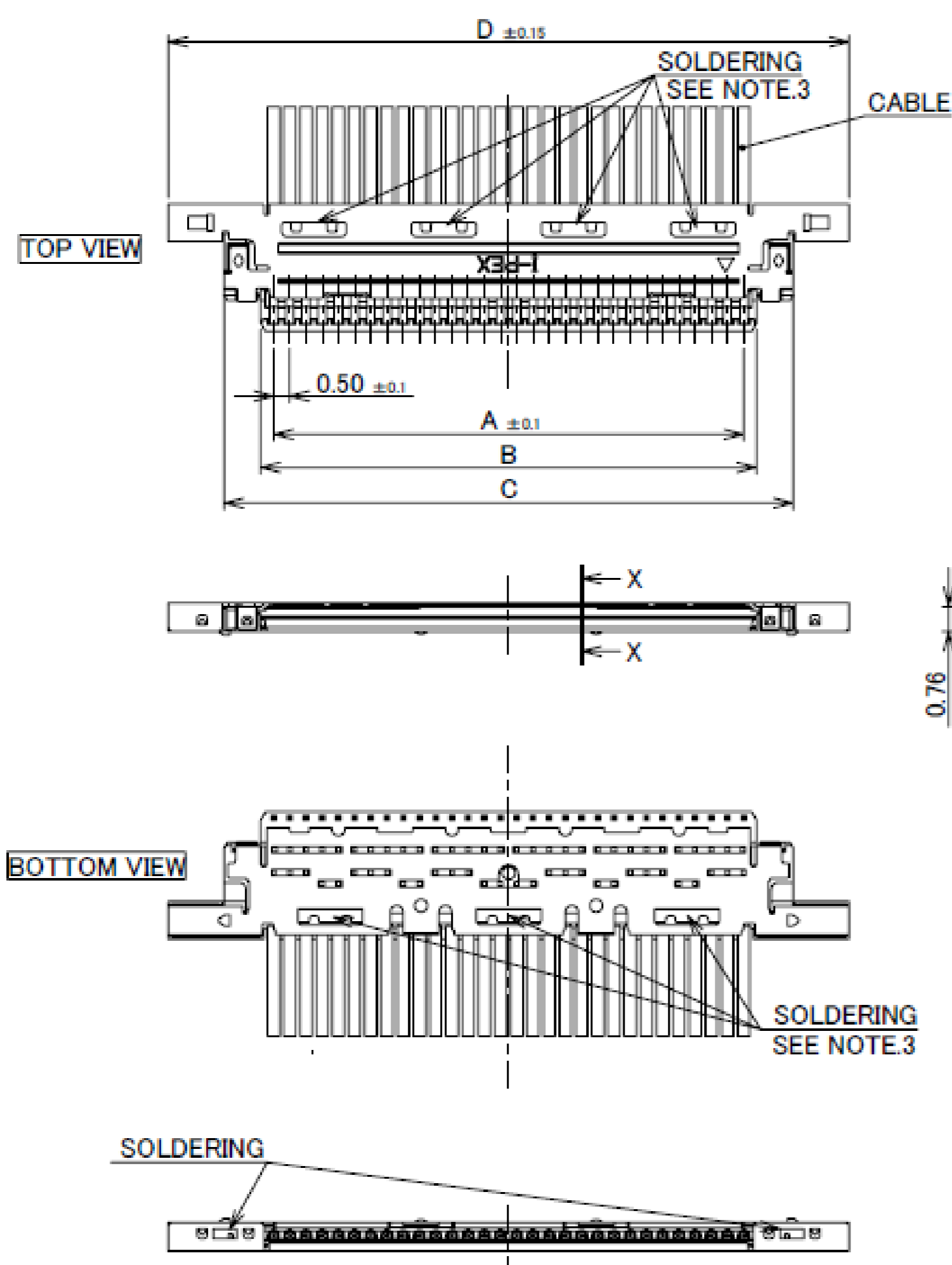
PART NO.	CONTACT FINISH	SHELL-A FINISH	SHELL-B FINISH
20453-0**T-###	CONTACT AREA : Au 0.1 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN.	TOP SIDE : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN. BOTTOM SIDE : Au 0.015 μm MIN. OVER Ni 1.00 μm MIN.	TOP SIDE : Au 0.015 μm MIN. OVER Ni 1.00 μm MIN. BOTTOM SIDE : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN.
20453-2**T-###	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.	TOP SIDE : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN. BOTTOM SIDE : Ni 1.00 μm MIN.(THERE IS THE POSSIBILITY THAT Au ATTACHES RANDOMLY)	TOP SIDE : Ni 1.00 μm MIN.(THERE IS THE POSSIBILITY THAT Au ATTACHES RANDOMLY) BOTTOM SIDE : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.
5 PULL-BAR	SUS		
4 SHELL-B	PHOSPHOR BRONZE	SEE ABOVE TABLE.1	
3 SHELL-A	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

- NOTES.
- 1.RECOMMENDED PULL-TAPE
PULL-TAPE : TERAOKA'S INSULATION TAPE No.650S(#50) t=0.08
2.PULL-TAPE CAN BE PUT WITHIN THE RANGE OF "H"(STRAIGHT AREA)
3.SOLDERING IS ONLY A CASE WITH GND-BAR

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Recommended P/N	20453-2**T-03(20P/30P/40P)				20453-250T-03S(50P)	
PART NO.	Pos.	A	B	C	D	
20453-#20T-#2	20	9.50	10.30	12.56	16.00	
20453-#30T-#2	30	14.50	15.30	17.56	21.00	
20453-#40T-#2	40	19.50	20.30	22.56	26.00	
20453-#50T-#2S	50	24.50	25.30	27.56	31.00	

WITHOUT PULL-BAR



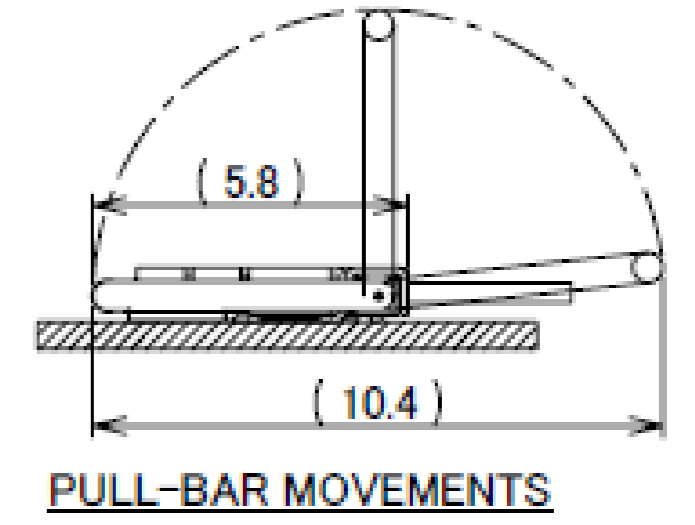
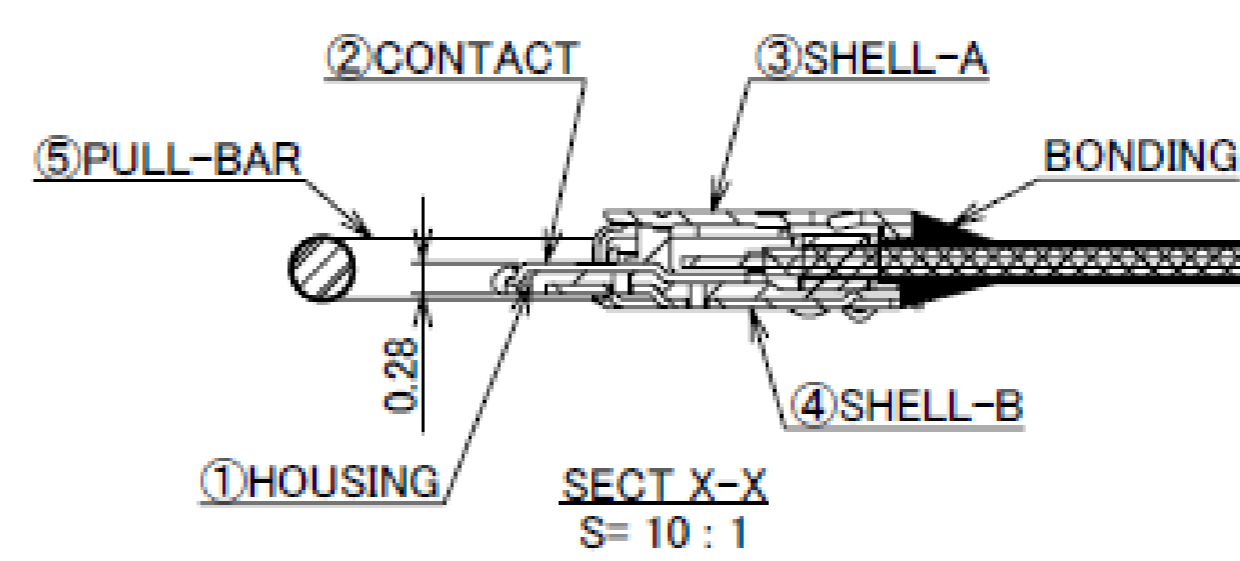
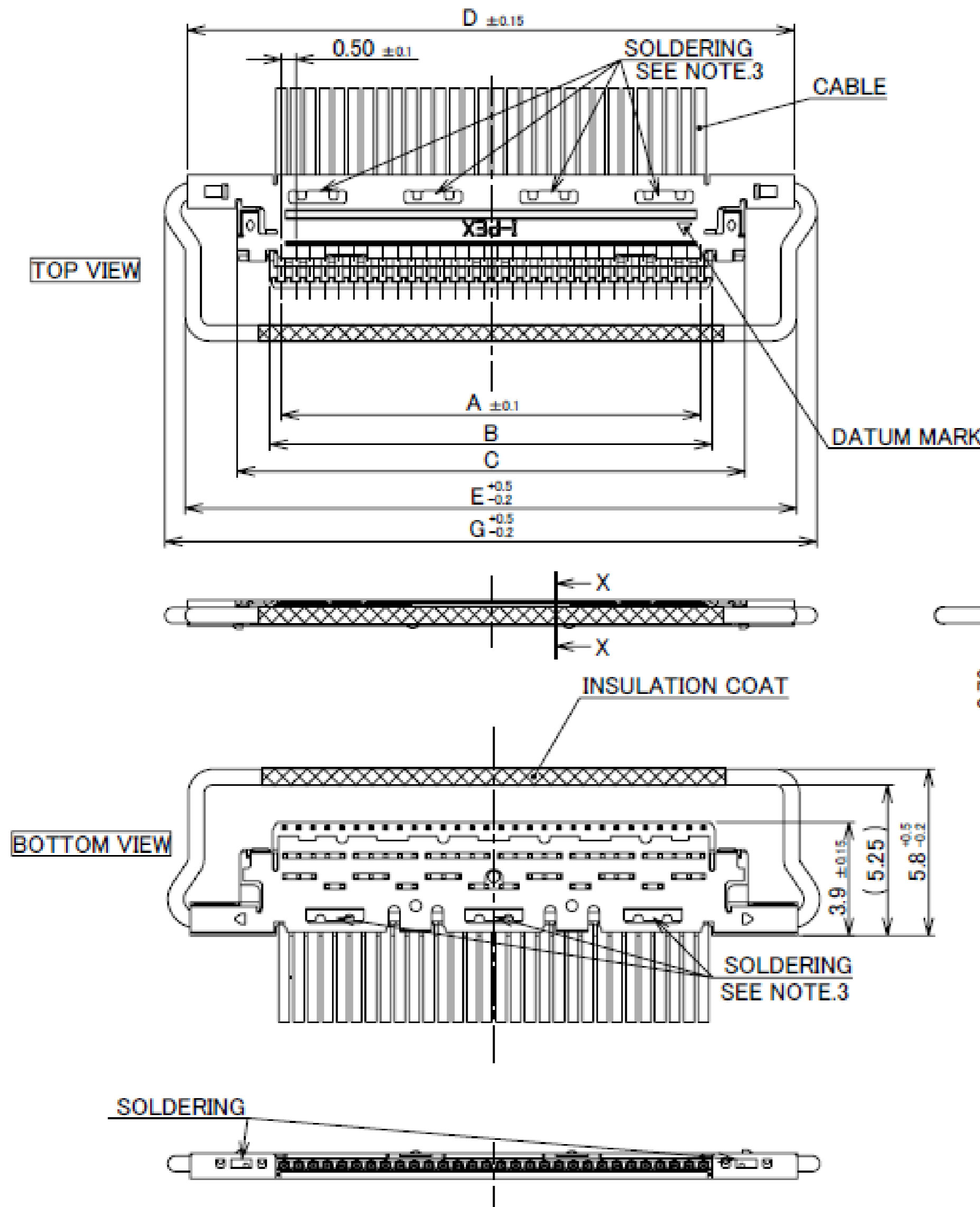
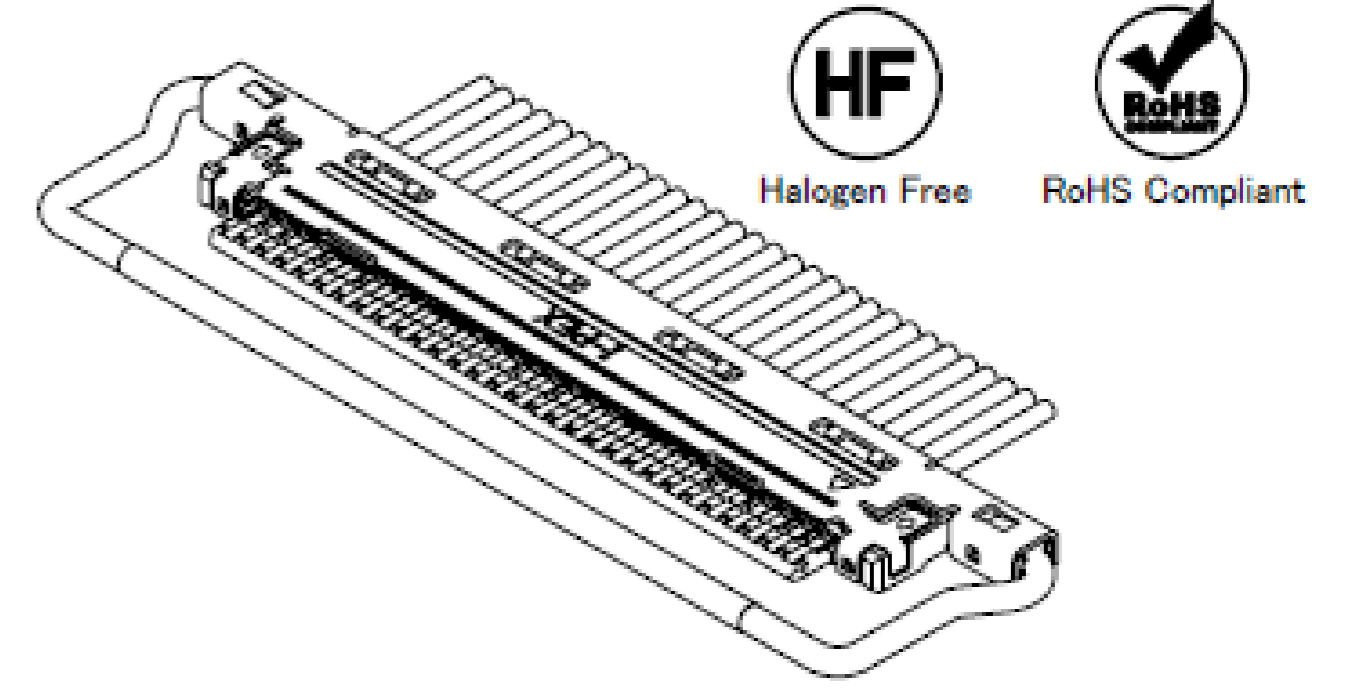
CABLE ASS'Y PART NO.	HOUSING ASS'Y PART NO.	SHELL-A PART NO.	PULL-BAR PART NO.
20453-0**T-#2#	20454-0**T-##	2574-##*	-

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Plug for Cable Assembly

Recommended P/N		20453-2**T-03(20P/30P/40P)						20453-250T-03S(50P)	
PART NO.	Pos.	A	B	C	D	E	G		
20453-#20T-#3	20	9.50	10.30	12.56	16.00	16.15	17.55		
20453-#30T-#3	30	14.50	15.30	17.56	21.00	21.15	22.55		
20453-#40T-#3	40	19.50	20.30	22.56	26.00	26.15	27.55		
20453-#50T-#3S	50	24.50	25.30	27.56	31.00	31.15	32.55		

WITH INSULATION COAT PULL-BAR

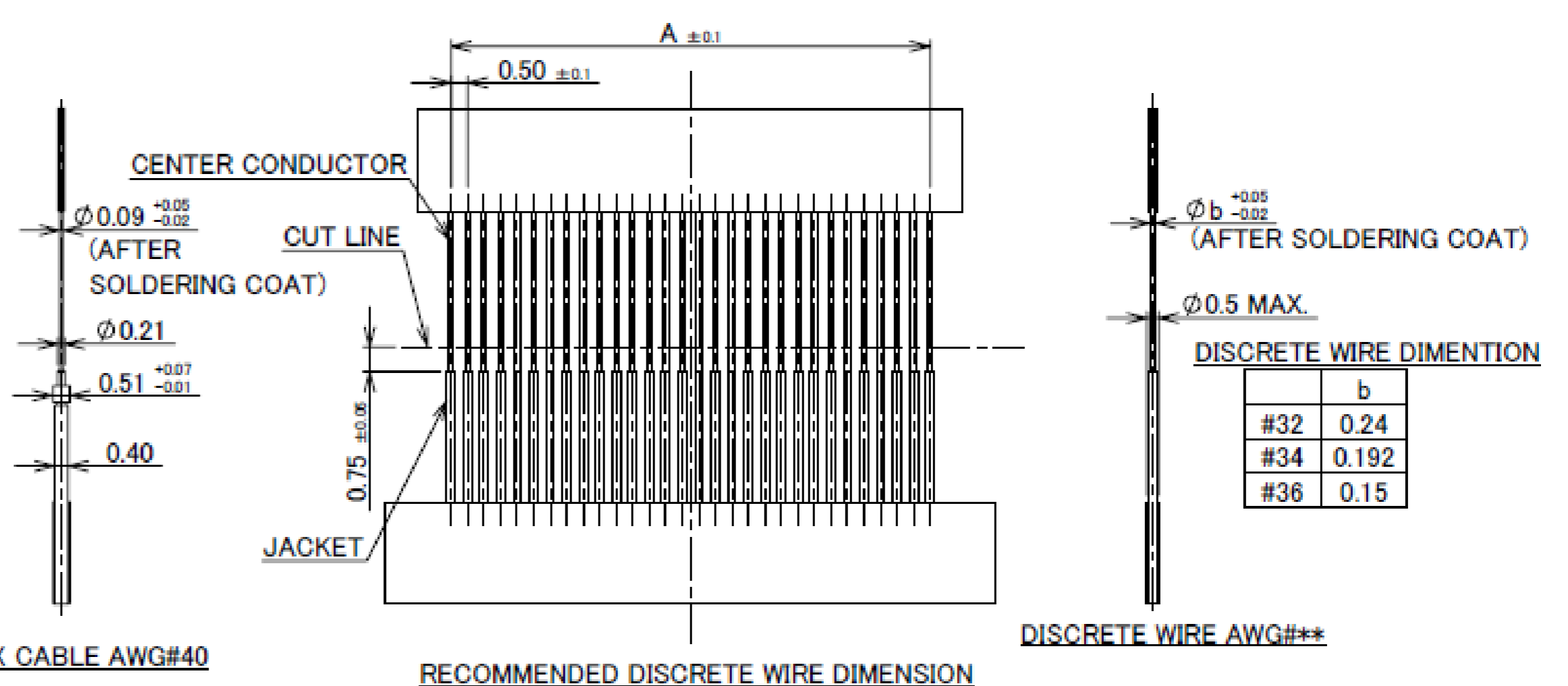
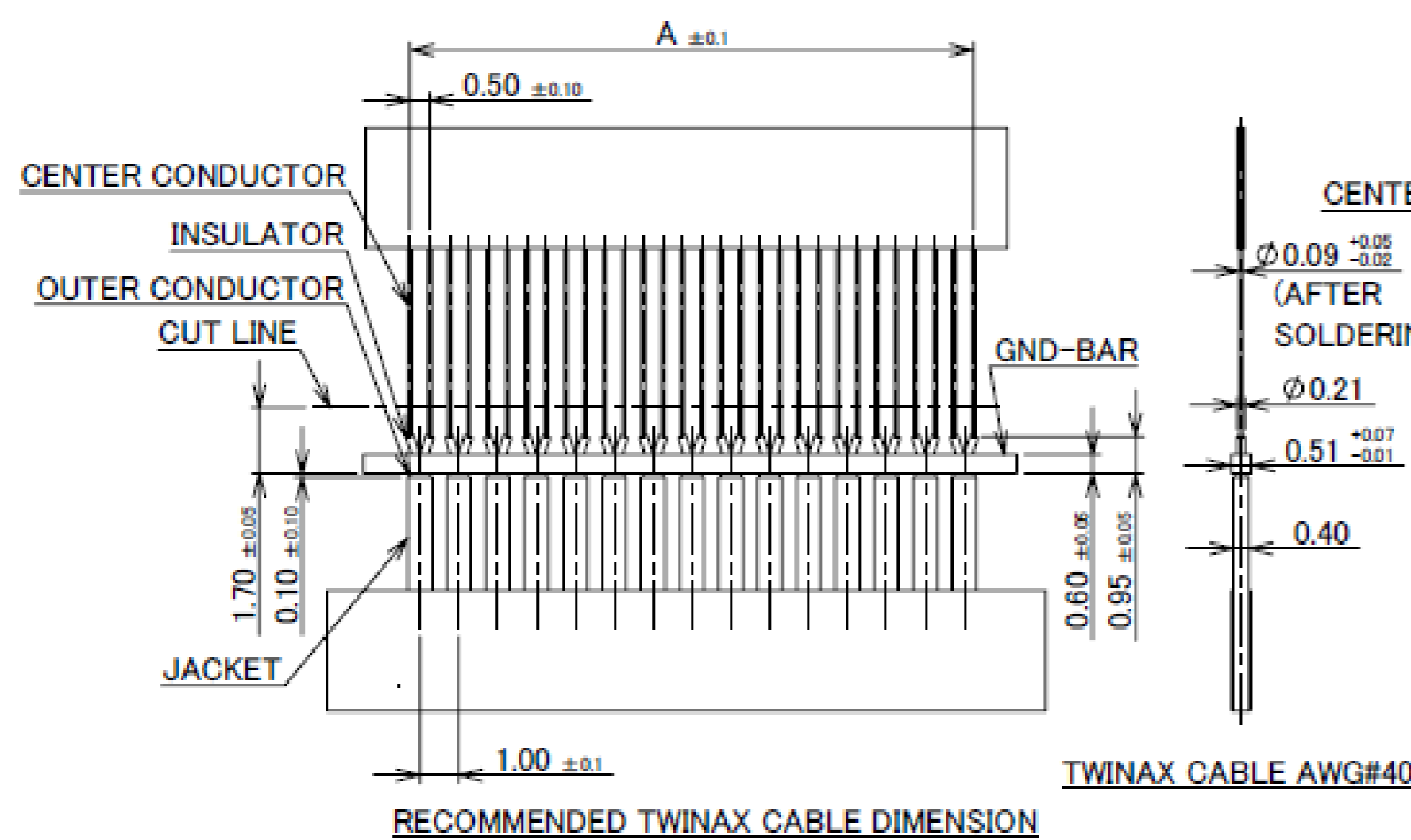
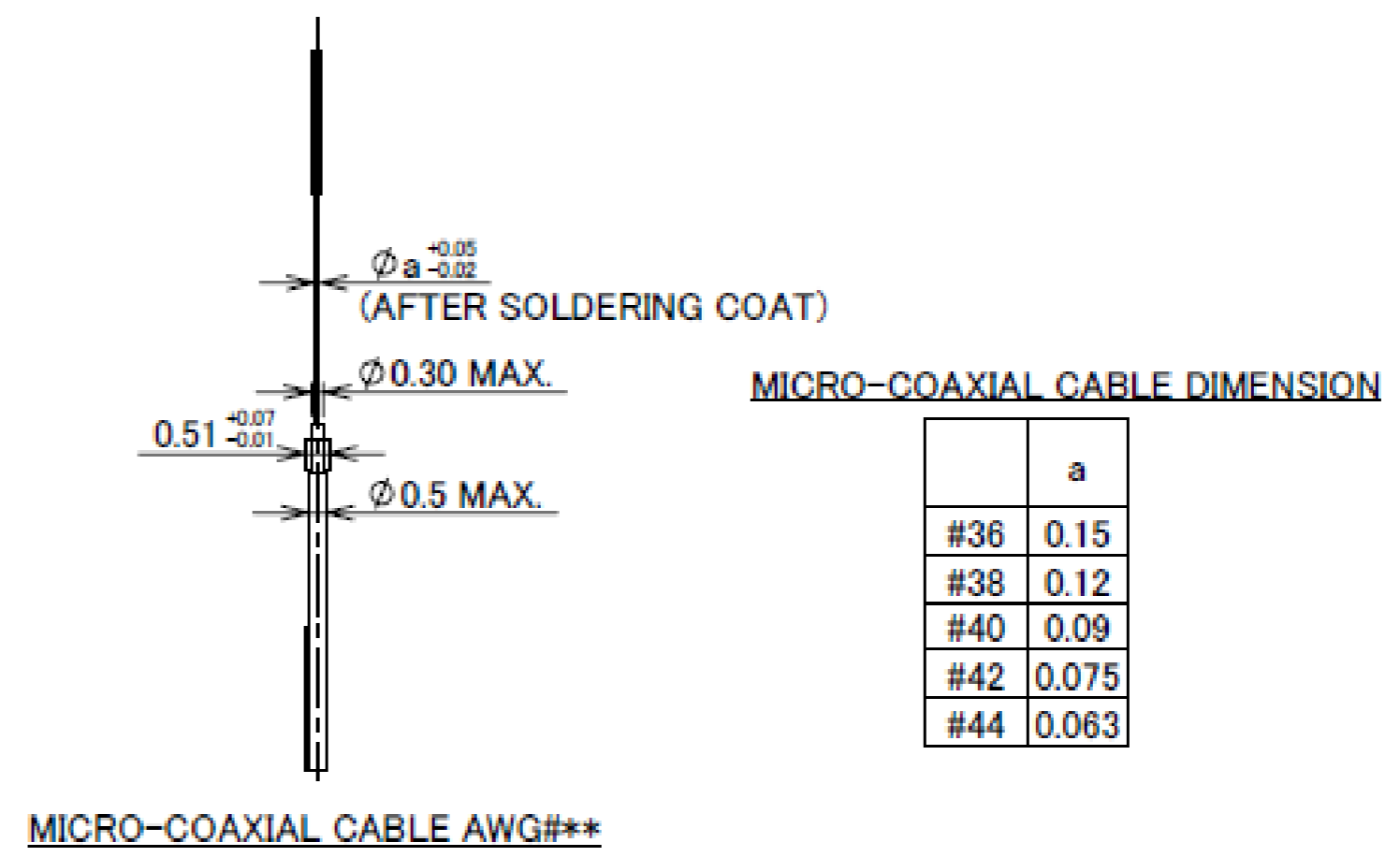
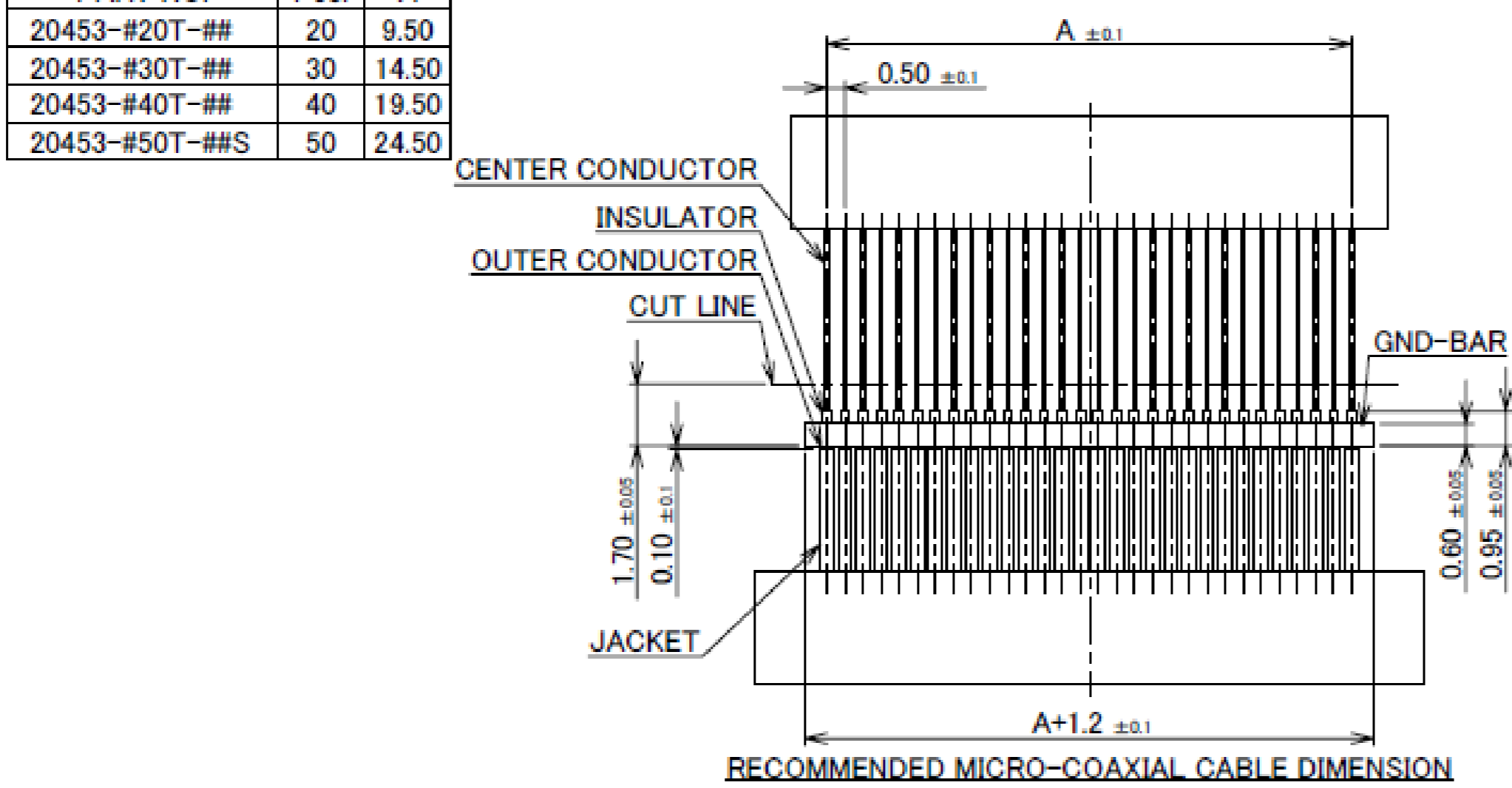


PART NO.

CABLE ASS'Y PART NO.	HOUSING ASS'Y PART NO.	SHELL-A PART NO.	PULL-BAR PART NO.
20453-0**T-#3#	20454-0**T-##	2574-##*	2576-1**00
20453-2**T-#3#	20454-2**T-##	2574-##*2	2576-1**00

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PART NO.	Pos.	A
20453-#20T-##	20	9.50
20453-#30T-##	30	14.50
20453-#40T-##	40	19.50
20453-#50T-##S	50	24.50



Rev.34

Plug Housing Assembly

Recommended P/N 20454-250T-01

PART NO.	Pos.
20454-#50T-01	50

20454-#50T-01 : TYPE-i

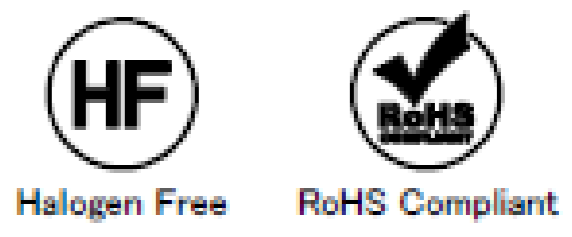
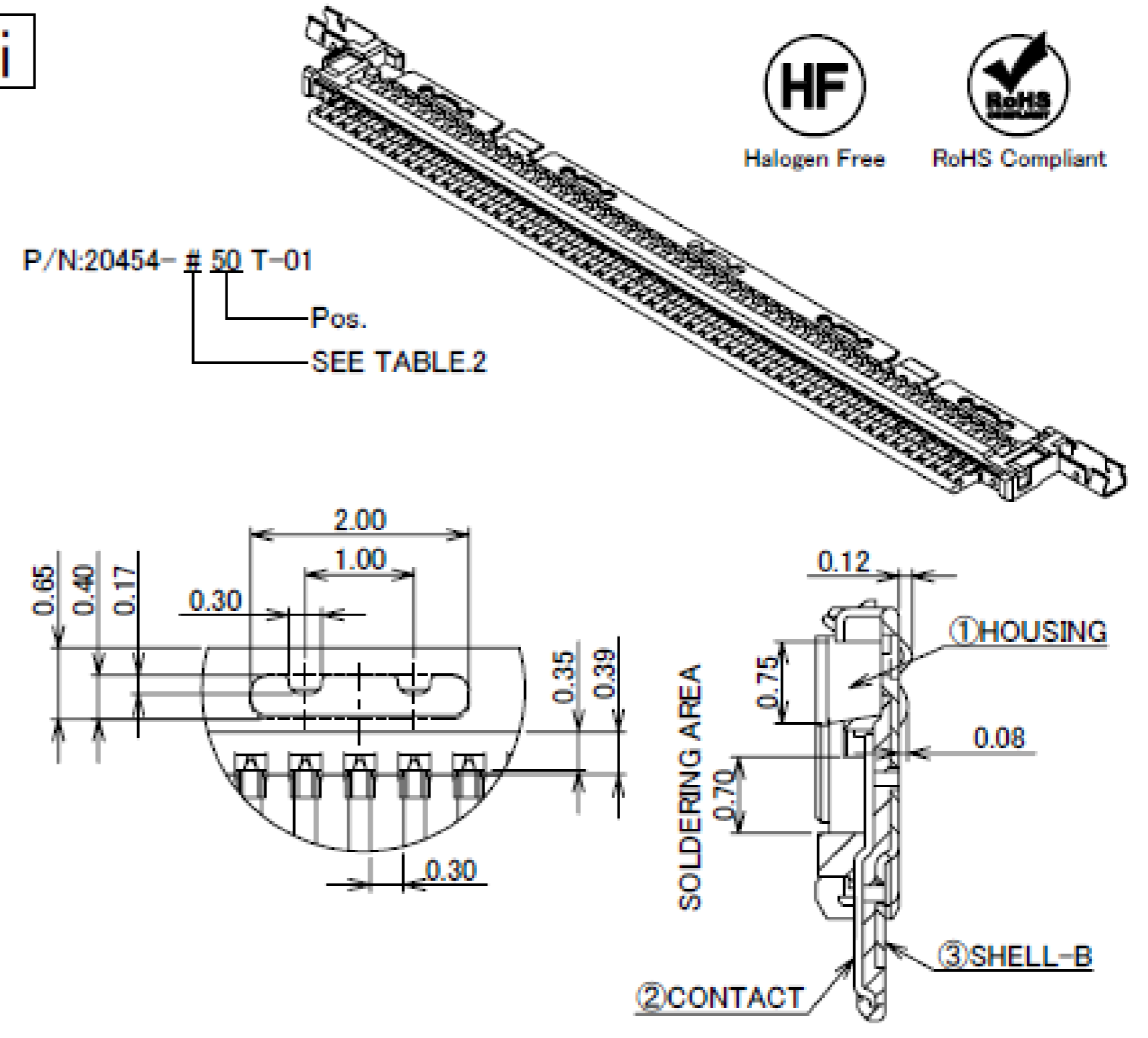
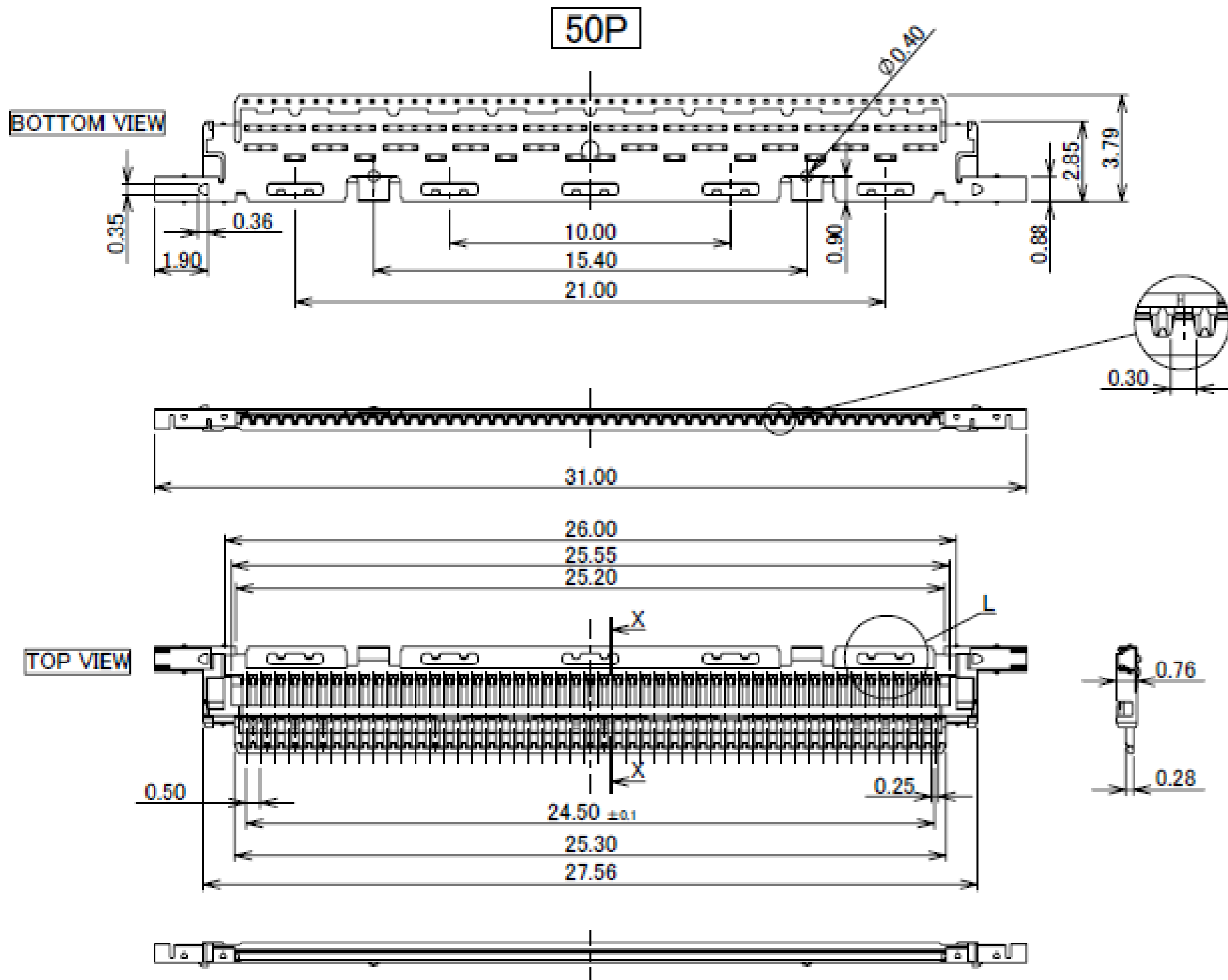


TABLE 2

PART NO.	CONTACT FINISH	SHELL-B FINISH
20454-0**T-01	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.	TOP SIDE : Au 0.015 μm MIN. OVER Ni 1.00 μm MIN. BOTTOM SIDE : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN.
20454-2**T-01	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.	TOP SIDE : Ni 1.00 μm MIN. (THERE IS THE POSSIBILITY THAT Au ATTACHES RANDOMLY) BOTTOM SIDE : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.

NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
3	SHELL B	PHOSPHOR BRONZE	SEE ABOVE TABLE 2
2	CONTACT	PHOSPHOR BRONZE	SEE ABOVE TABLE 2
1	HOUSING	LCP	UL94V-0, BLACK

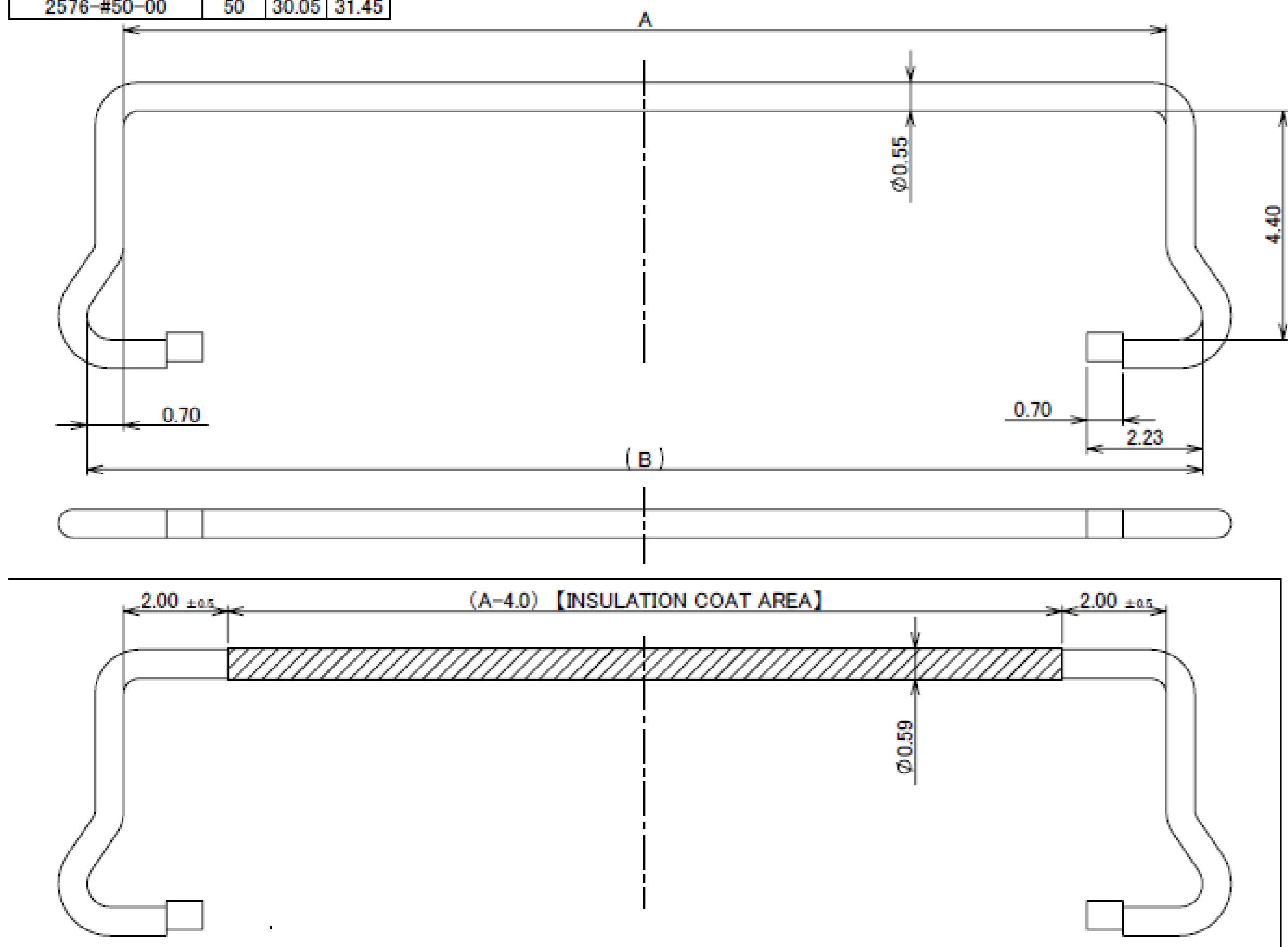
Rev.20

Pull Bar

Recommended P/N 2576-1**-00

PART NO.	Pos.	A	B
2576-#20-00	20	15.05	16.45
2576-#30-00	30	20.05	21.45
2576-#40-00	40	25.05	26.45
2576-#50-00	50	30.05	31.45

2576-0**-00



P/N: 2576-#**-00
 POS.
 0 : WITHOUT INSULATION COAT
 1 : WITH INSULATION COAT

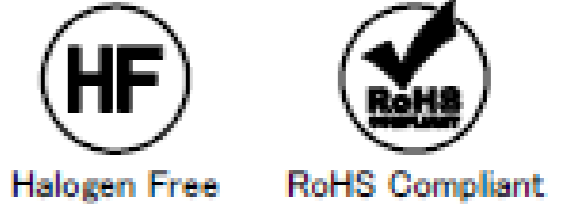
2576-1**-00

NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
1	PULL BAR	SUS	-

Rev.15

Shell-A

Recommended P/N		2574-0**2			
PART NO.	Pos.	A	B	C	D
2574-#20#	20	9.78	12.56	16.00	8.00 [= 4.0 × (3-1)]
2574-#30#	30	14.78	17.56	21.00	12.00 [= 4.0 × (4-1)]
2574-#40#	40	19.78	22.56	26.00	16.00 [= 4.0 × (5-1)]
2574-#50#	50	24.78	27.56	31.00	20.00 [= 4.0 × (6-1)]



P/N:2574-#**#
 SEE TABLE.1
 Pos.
 0 : WITH DATUM MARK
 1 : WITHOUT DATUM MARK

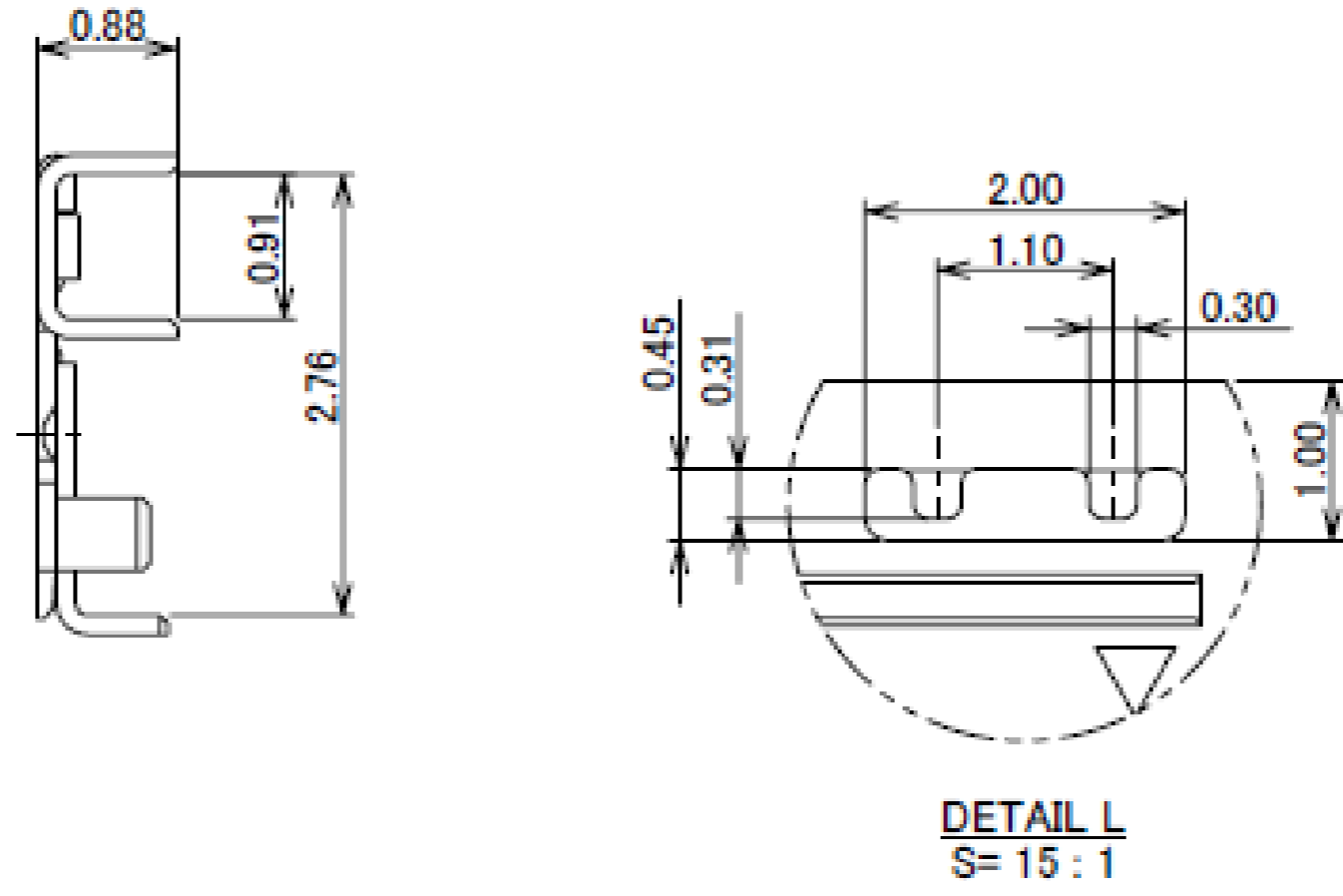
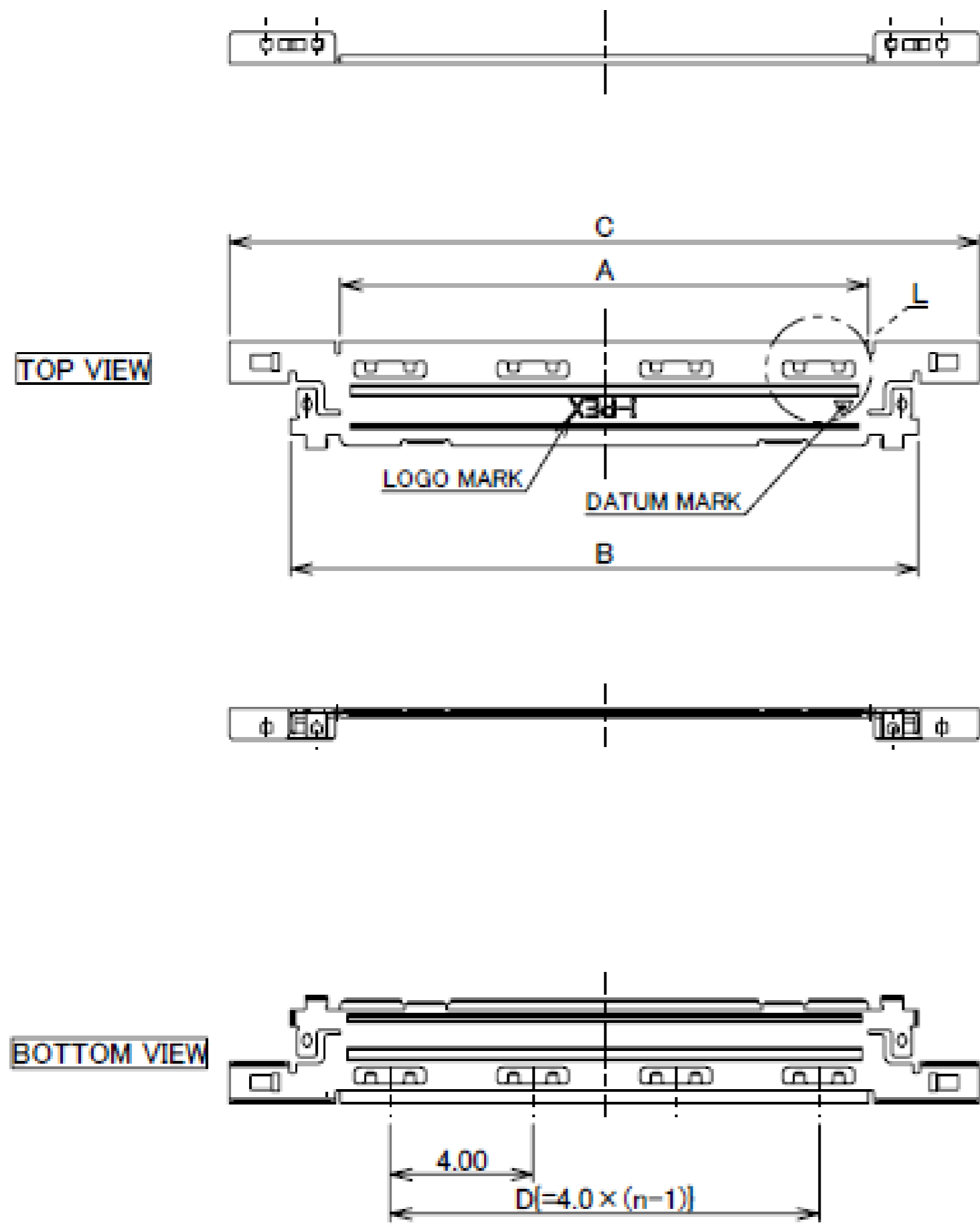
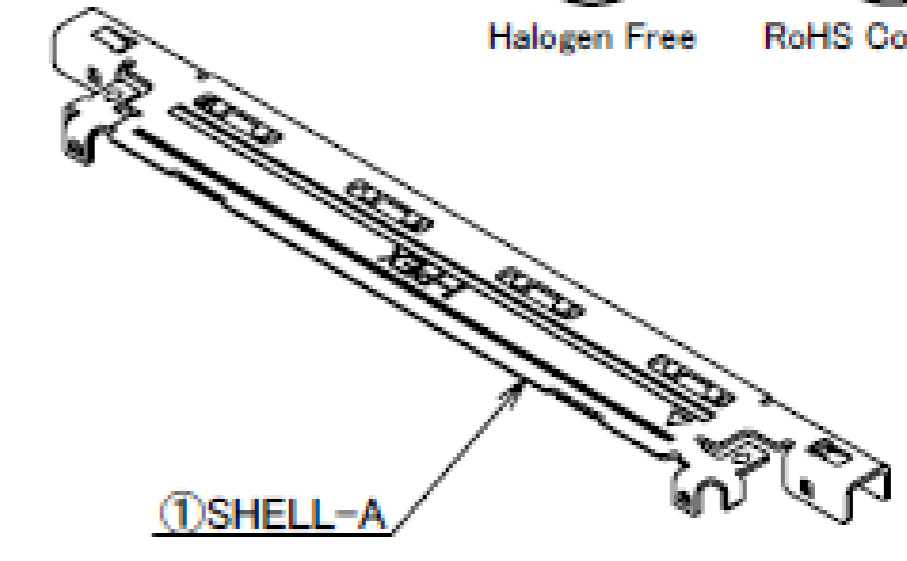


TABLE.1

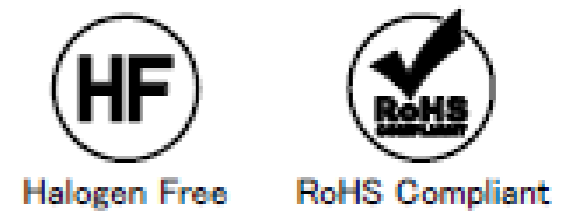
PART NO.	SHELL-A FINISH
2574-***	TOP SIDE : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN. BOTTOM SIDE : Au 0.015 μm MIN. OVER Ni 1.00 μm MIN.
2574-***2	TOP SIDE : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN. BOTTOM SIDE : Ni 1.00 μm MIN. (THERE IS THE POSSIBILITY THAT Au ATTACHES RANDOMLY)

NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
1	SHELL A	PHOSPHOR BRONZE	SEE ABOVE TABLE.1

Rev.15

Receptacle Assembly

Recommended P/N		20455-0**E-76 (30P/40P/50P)					20455-A20E-76 (20P)	
PART NO.	Pos.	A	B	C	D	U		
20455-020E-#2	20	9.50	11.30	16.25	14.47	10.20		
20455-030E-##	30	14.50	16.30	21.25	19.47	15.20		
20455-040E-##	40	19.50	21.30	26.25	24.47	20.20		
20455-050E-##	50	24.50	26.30	31.25	29.47	25.20		



P/N:20455-0**E-##
 SEE TABLE.1
 Pos.

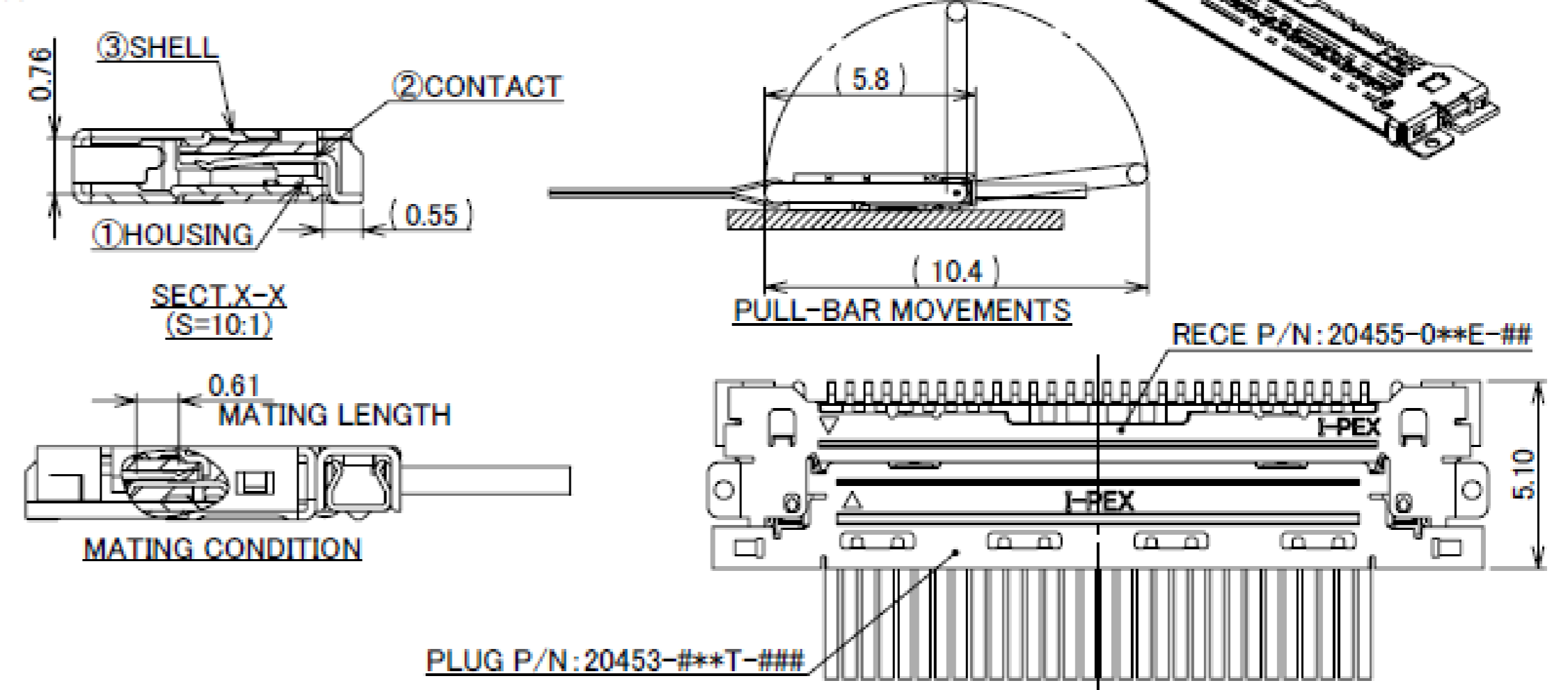
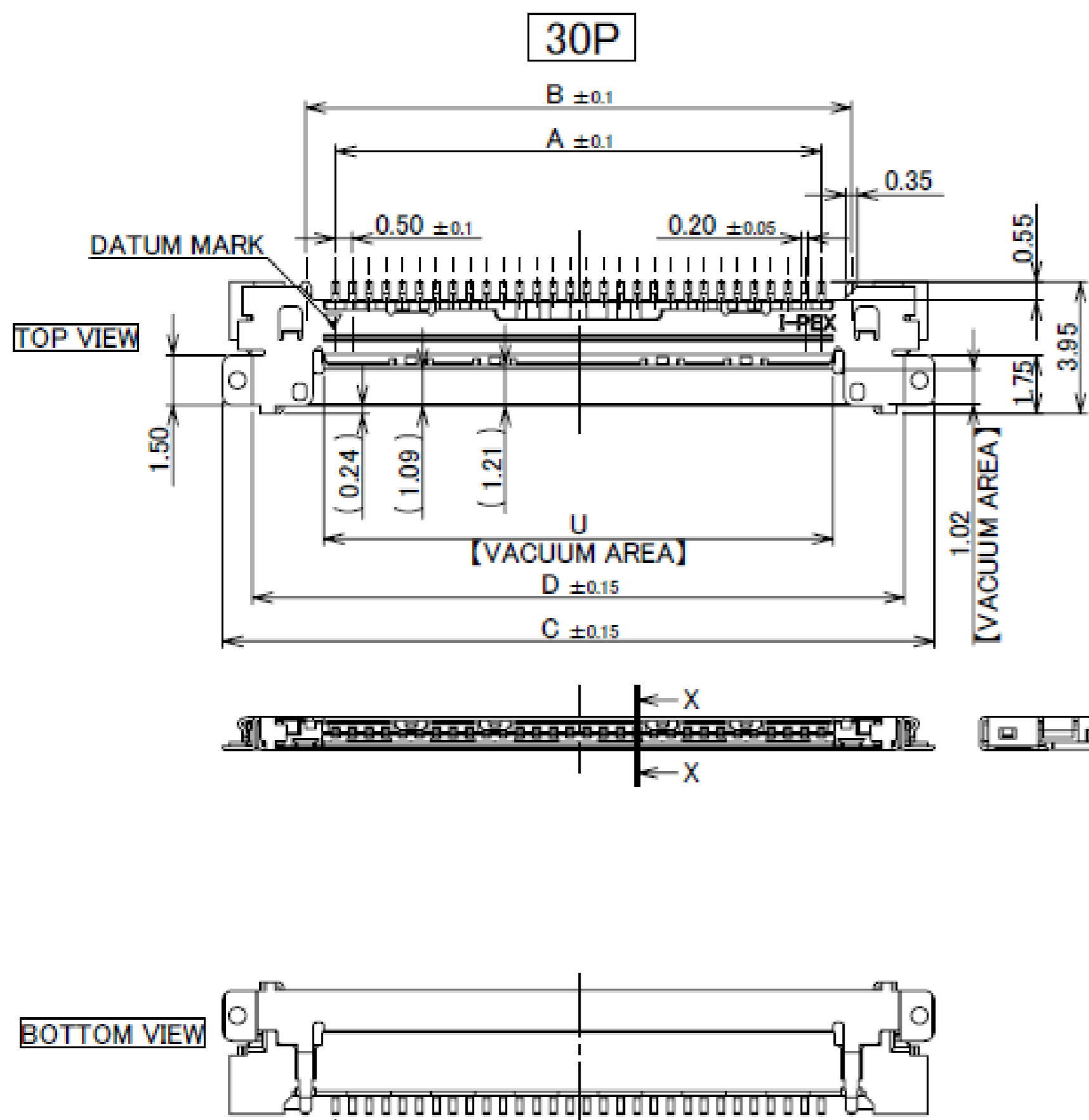
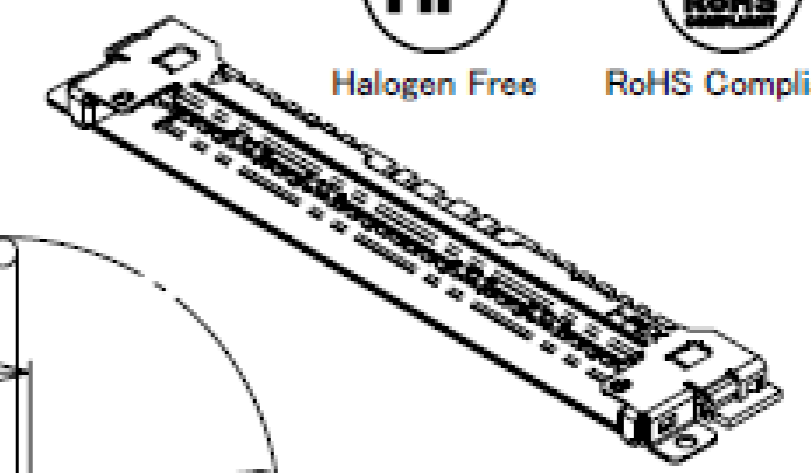


TABLE.1

PART NO.	DATUM MARK	CONTACT FINISH	SHELL FINISH
20455-0**E-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.
20455-0**E-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.
20455-0**E-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.	

NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
3	SHELL	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
2	CONTACT	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
1	HOUSING	LCP	UL94V-0, BLACK

Rev.31

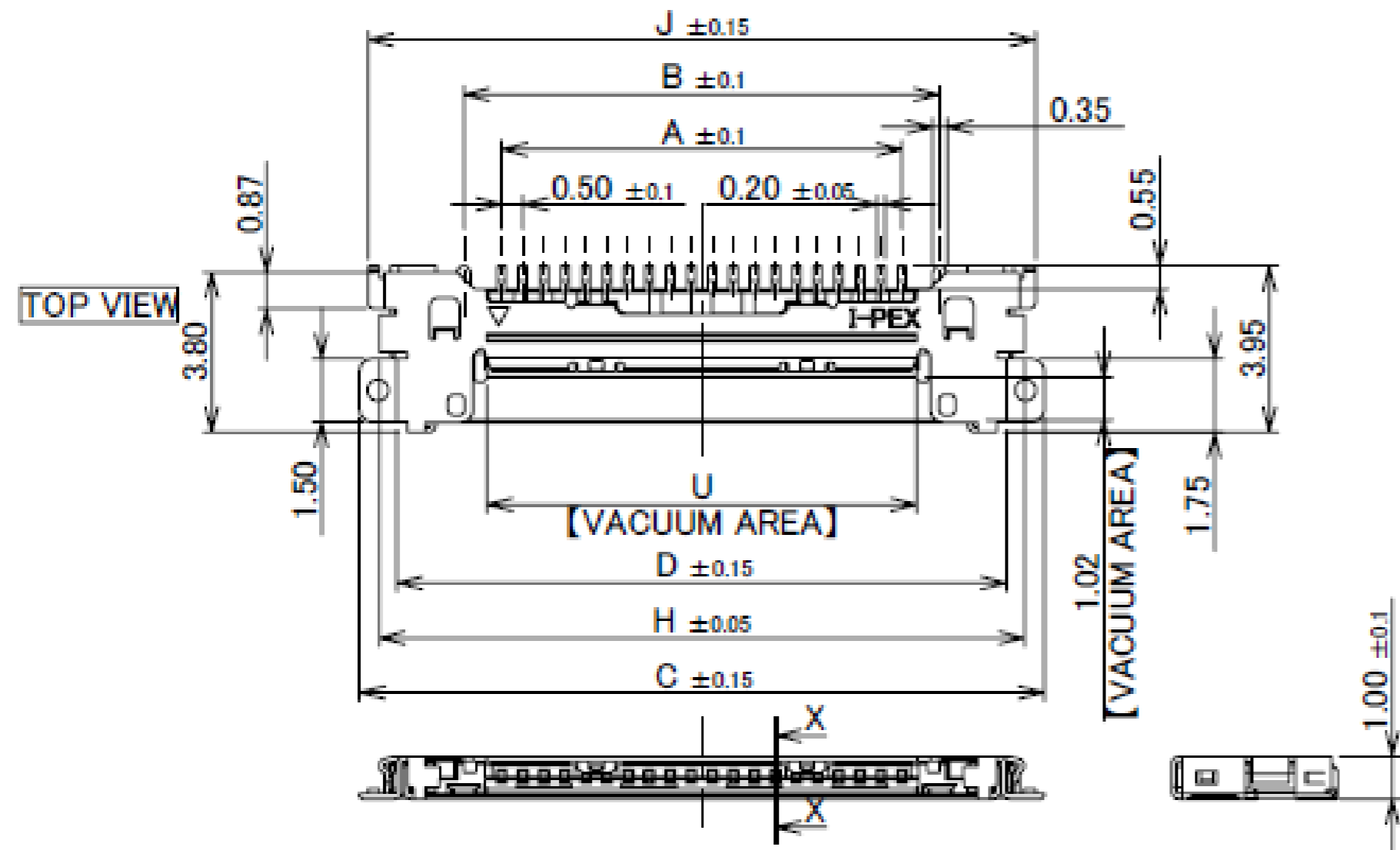
Receptacle Assembly

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



TYPE-A



BOTTOM VIEW

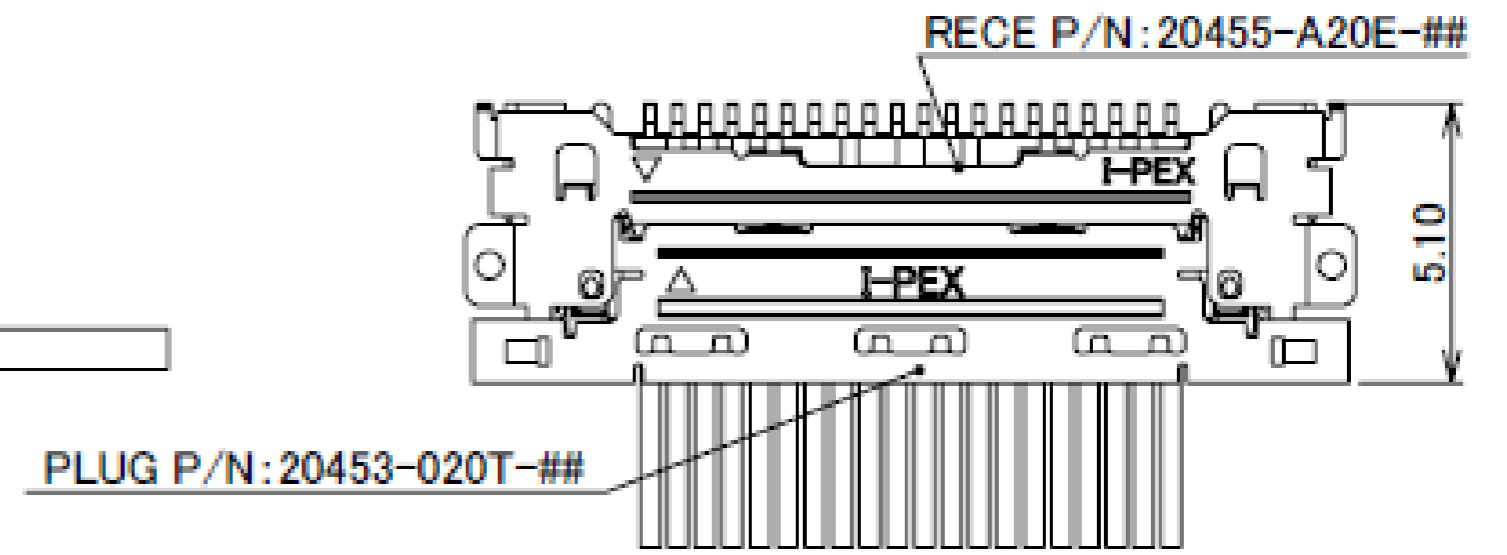
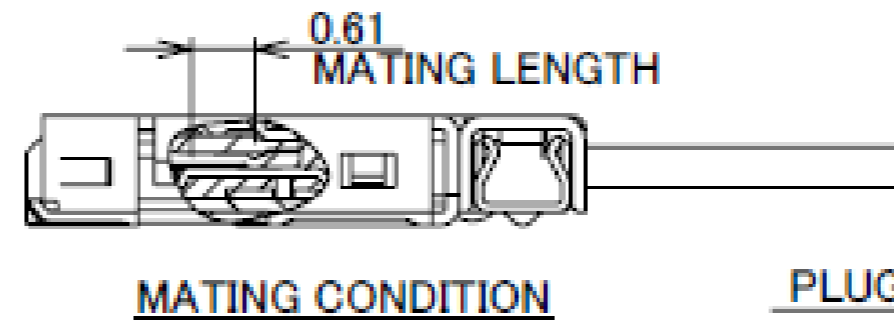
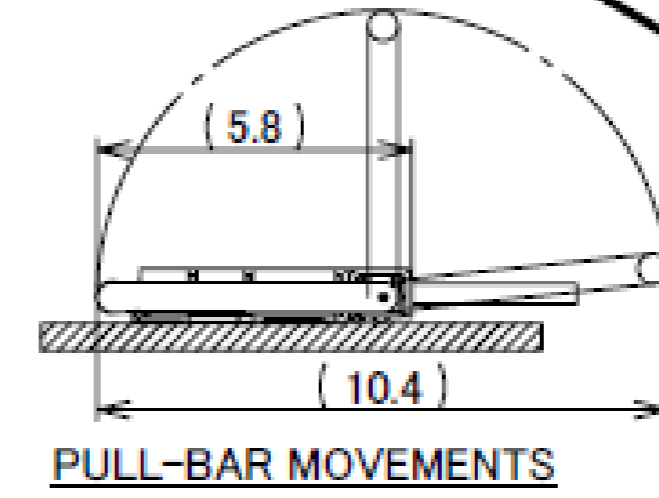
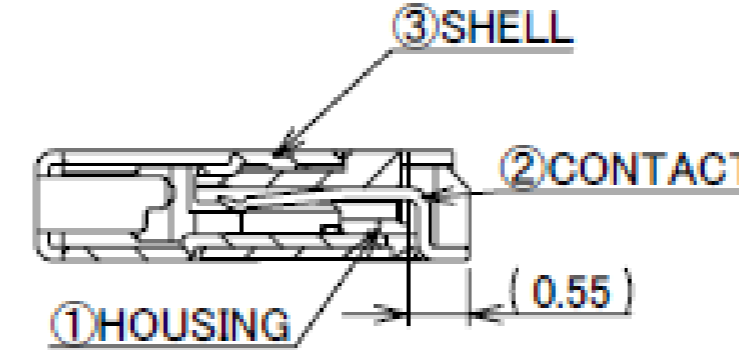
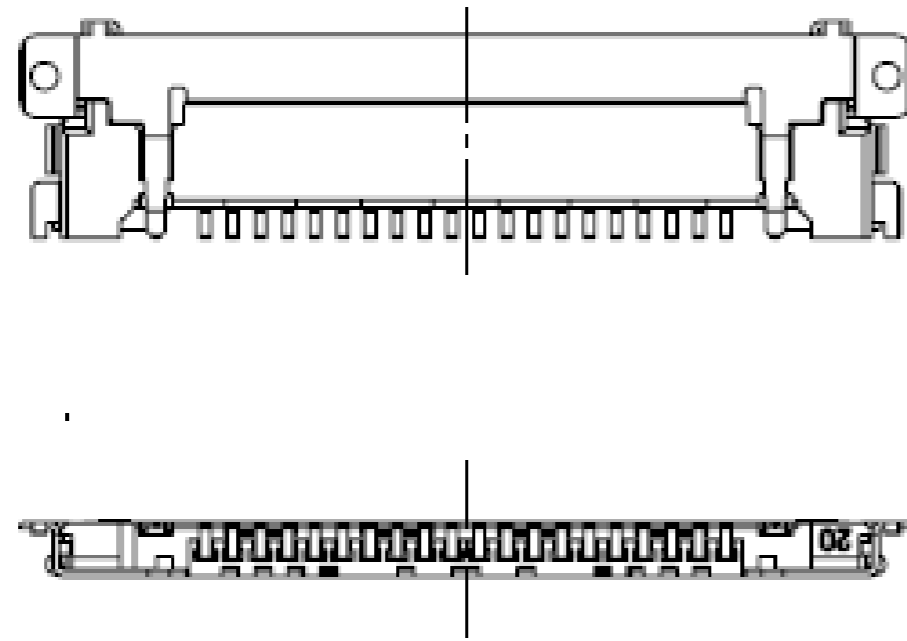


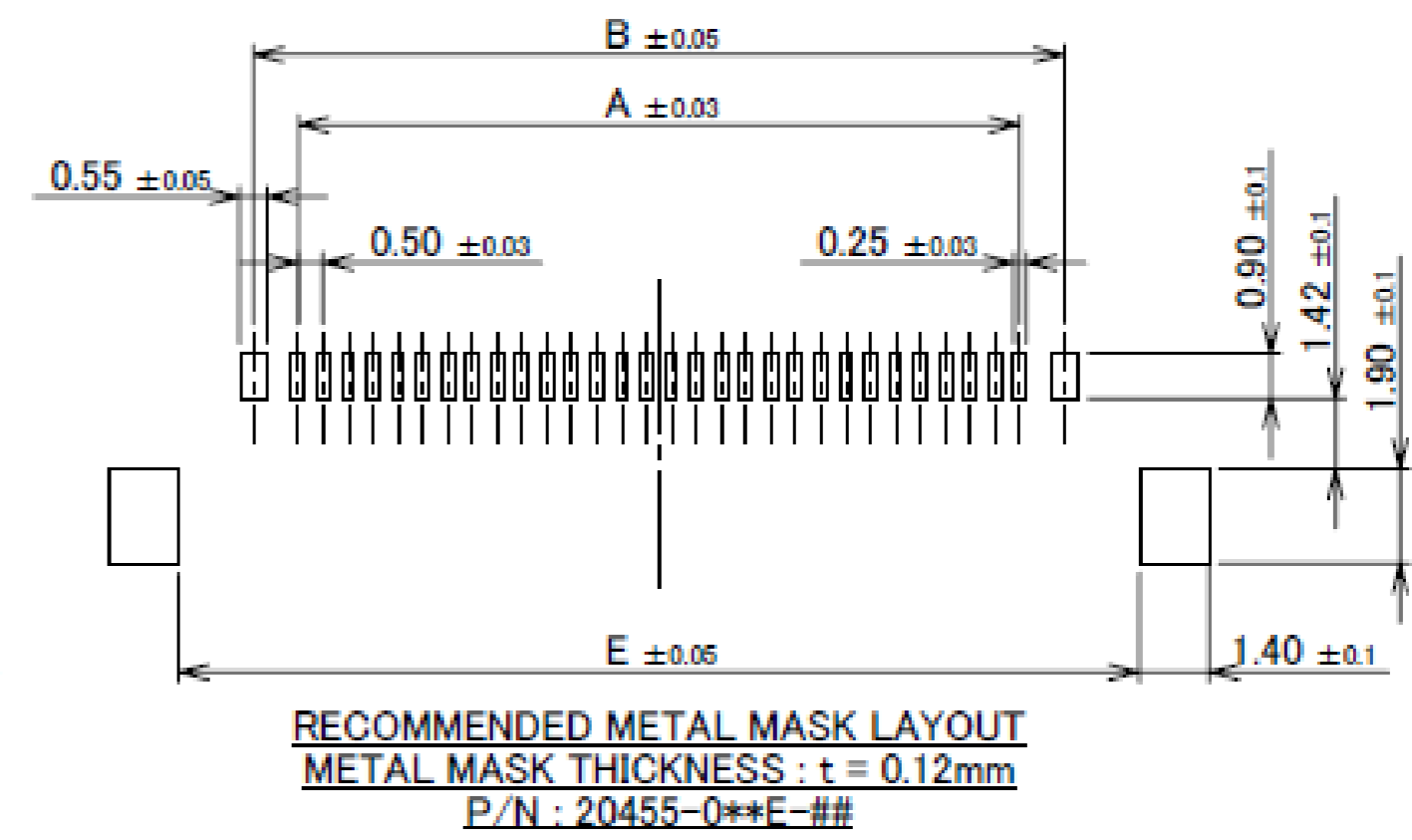
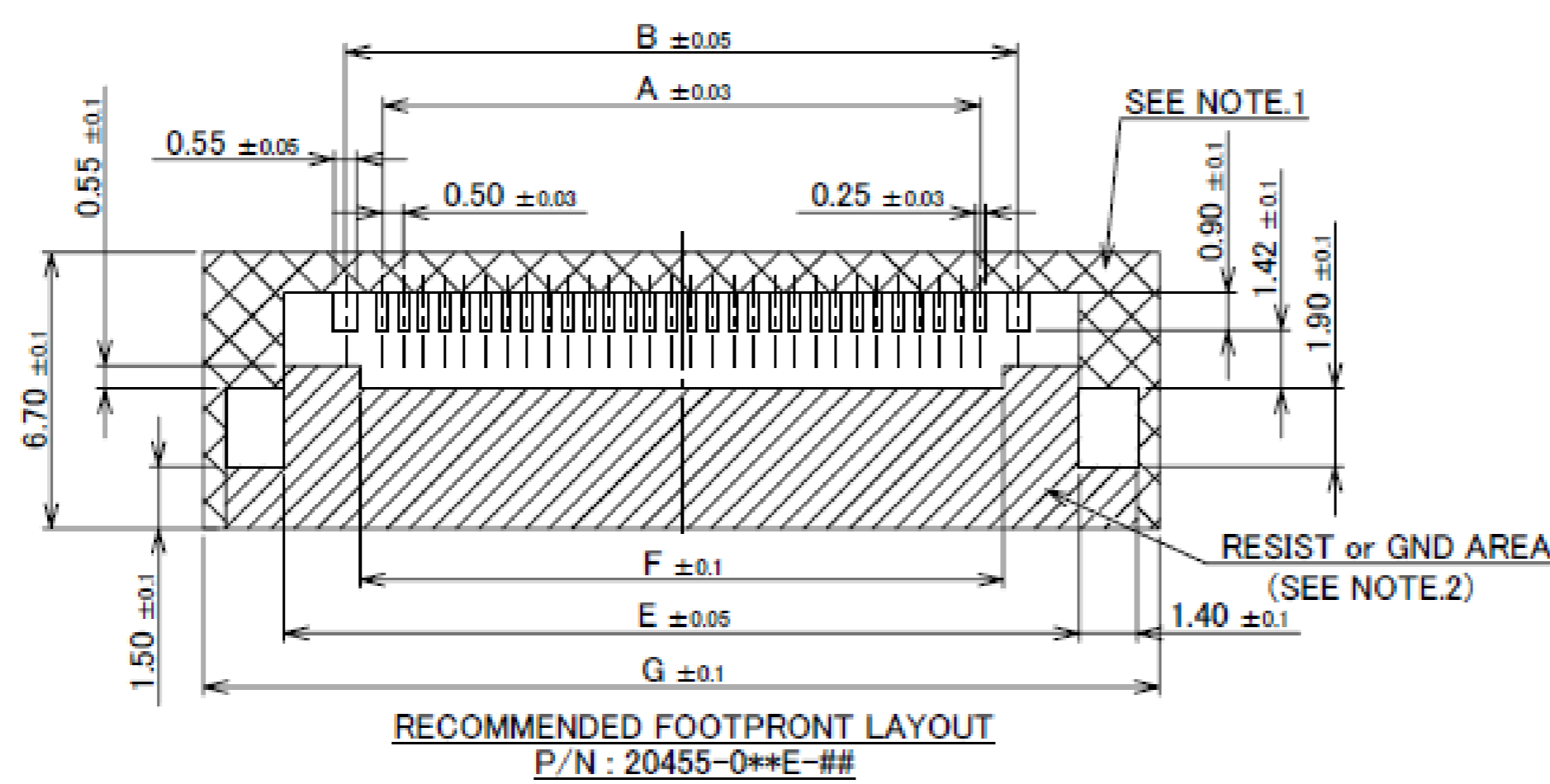
TABLE.2

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.

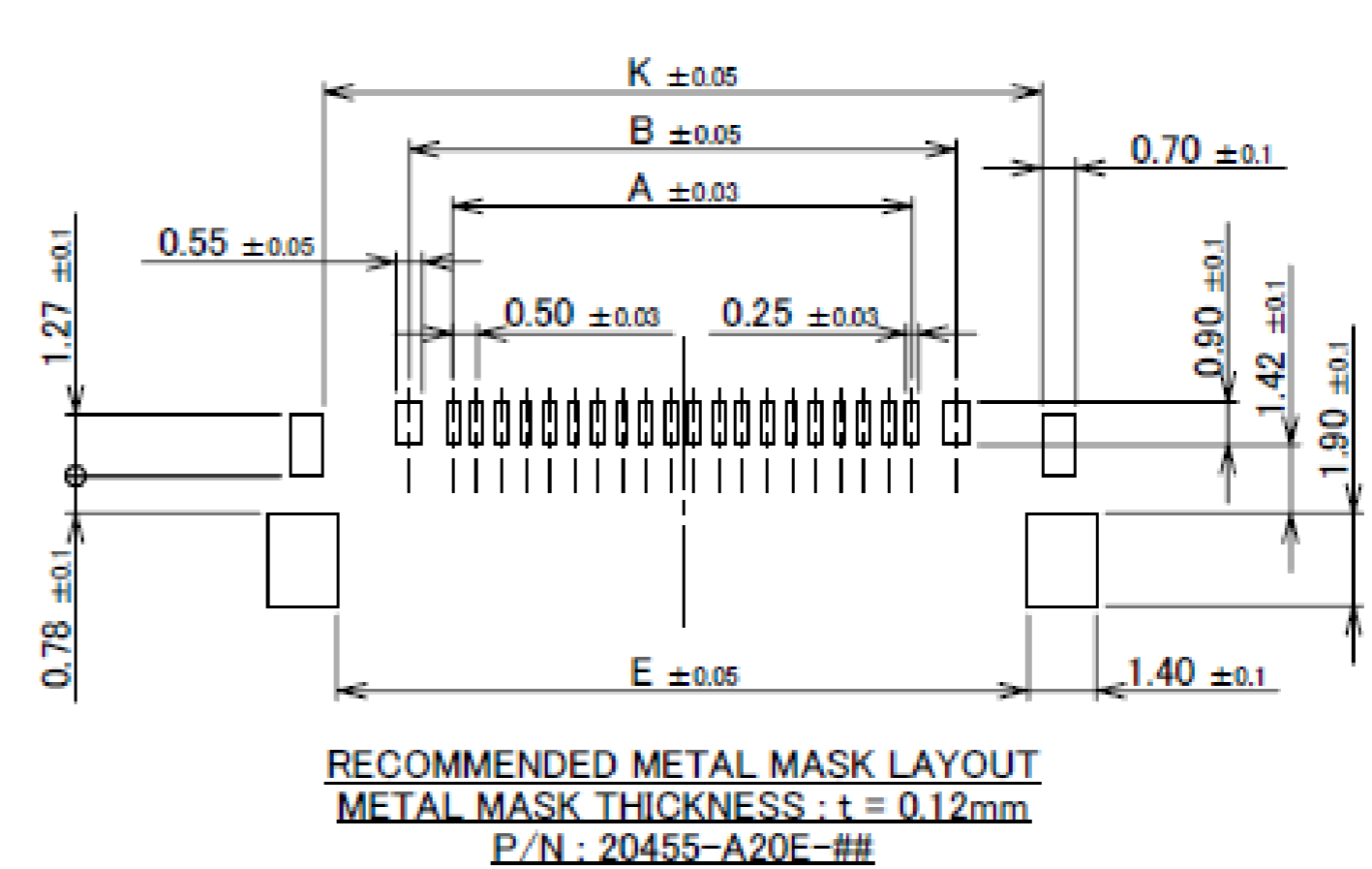
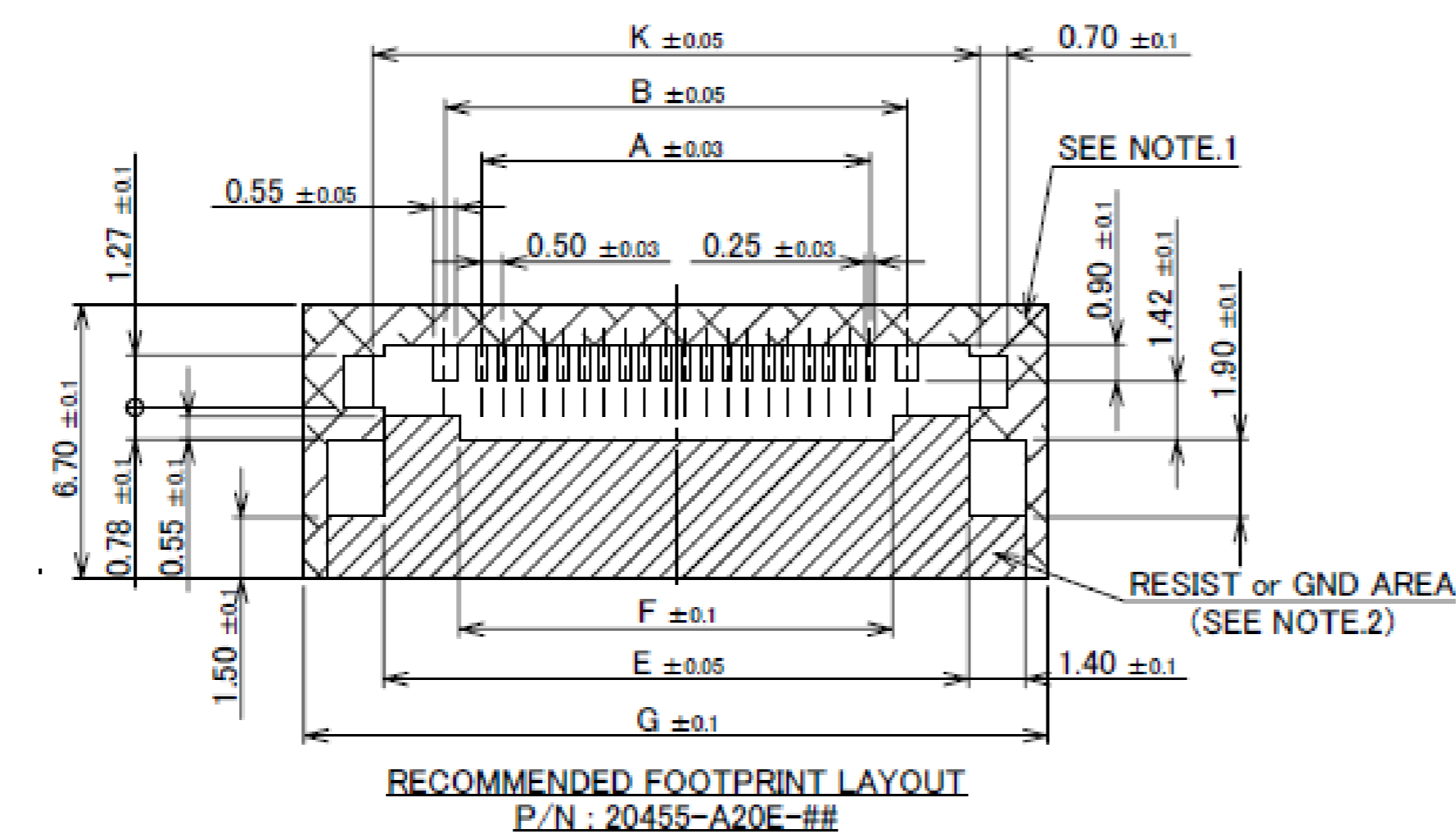
NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS
3	SHELL	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
2	CONTACT	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
1	HOUSING	LCP	UL94V-0, BLACK

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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	-	-	-



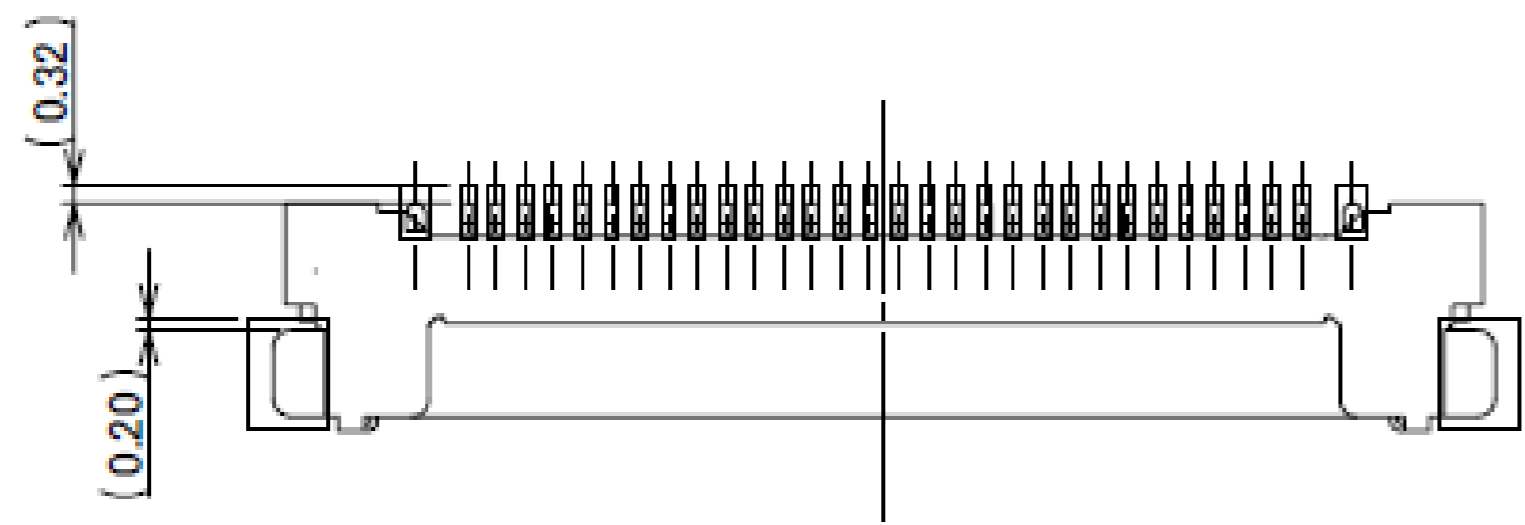
TYPE-A



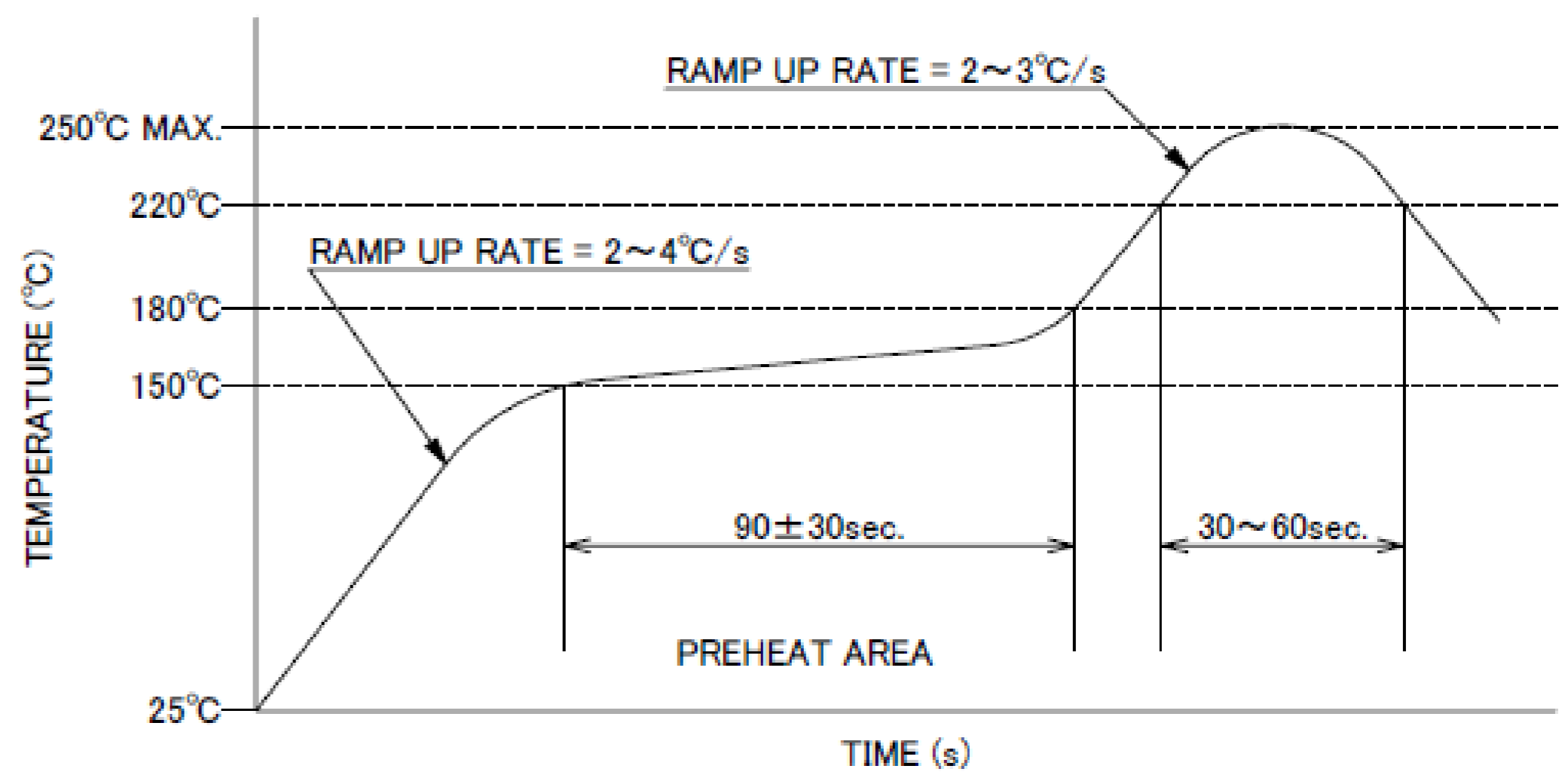
NOTES.
1. IN CASE OF PLUG WITH PULL-BAR, DO NOT MOUNT ANOTHER COMPONENT IN THIS AREA.
2. SOLDER RESIST MUST BE APPLIED TO THIS AREA.

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Receptacle Assembly

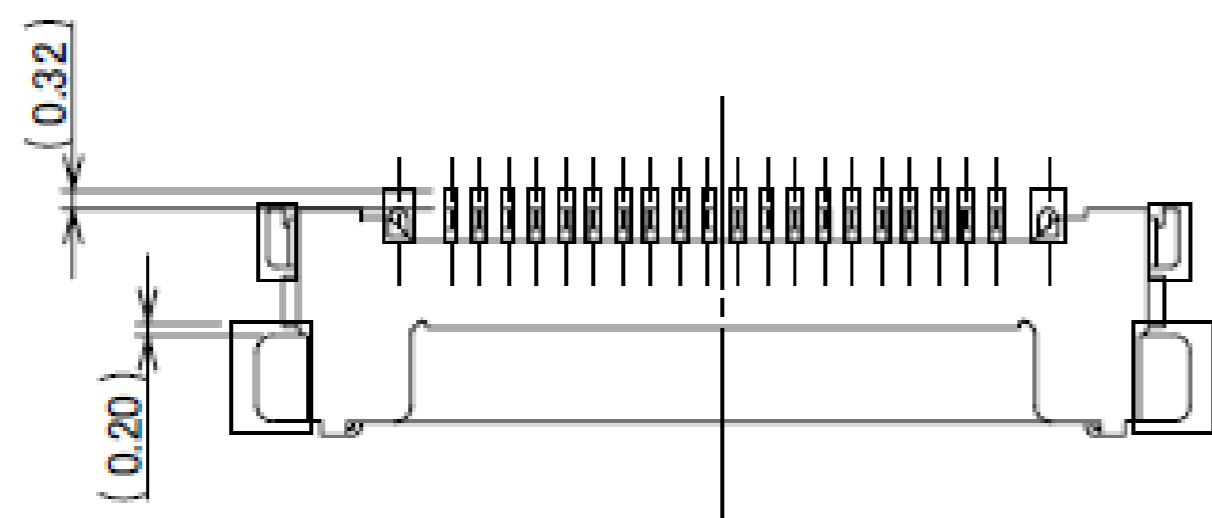


CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN
P/N : 20455-0**E-##



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-##

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ITEMS	SPECIFICATION
APPLICABLE CABLE	MICRO-COAXIAL CABLE : AWG# 44, 42, 40, 38, 36 DISCRETE WIRE : AWG# 36, 34, 32 TWINAX CABLE : AWG# 40
RATING VOLTAGE	100V AC (PER CONTACT PIN)
RATING AMPERAGE (FOR CONTACT)	0.1A AC/DC [AWG#44] PER CONTACT PIN/UP TO 50 CONTACTS 0.24A AC/DC [AWG#42] PER CONTACT PIN/UP TO 50 CONTACTS 0.3A AC/DC [AWG#40] PER CONTACT PIN/UP TO 50 CONTACTS 0.5A AC/DC [AWG#38] PER CONTACT PIN/UP TO 14 CONTACTS 0.8A AC/DC [AWG#36] PER CONTACT PIN/UP TO 10 CONTACTS 1.0A AC/DC [AWG#34] PER CONTACT PIN/UP TO 6 CONTACTS 1.0A AC/DC [AWG#32] PER CONTACT PIN/UP TO 6 CONTACTS 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.(NON-CONDENSING)
CONTACT RESISTANCE	INITIAL : 140mohm MAX.(AWG#32) / AFTER TEST : \triangle40mohm MAX. 180mohm MAX.(AWG#34) 275mohm MAX.(AWG#36) 360mohm MAX.(AWG#38) 600mohm MAX.(AWG#40) 700mohm MAX.(AWG#42) 1080mohm MAX.(AWG#44)
GROUND SHELL RESISTANCE	INITIAL : 50mohm MAX. / AFTER TEST : \triangle40mohm MAX.
INSULATION RESISTANCE	INITIAL : 1000Mohm MIN. / AFTER TEST : 500Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	30 CYCLES
MATING FORCE (INITIAL / AFTER TEST)	20P : 9.45N MAX. 30P : 12.15N MAX. 40P : 16.20N MAX. 50P : 20.25N MAX.
UNMATING FORCE (INITIAL / AFTER TEST)	20P : 2.0N MIN. 30P : 3.0N MIN. 40P : 4.0N MIN. 50P : 5.0N MIN.
CABLE RETENTION FORCE	20P : 9.80N MIN. 30P : 14.70N MIN. 40P : 19.60N MIN. 50P : 24.50N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-1427
TEST REPORT	TR-08047 (20455-##E-#2) TR-13084 (20455-##E-#6, 20455-0**E-#8)
PACKING STANDARD	300-643
INSTRUCTION MANUAL	HIM-08004
APPEARANCE CRITERIA NO.	QLS-A**


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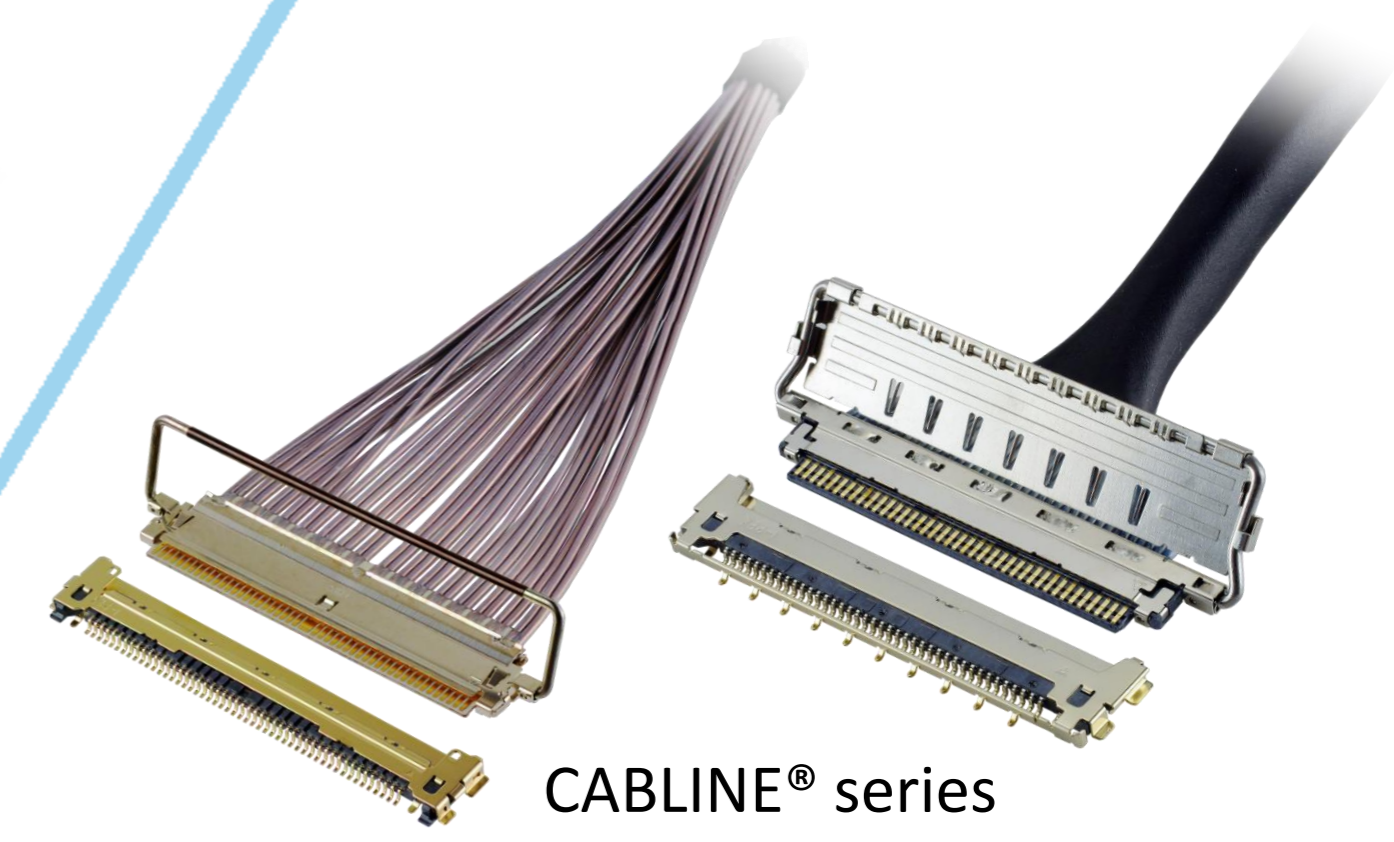
Custom Connectors Available

 RF Connector

MHF® series



 CABLINE® series
Micro-coaxial/Twinax/
Discrete Wire Connector



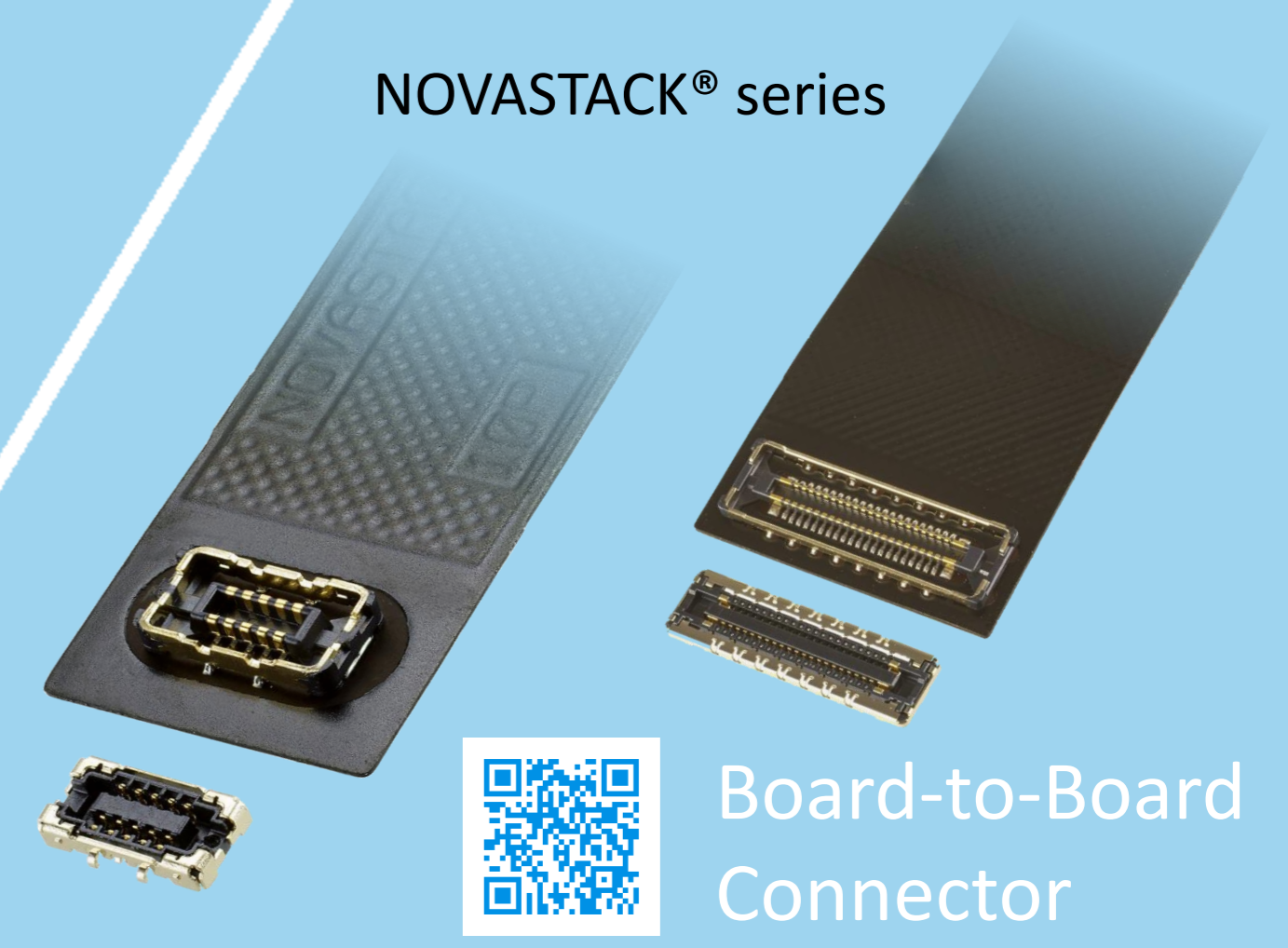
 Optical Module

LIGHTPASS® series



NOVASTACK® series

 Board-to-Board Connector



 Power Connector/
Terminal

AP series

ISH® series



MINIFLEX® series

EVAFLEX® series

 FPC FFC
Connector

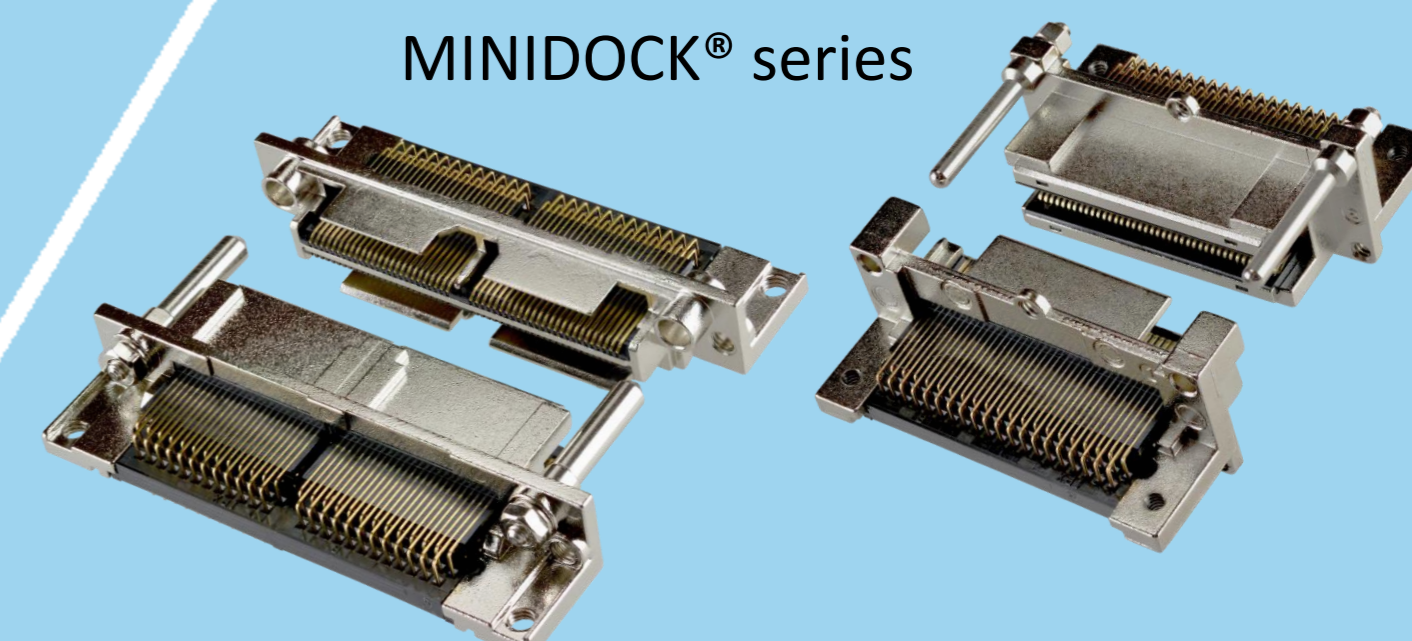


Inquiry



MINIDOCK® series

 I/O
Connector



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