

FPL™ II

고속 전송 대응 (12 Gbps/lane), 파워용 케이블은 최대 AWG#32 결선 가능, 다중 접점 그라운드로 노이즈 대책, 라이트 앵글 세로 결합, 0.5mm 피치, 세션 동축 커넥터

Product Specifications:

Mating type	Right angle vertical	
Board Pitch (mm)	0.5	
Wiping Length (mm)	0.51	
Mated size (mm)	Height	2.2 +/- 0.2
	Width	Formula: 5.8 + (0.5*?p)
	Depth	6.1
Pin Counts	Range	Up to 50
	Available	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):

HDMI 2.1 (12 Gbps/Lane),
USB 3.2 Gen2 (10 Gbps/Lane),
DP UHBR3 (8.1 Gbps/Lane)



*기재가 되어있지 않은 핀 수의 대응 여부에 대해서는 문의해 부탁드립니다.

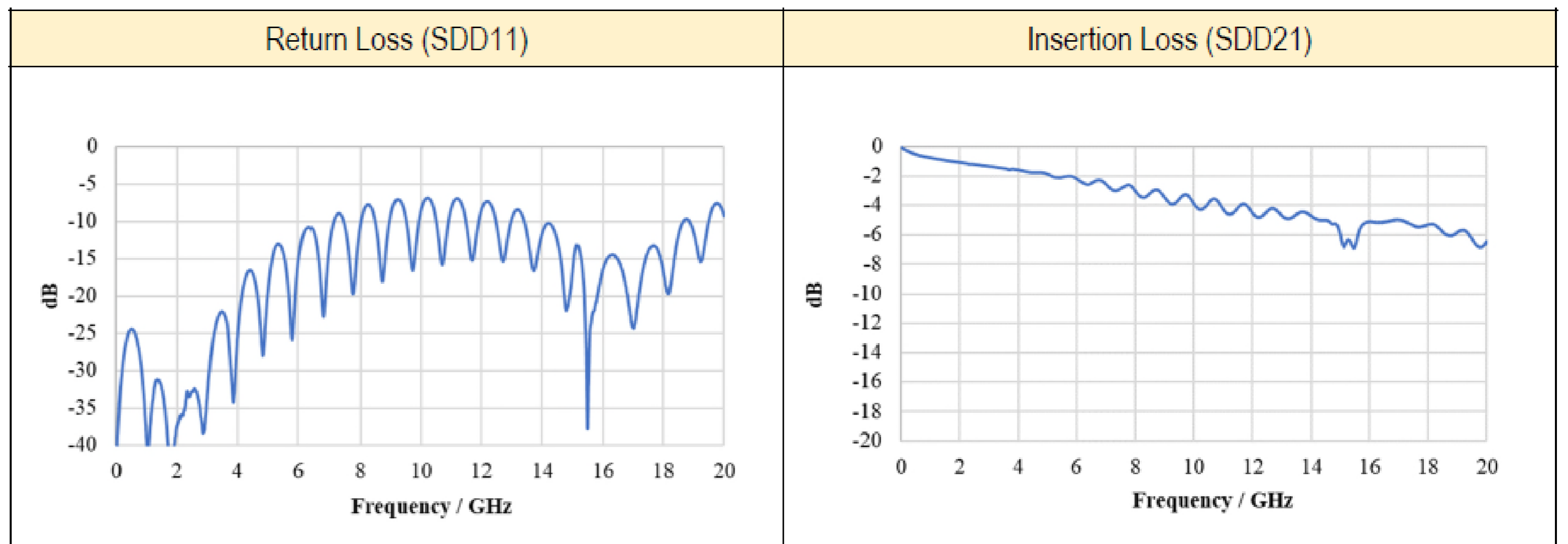
▶ 고속 데이터 전송, 12 Gbps/lane Application에 이상적

Measurement results

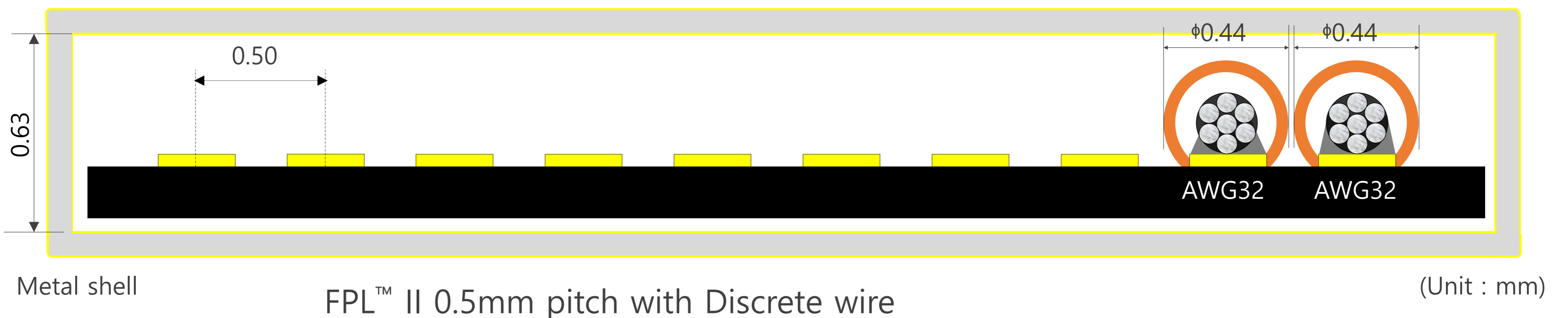
Connector: FPL II 40P

Cable: Micro-coaxial cable
AWG #40, 50ohm, Length : 100 mm

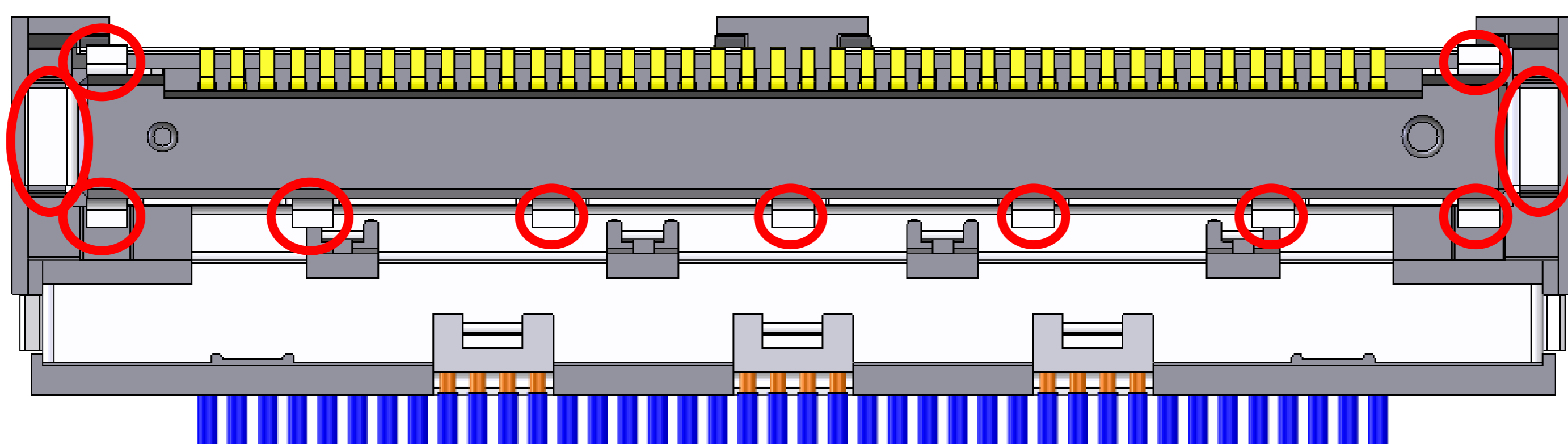
Pin Assignment: GSSGSSG



▶ 파워용 케이블은 최대 AWG#32 결선 가능



▶ 그라운드 설치 포인트가 많아, 노이즈 대책에 유효

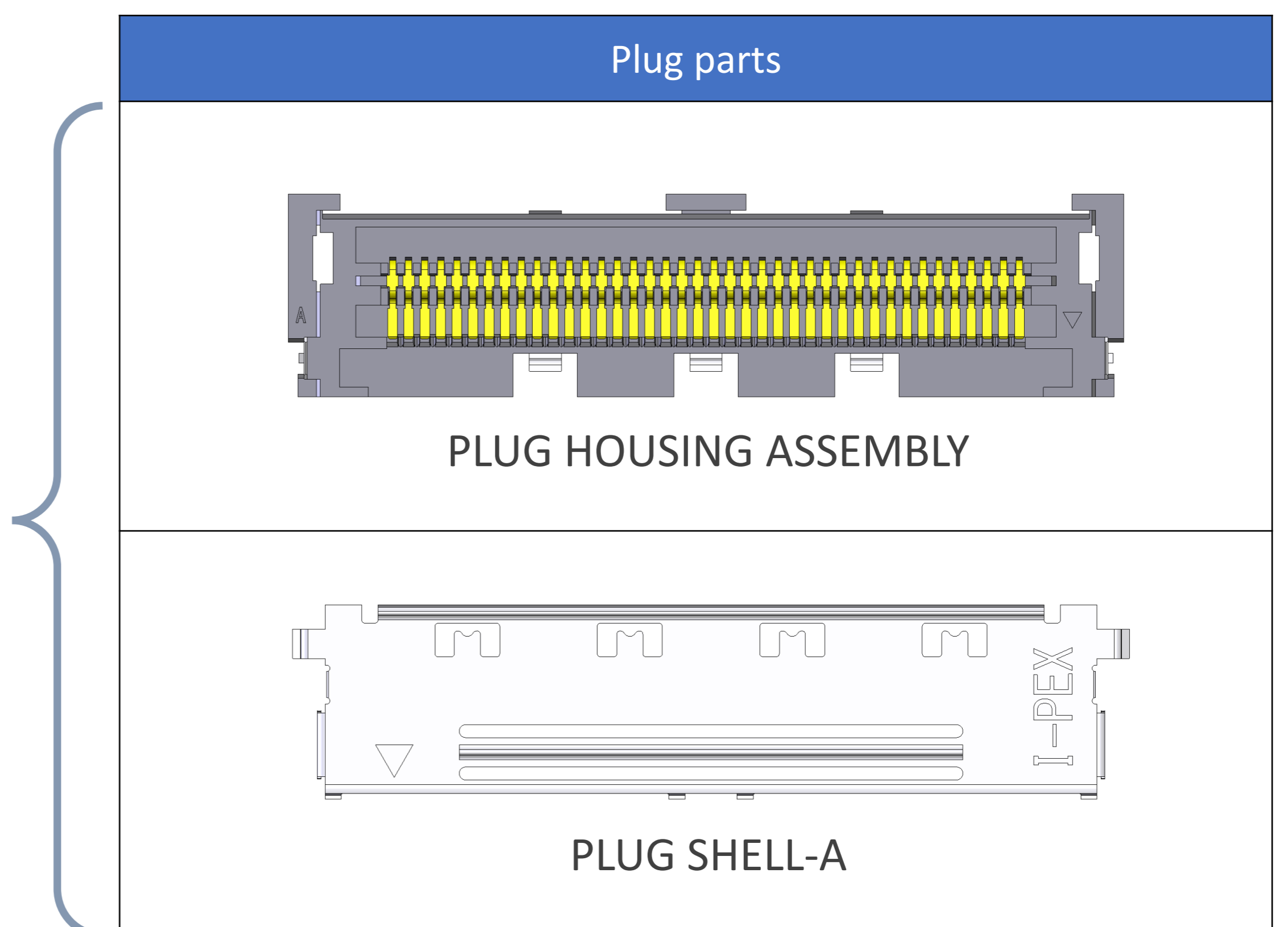
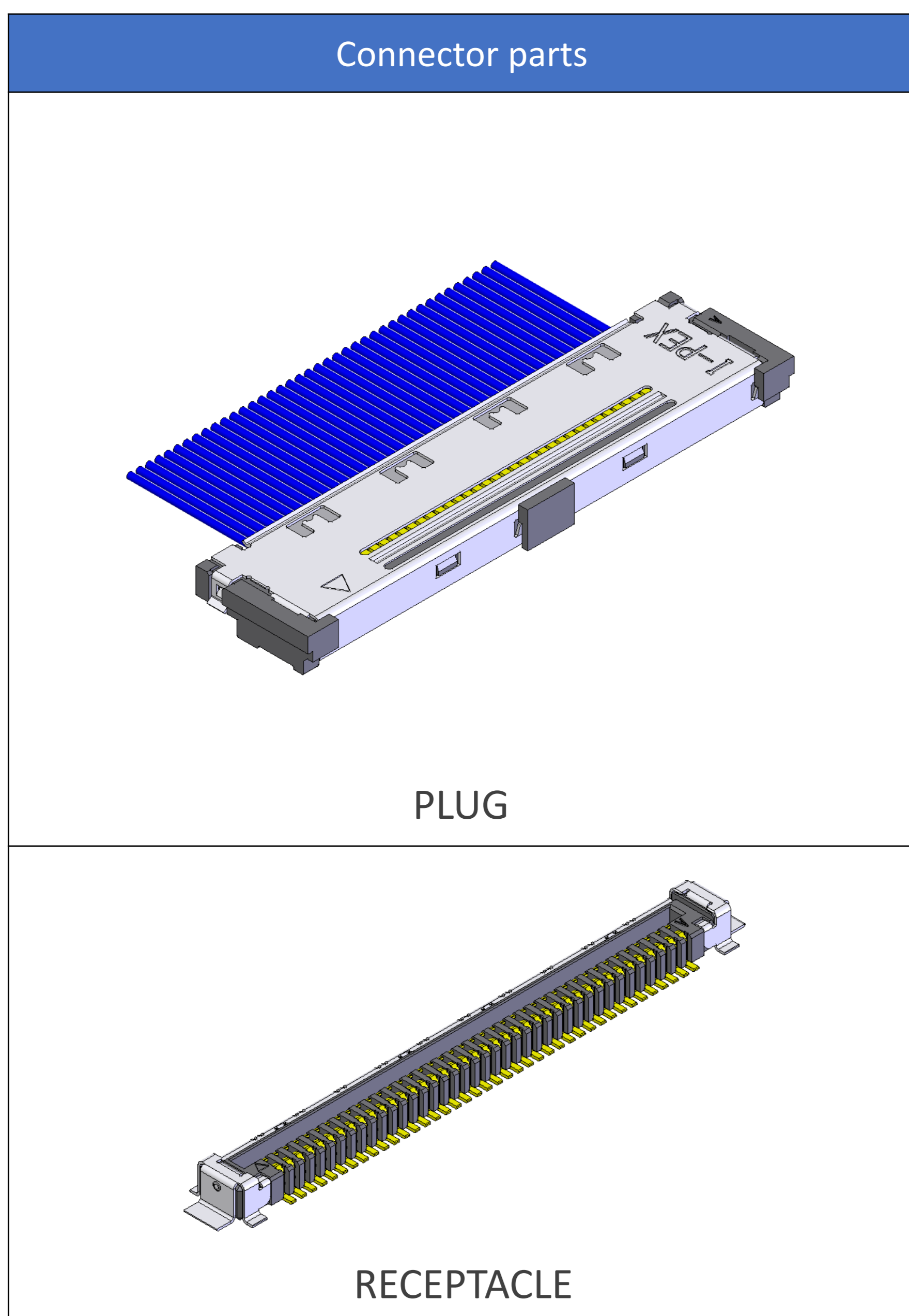


아래에서 본 커넥터 FPL™ II 30P

○ 그라운드 설치 부위

Component Parts Details

Component Parts

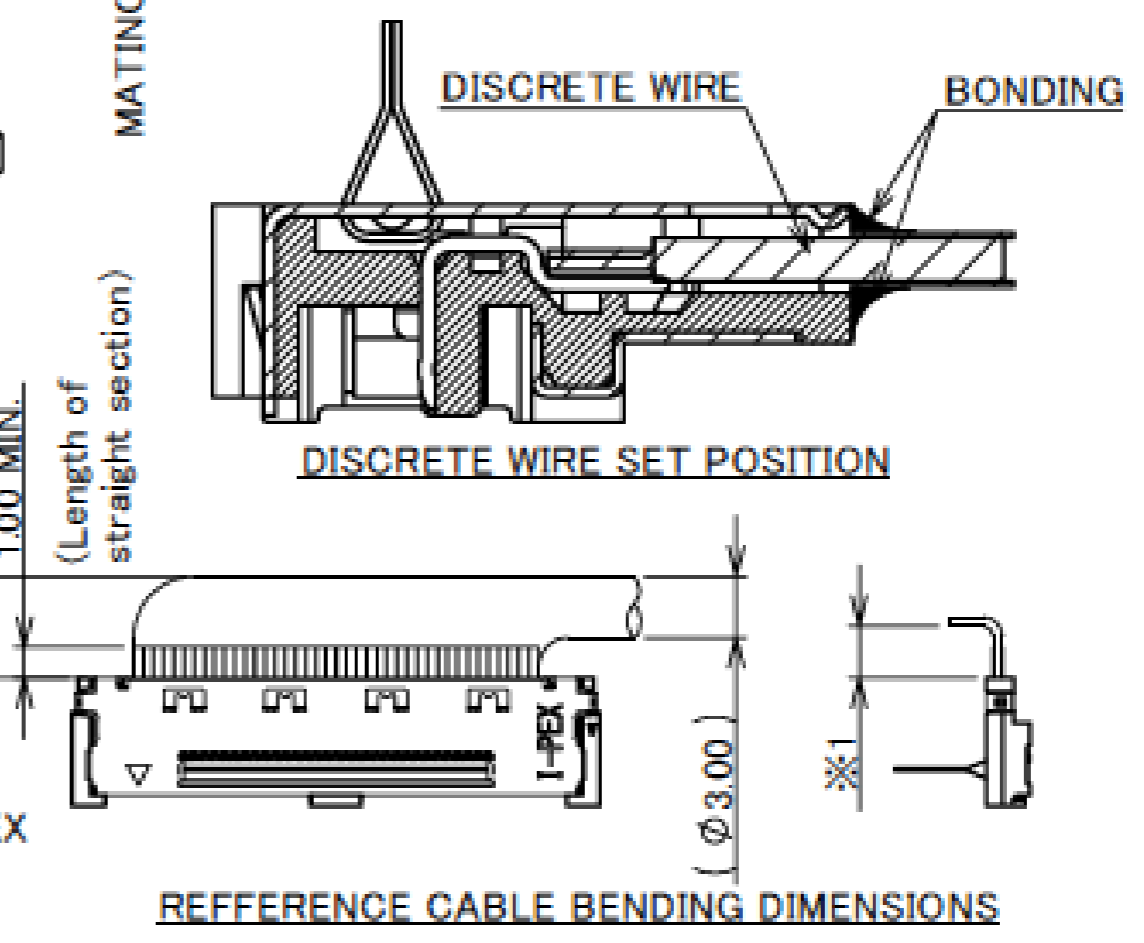
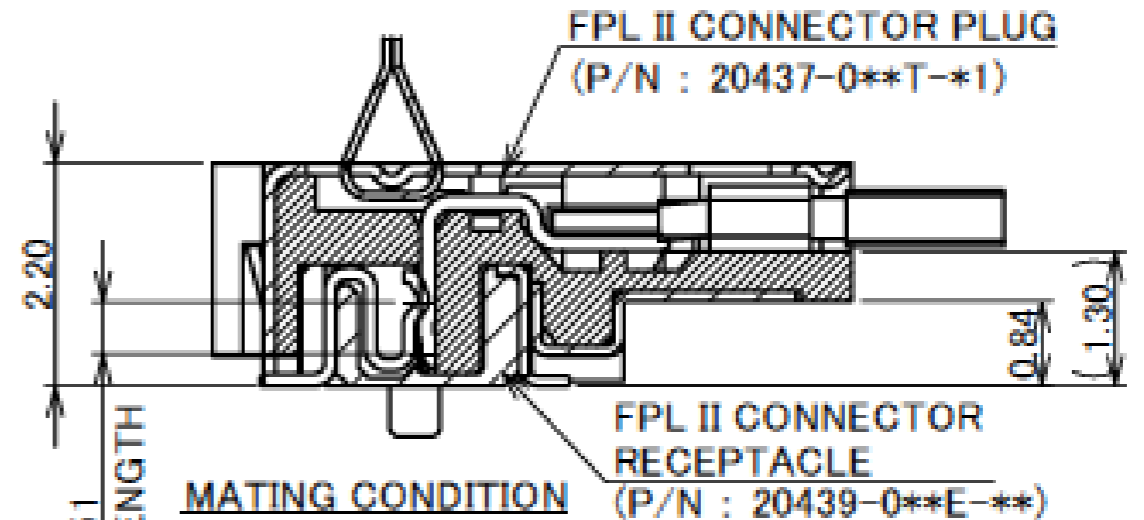
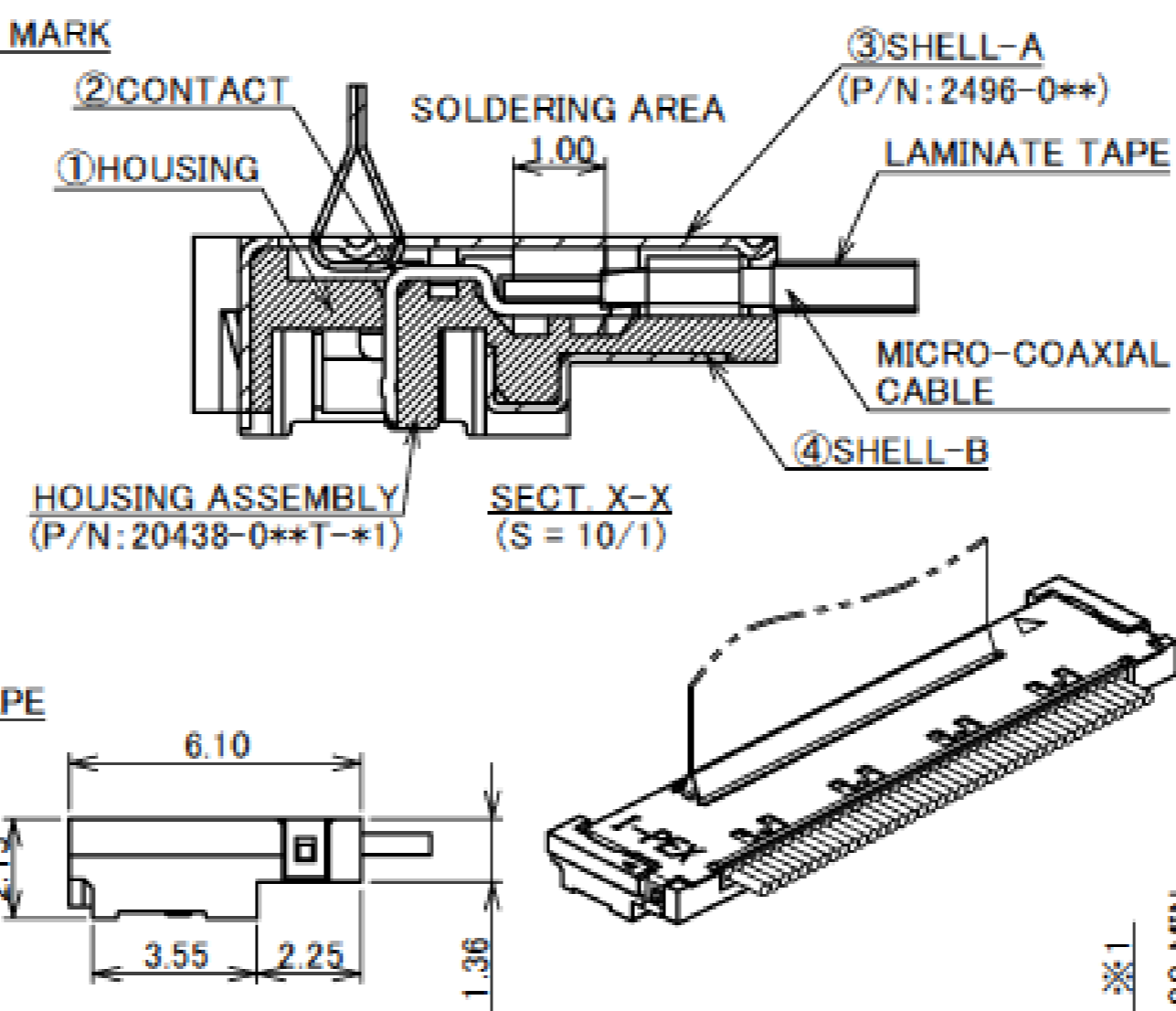
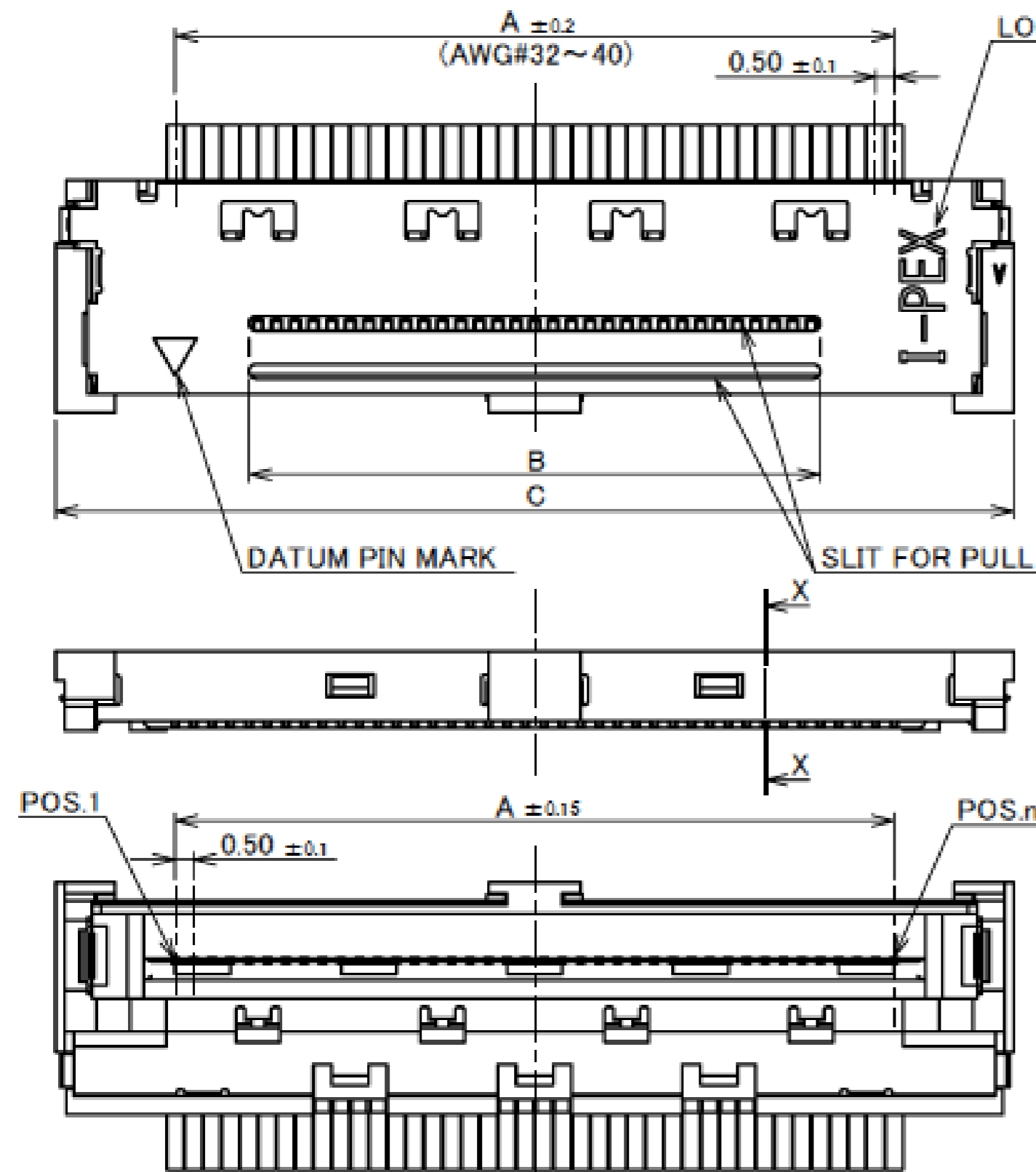


Plug for Cable Assembly

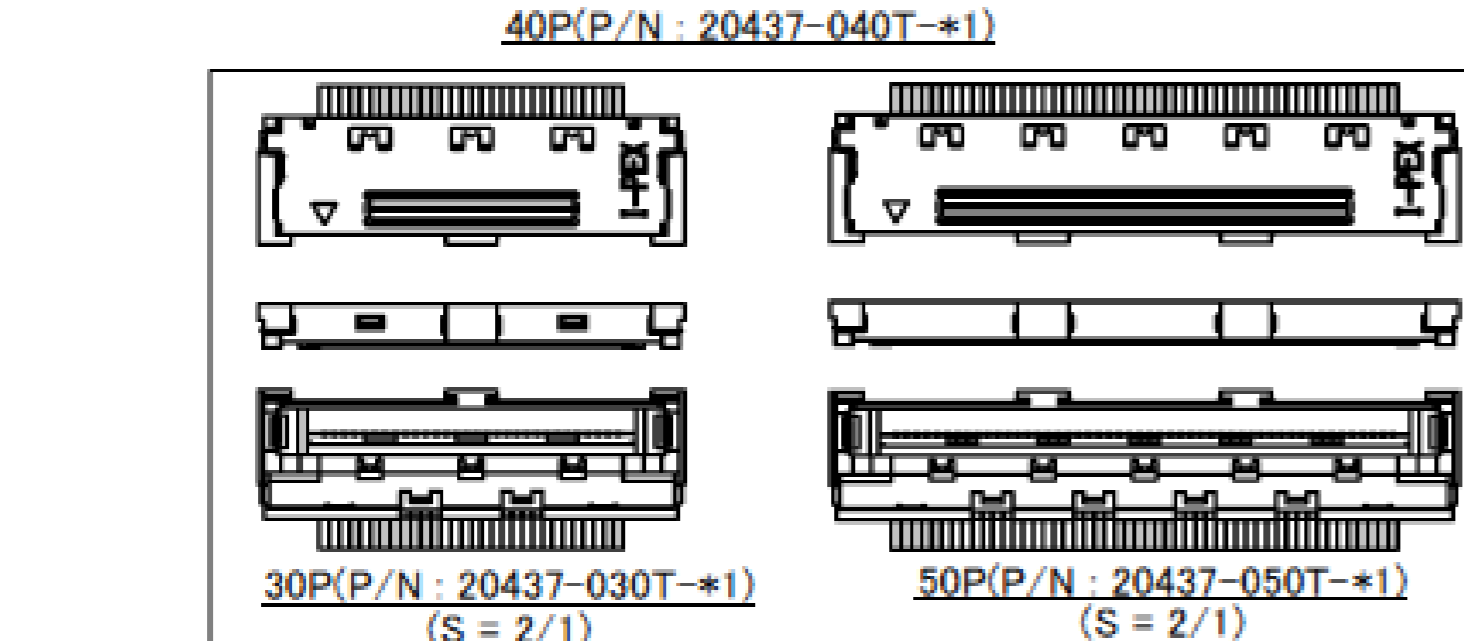
Recommended P/N		20437-0**T-01		
PART No.	POS.	A	B	C
20437-030T-*1	30	14.50	10.50	20.80
20437-040T-*1	40	19.50	15.50	25.80
20437-050T-*1	50	24.50	20.50	30.80



CABLE ASS'Y PART No.	HOUSING ASS'Y PART No.	SHELL-A PART No.	CONTACT FINISH (MATING AREA)
20437-0**T-01	20438-0**T-01	2496-0**	Au 0.10 μm MIN.
20437-0**T-11	20438-0**T-11		Au 0.30 μm MIN.



※1: THE BEND DIMENSIONS MAY VARY BASED ON THE SIZE AND QUANTITY OF CABLES. PLEASE CONFIRM THE MINIMUM BENDING RADIUS WITH I-PEX OR THE HARNESS MANUFACTURER.

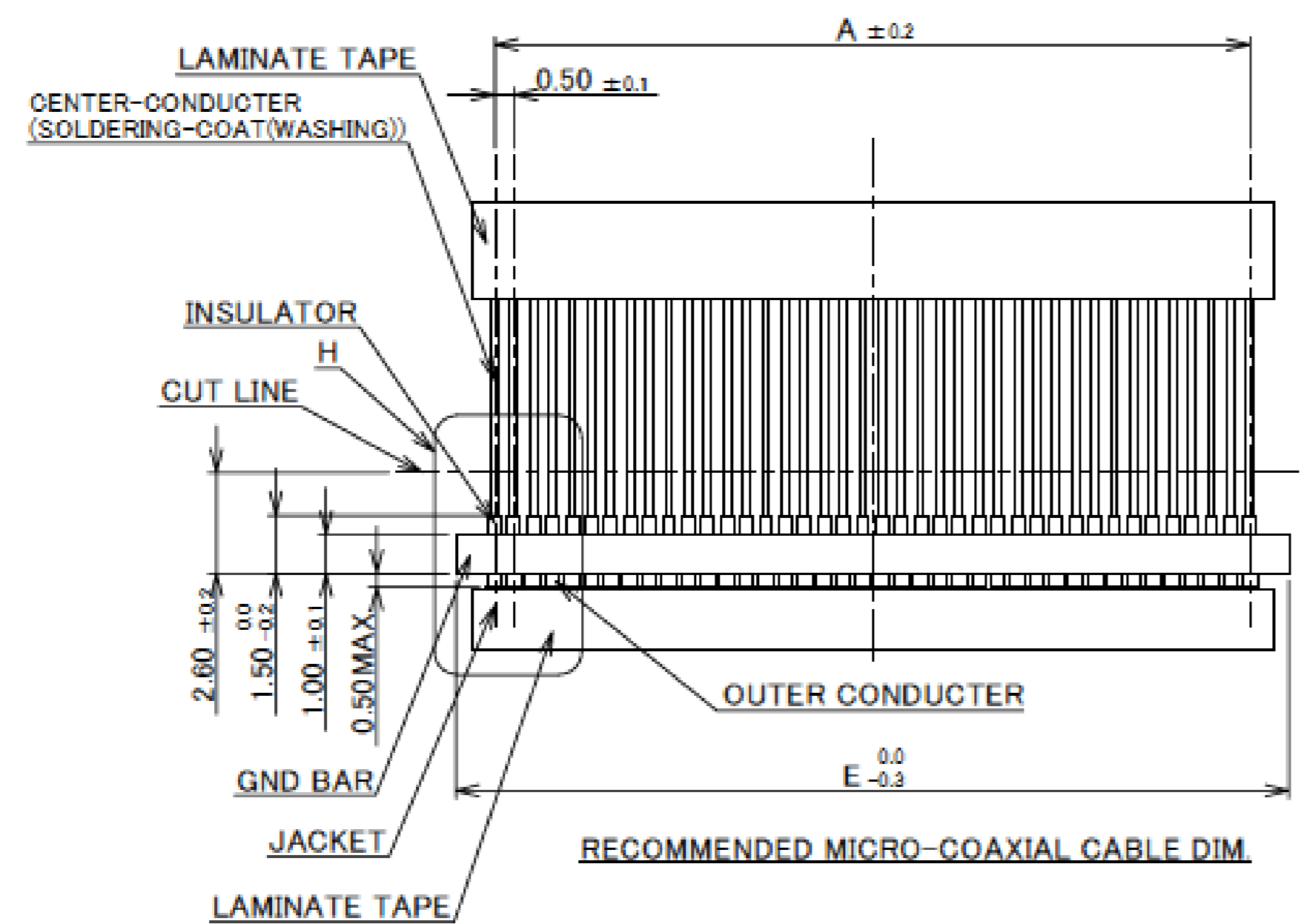


NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS
4	SHELL-B	PHOSPHOR BRONZE	Sn 2.00 μm MIN. OVER Ni 1.00 μm MIN.
3	SHELL-A	PHOSPHOR BRONZE	Sn 2.00 μm MIN. OVER Ni 1.00 μm MIN.
2	CONTACT	PHOSPHOR BRONZE	PART NO. 20437-0**T-01 MATING AREA : Au 0.10 μm MIN. OVER Ni 1.00 μm MIN. OTHER AREA : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN. PART NO. 20437-0**T-11 MATING AREA : Au 0.30 μm MIN. OVER Ni 1.00 μm MIN. OTHER AREA : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN.
1	HOUSING	LCP	UL94V-0, BLACK

CAUTION VISIT OUR WEBSITE FOR LATEST VERSIONS OF INSTRUCTION MANUAL NO. HIM-09007 TO HANDLE THE PRODUCT PROPERLY AND SAFELY.

Rev.19

PART No.	POS.	A	D	E
20437-030T-*1	30	14.50	15.70	17.50
20437-040T-*1	40	19.50	20.70	22.50
20437-050T-*1	50	24.50	25.70	27.50



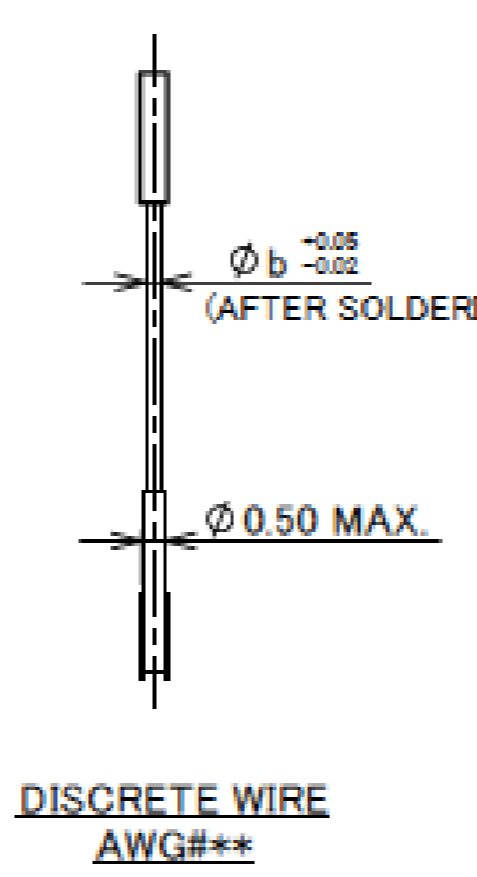
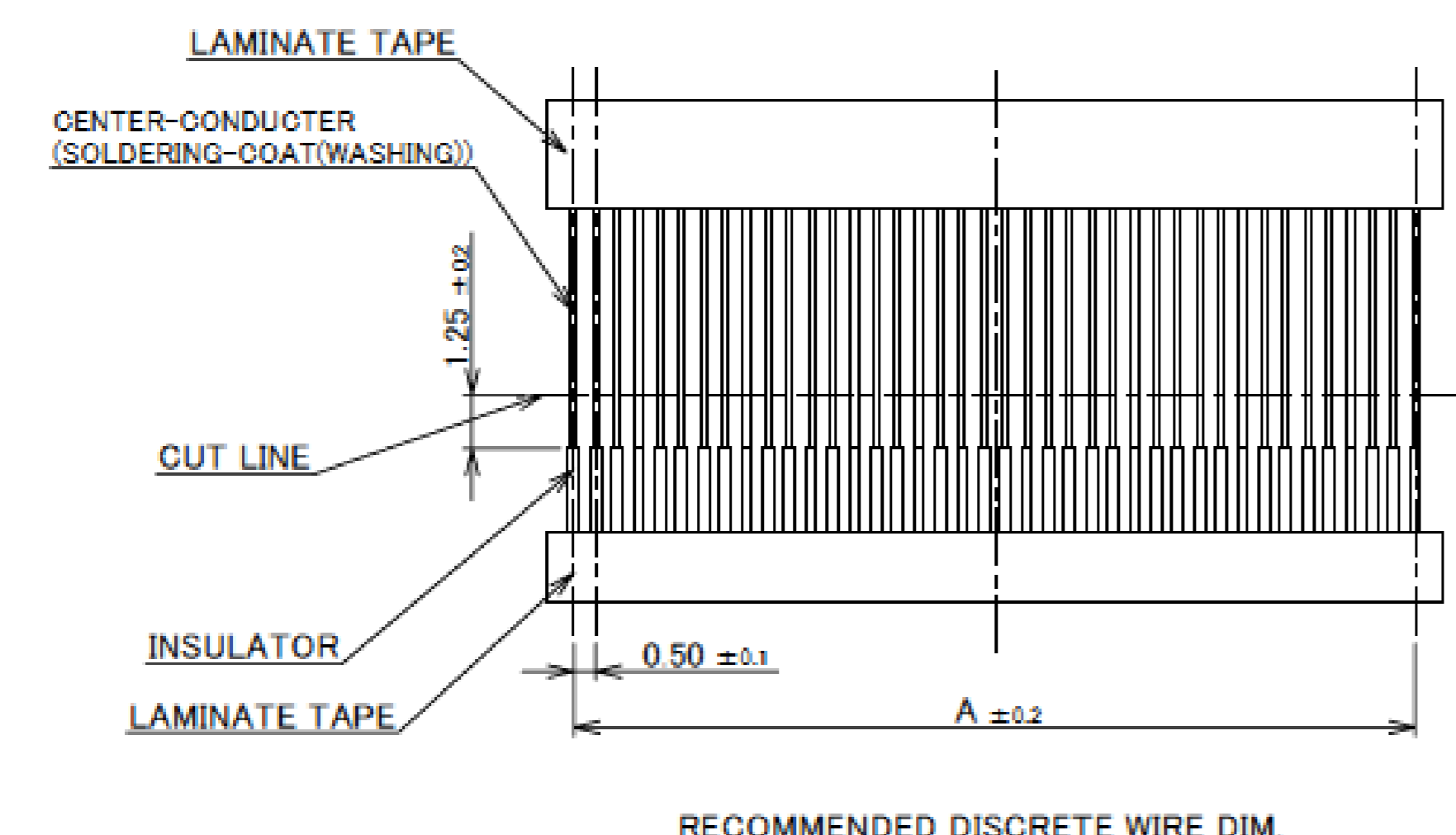
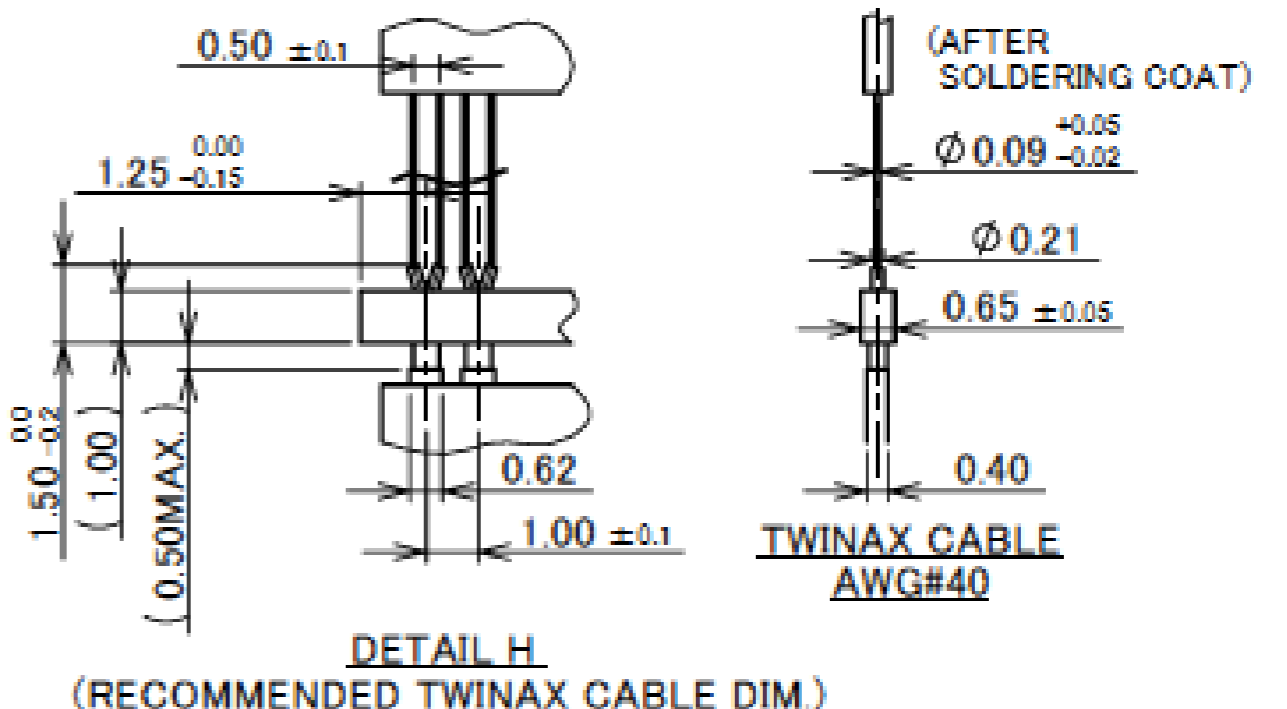
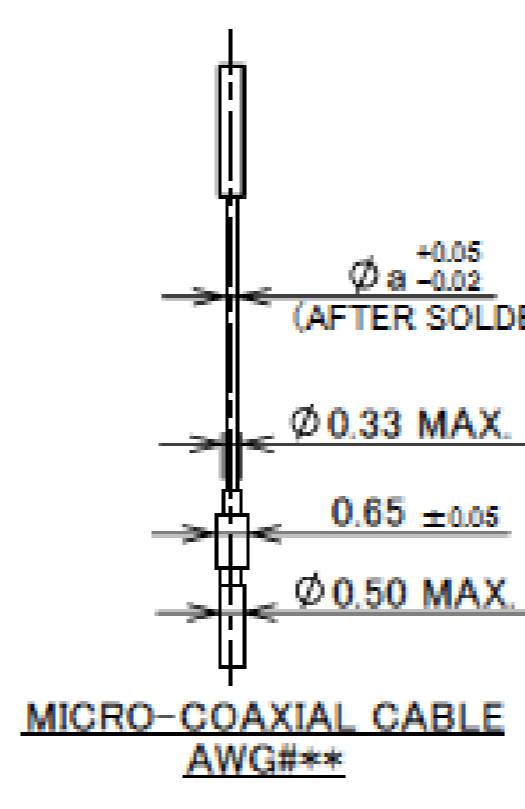
CHARACTERISTIC IMPEDANCE MATCHING MICRO-COAXIAL CABLE

	a
#36	0.15
#38	0.12
#40	0.09

CHARACTERISTIC IMPEDANCE UN-MATCHING MICRO-COAXIAL CABLE

	a
#32	0.24
#34	0.192

MICRO-COAXIAL CABLE #32, 34 : NOT RECOMMENDED FOR HIGH SPEED SIGNAL TRANSFER



DISCRETE WIRE DIMENSION

	b
#32	0.24
#34	0.192
#36	0.15

Rev.19

Plug for Cable Assembly

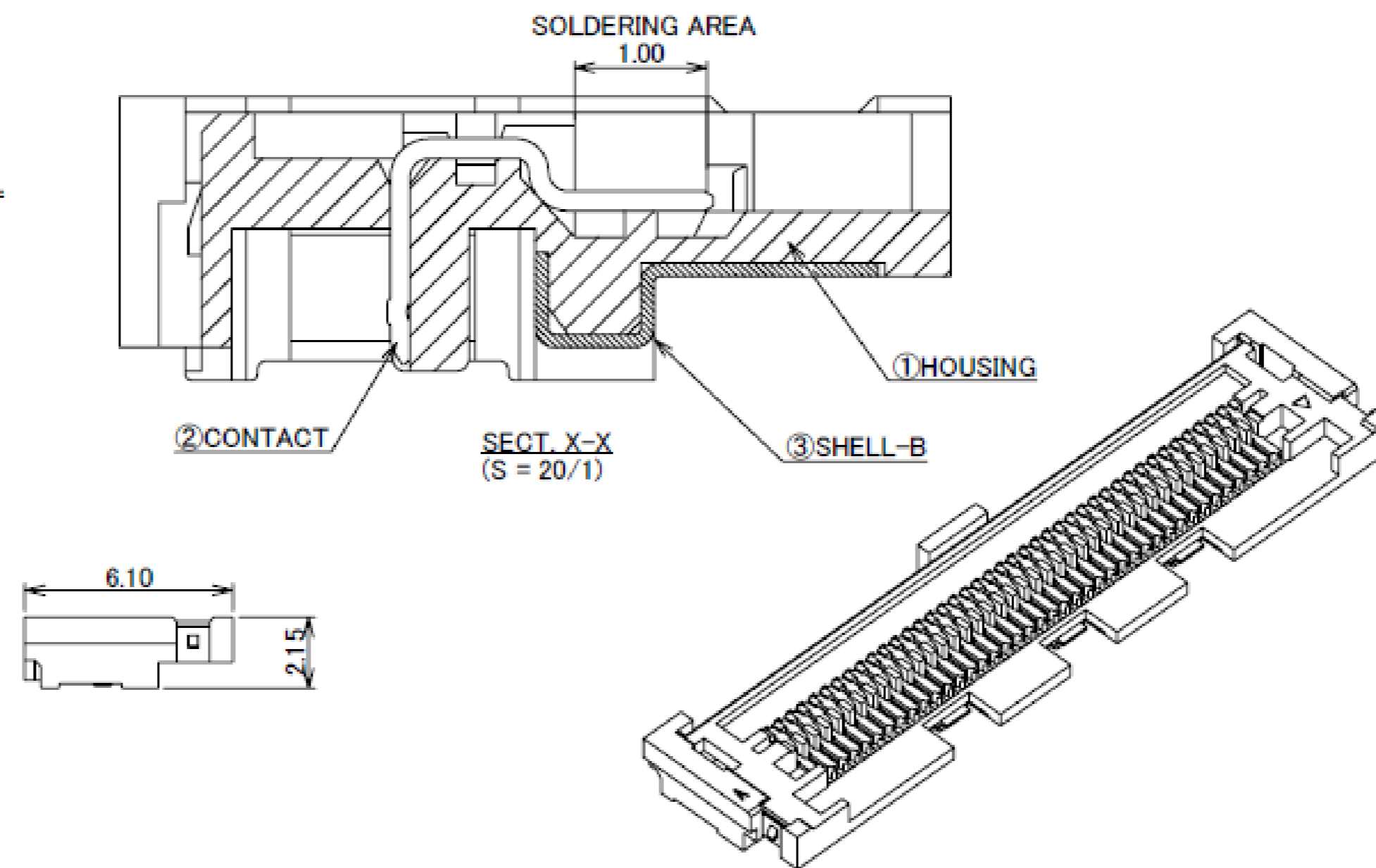
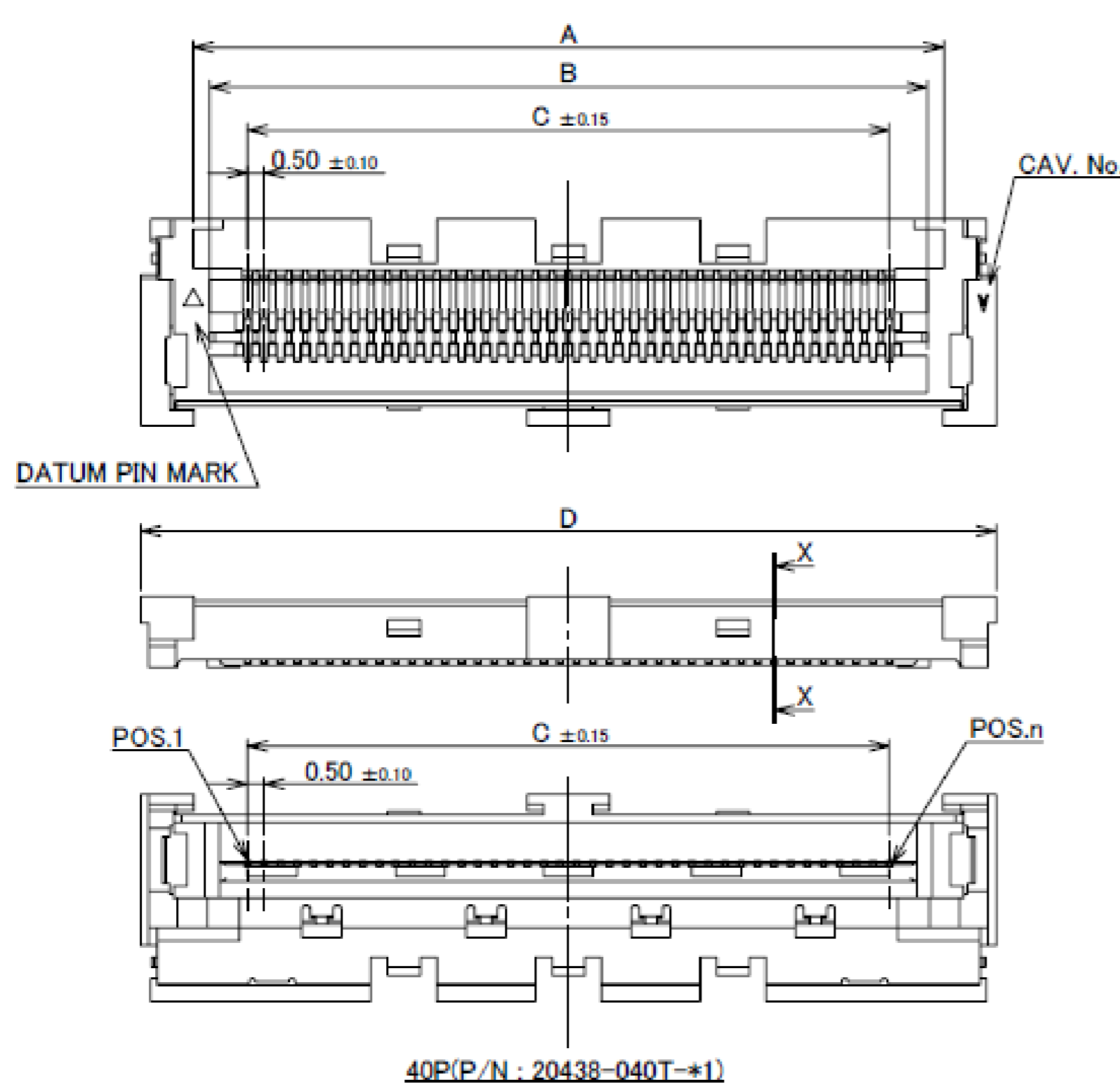
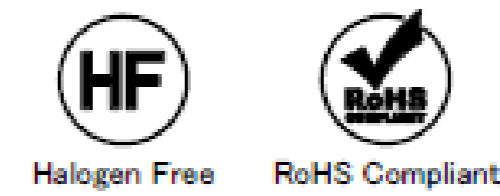
ITEMS	SPECIFICATION
APPLICABLE CABLE	MICRO-COAXIAL CABLE : AWG# 40, 38, 36, 34, 32 DISCRETE WIRE : AWG# 36, 34, 32 TWINAX CABLE : AWG# 40
RATING VOLTAGE	100V AC (PER CONTACT PIN) ※THIS IS THE RATED VOLTAGE OF THE CONNECTOR. PLEASE NOTE THAT THE RATED VOLTAGE MAY VARY IN THE HARNESS DEPENDING ON THE CABLES USED.
RATING AMPERAGE (FOR CONTACT)	0.3A AC/DC [AWG#40] PER CONTACT PIN / UP TO 50 CONTACTS 0.6A AC/DC [AWG#38] PER CONTACT PIN / UP TO 6 CONTACTS 0.8A AC/DC [AWG#36] PER CONTACT PIN / UP TO 4 CONTACTS 1.0A AC/DC [AWG#34, 32] PER CONTACT PIN / UP TO 7 CONTACTS TESTING BY REAL MACHINE IS RECOMMENDED BECAUSE TEMPERATURE RISE MAY AFFECTED BY ACTUAL SITUATION.
OPERATING TEMPERATURE	233~338K(-40°C~+85°C)
OPERATING HUMIDITY	85% MAX.
CONTACT RESISTANCE	INITIAL : 145mohm MAX.(AWG#32) / AFTER TEST : $\leq 40\text{mohm}$ MAX. 185mohm MAX.(AWG#34) 210mohm MAX.(AWG#36) 335mohm MAX.(AWG#38) 575mohm MAX.(AWG#40)
GROUND SHELL RESISTANCE	INITIAL : 50mohm MAX. / AFTER TEST : $\leq 40\text{mohm}$ MAX.
INSULATION RESISTANCE	INITIAL : 1000Mohm MIN. / AFTER TEST : 500Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	30 CYCLES
MATING FORCE (INITIAL / AFTER TEST)	30P : 50.0N MAX. / 40P : 60.0N MAX. / 50P : 70.0N MAX.
UNMATING FORCE (INITIAL / AFTER TEST)	30P : 3.0N MIN. / 40P : 6.0N MIN. / 50P : 7.0N MIN.
CABLE RETENTION FORCE	30.0N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-1383
TEST REPORT	TR-07048
PACKING STANDARD	PLUG HOUSING ASS'Y : 300-384 / PLUG SHELL-A : 300-385
INSTRUCTION MANUAL	HIM-08007
ASSEMBLY MANUAL	ASM-07005
APPEARANCE CRITERIA No.	QLS-A***

Rev.19

Plug Housing Assembly

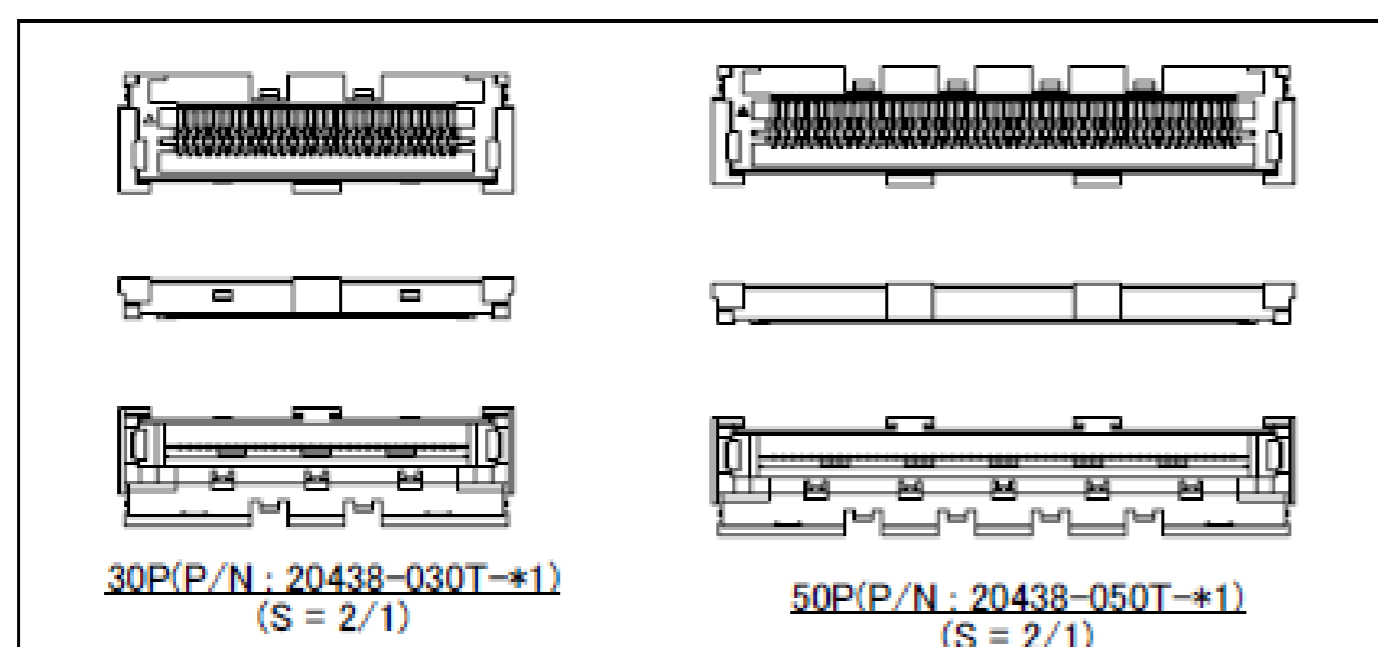
Recommended P/N		20438-0**T-01			
PART No.	POS.	A	B	C	D
20438-030T-*1	30	17.80	16.80	14.50	20.80
20438-040T-*1	40	22.80	21.80	19.50	25.80
20438-050T-*1	50	27.80	26.80	24.50	30.80

PART NO.	CONTACT FINISH (MATING AREA).
20438-0**T-01	Au 0.10 μm MIN.
20438-0**T-11	Au 0.30 μm MIN.



NOTES
1. THIS PART IS ASSEMBLE WITH SHELL-A(PART NO. 2496-0**)
AFTER SOLDERED THE CABLE. AND IT BECOMES PART NO. 20437-0**T-*1

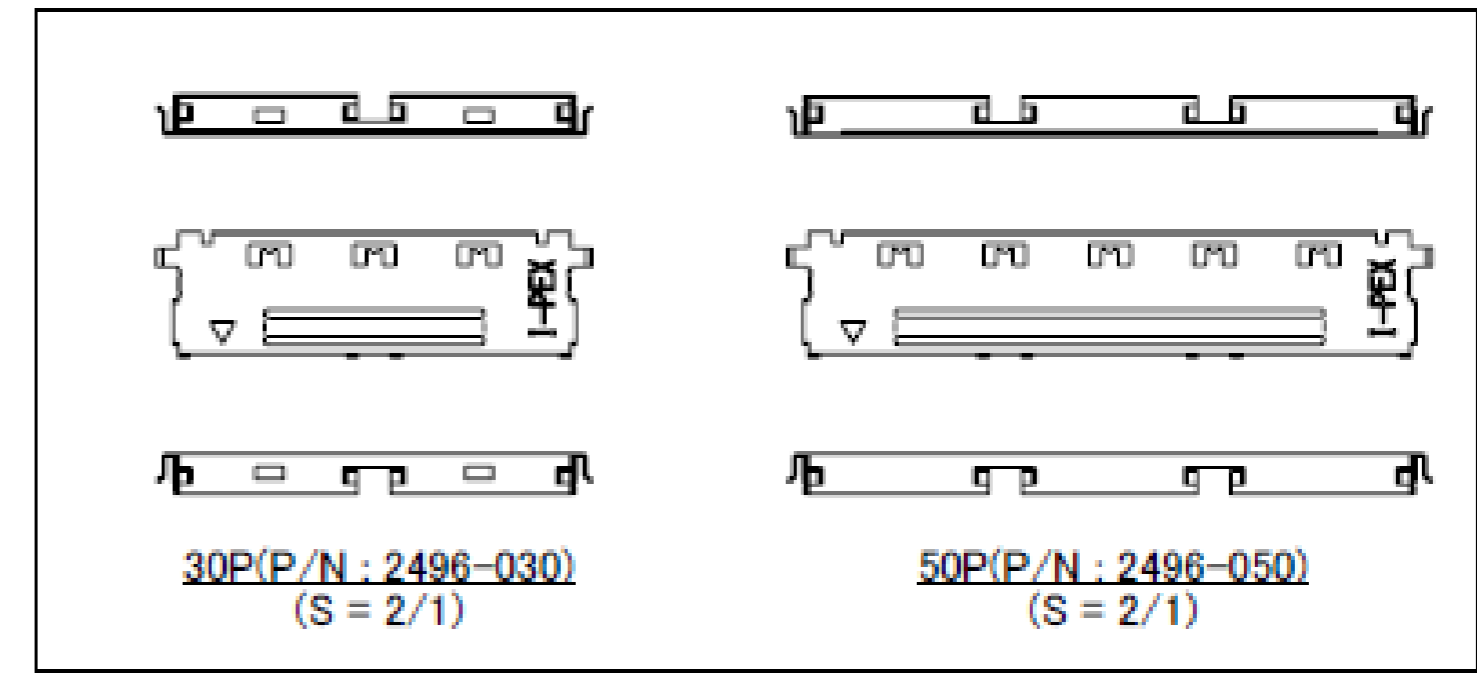
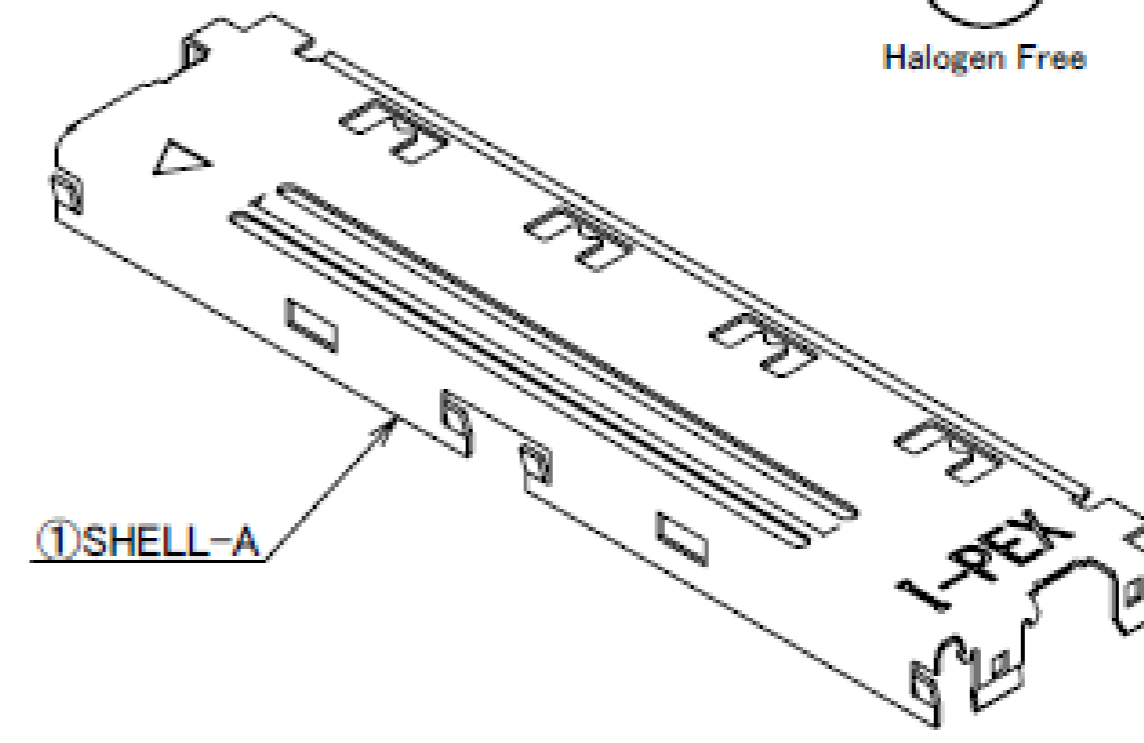
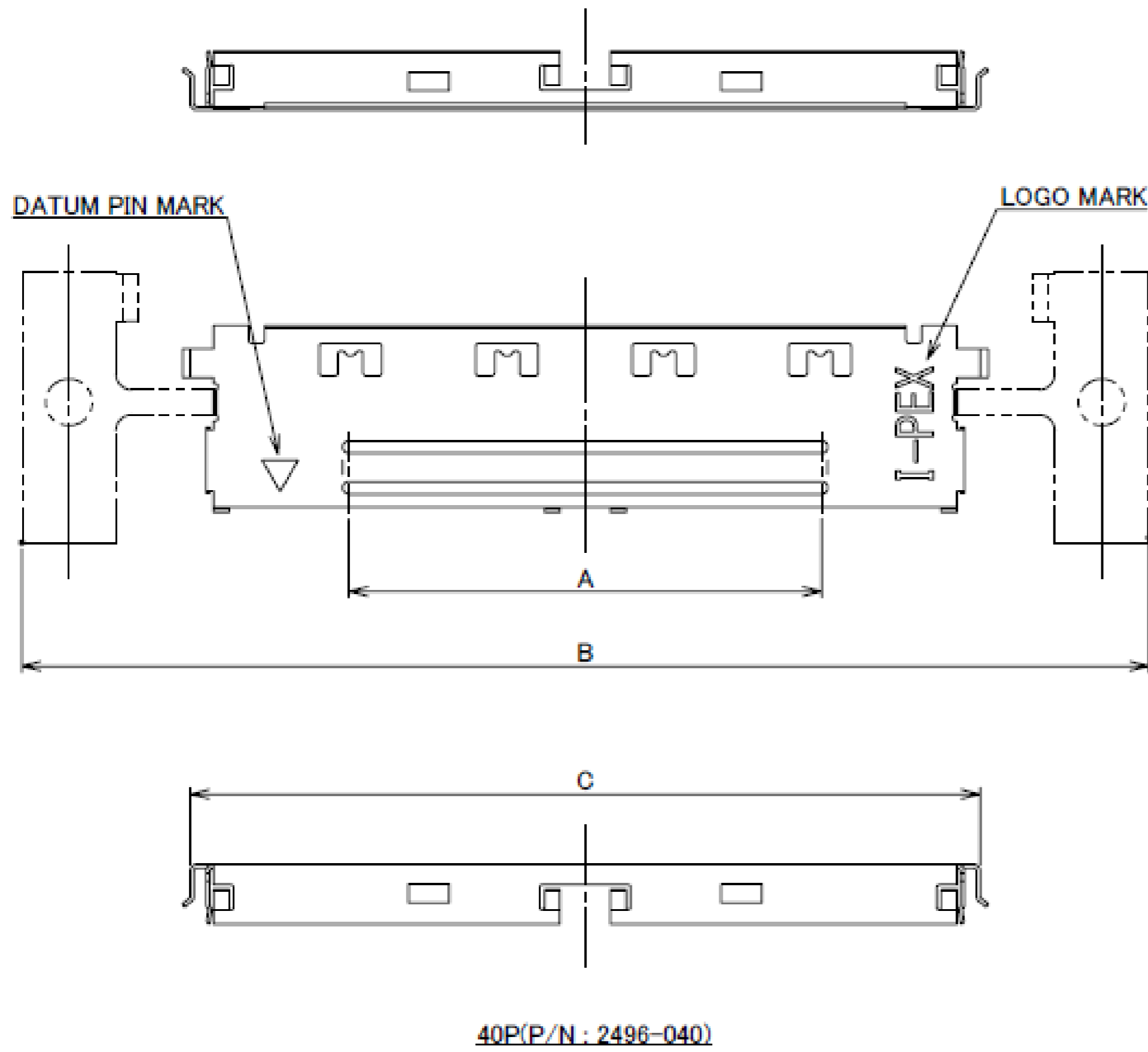
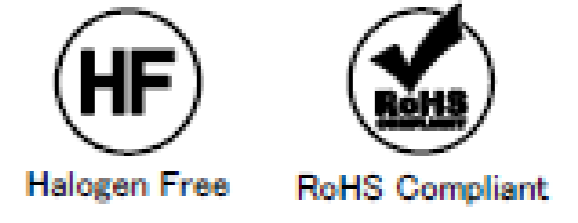
NO.	DISCRPTION	MATERIAL	FINISH , REMARKS
3	SHELL-B	PHOSPHOR BRONZE	Sn 2.00 μm MIN. OVER Ni 1.00 μm MIN. PART NO. 20438-0**T-01
2	CONTACT	PHOSPHOR BRONZE	MATING AREA : Au 0.10 μm MIN. OVER Ni 1.00 μm MIN. OTHER AREA : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN. PART NO. 20438-0**T-11
1	HOUSING	LCP	MATING AREA : Au 0.30 μm MIN. OVER Ni 1.00 μm MIN. OTHER AREA : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN. UL94V-0, BLACK



Rev.13

Plug Shell-A

Recommended P/N		2496-0**			
PART NO.	Pos.	A	B	C	D
2496-030	30	10.00	30.00	20.24	35.00
2496-040	40	15.00	36.00	25.24	40.00
2496-050	50	20.00	40.00	30.24	45.00



NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
1	SHELL-A	PHOSPHOR BRONZE	Sn(NO POLISH) 2.00 μm MIN. OVER Ni 1.00 μm MIN.

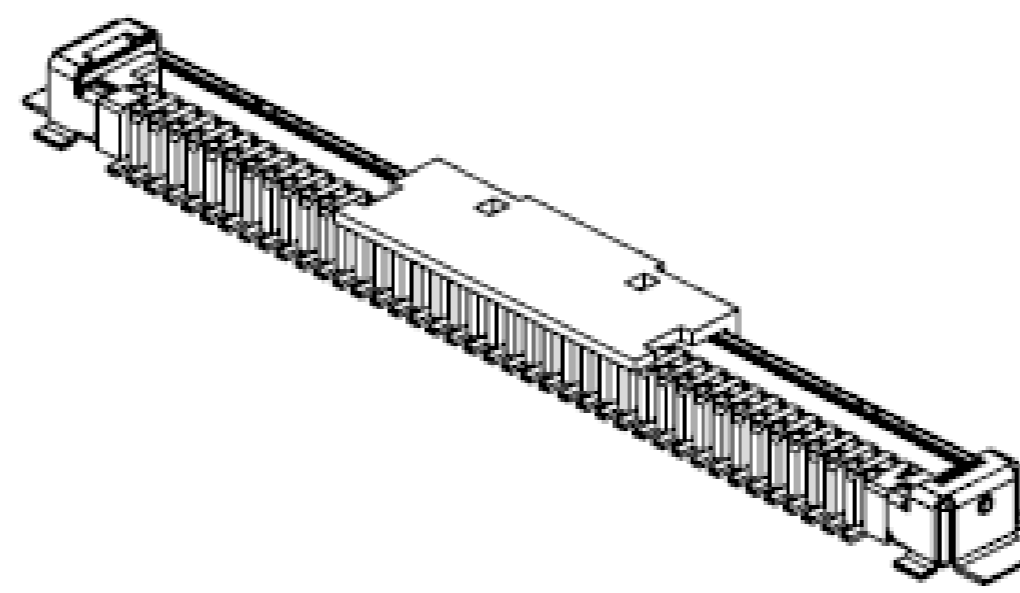
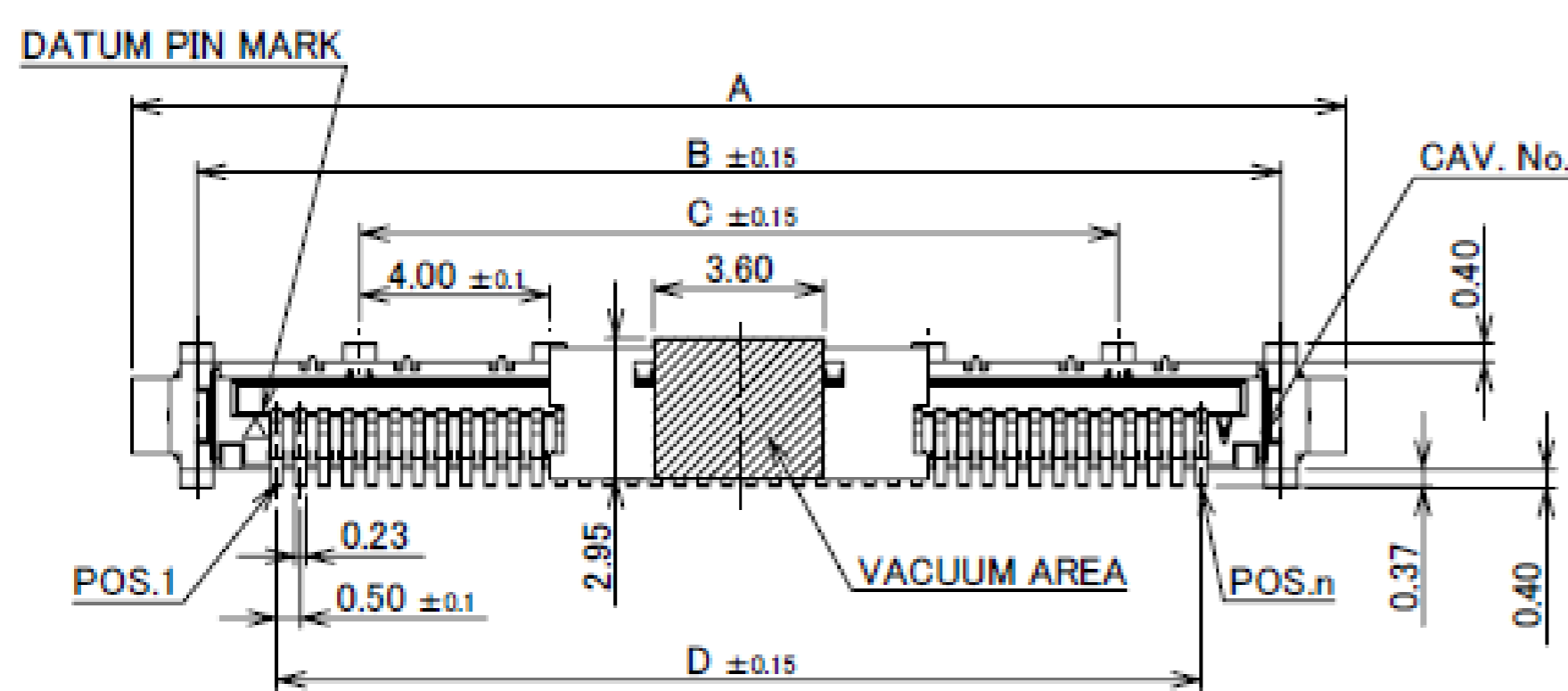
Rev.11

Receptacle Assembly

Recommended P/N		20439-0**E-01			
PART NO.	Pos.	A	B	C	D
20439-030E-*1	30	20.60	17.86	12.00	14.50
20439-040E-*1	40	25.60	22.86	16.00	19.50
20439-050E-*1	50	30.60	27.86	20.00	24.50

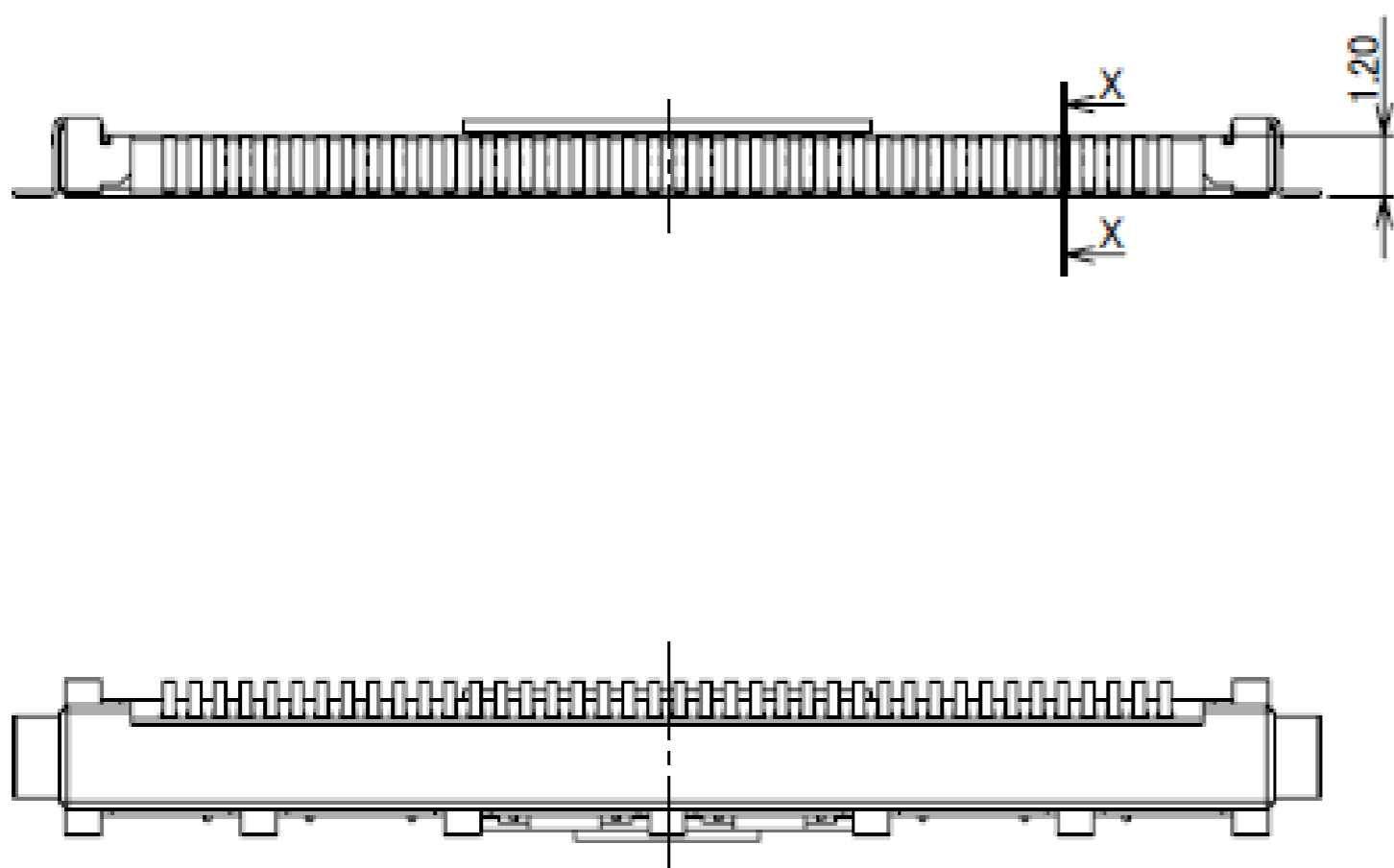
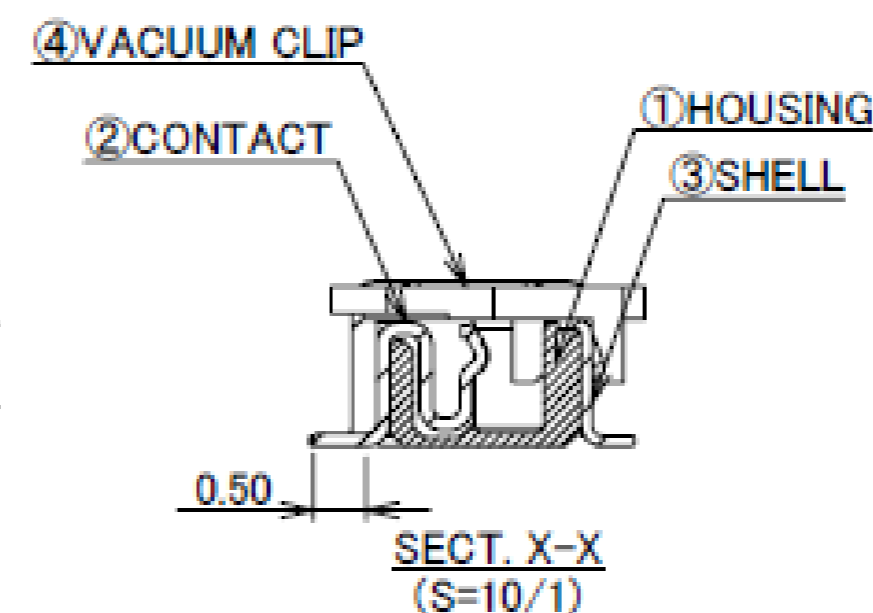
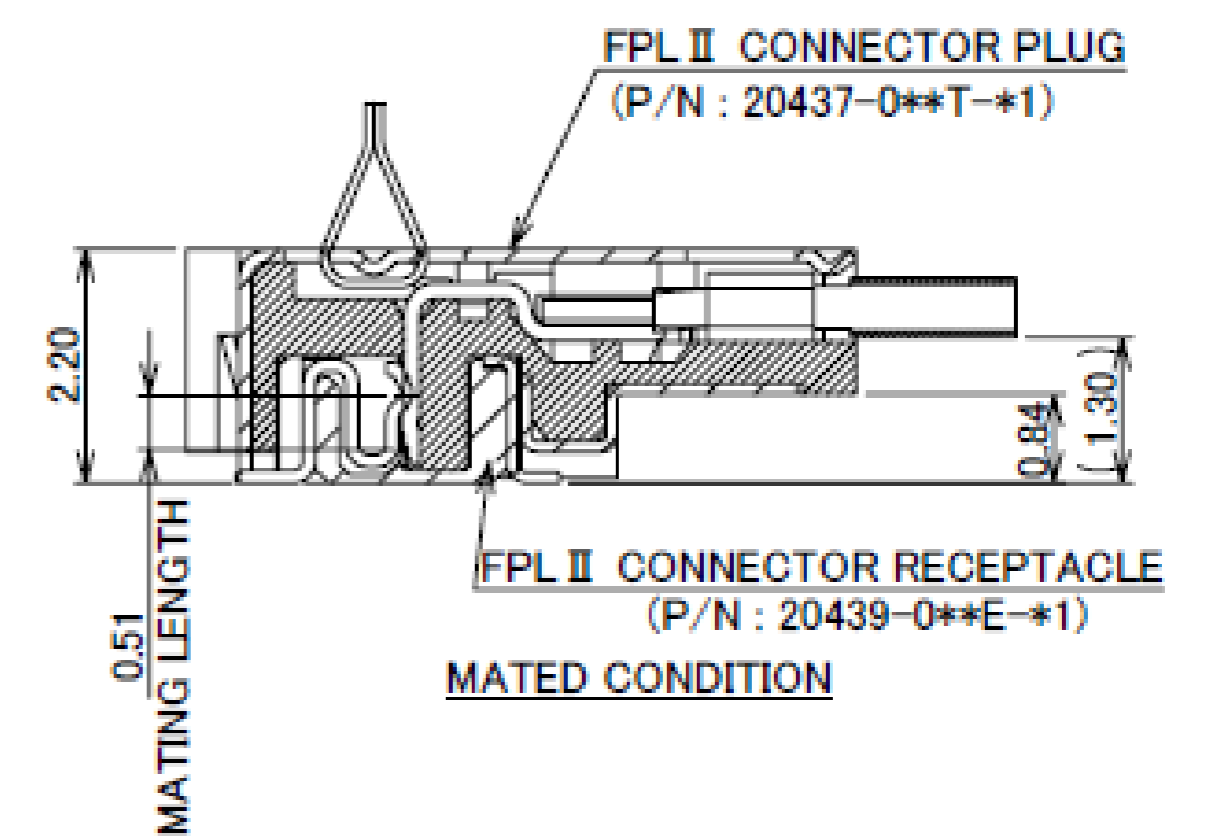


PART NO.	CONTACT FINISH (MATING SIDE)
20439-0**E-01	Au 0.1 μm MIN.
20439-0**E-11	Au 0.3 μm MIN.



MATING COMBINATION TABLE

Pos.	PLUG PART NO.	RECEPTACLE PART NO.
30P	20437-030T-*1	20439-030E-*1
40P	20437-040T-*1	20439-040E-*1
50P	20437-050T-*1	20439-050E-*1

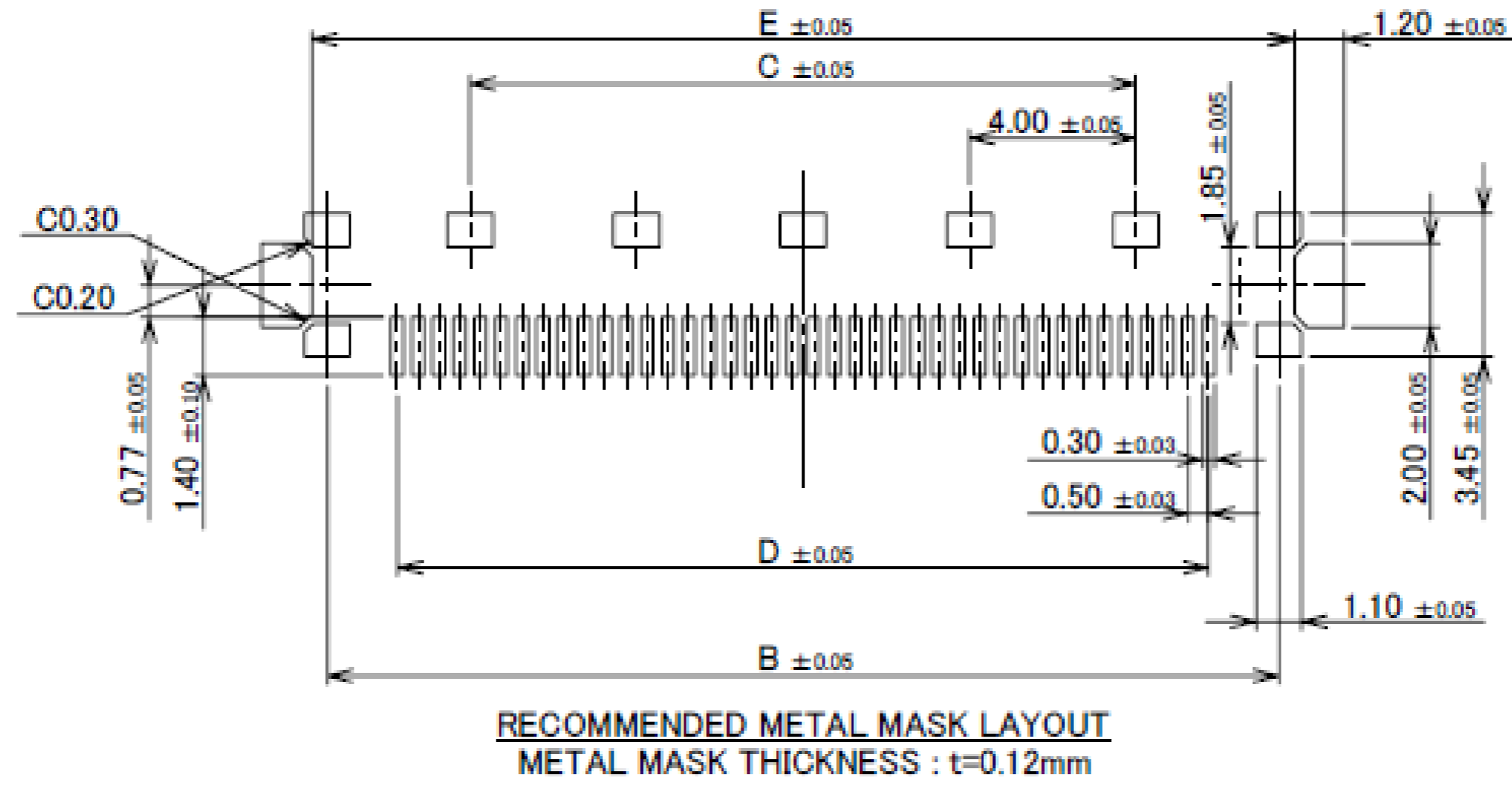
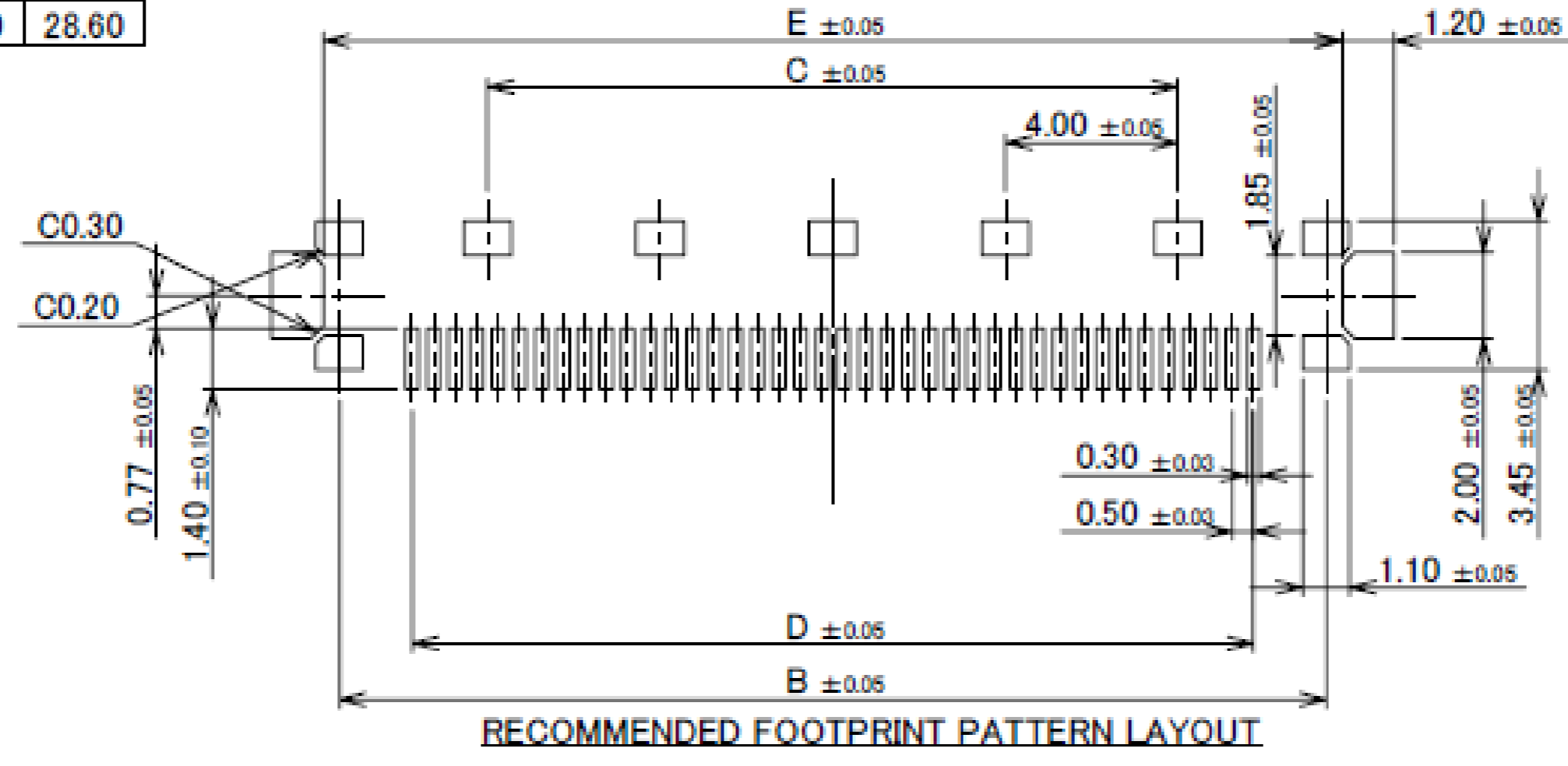


NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
4	VACUUM CLIP	LCP	UL94V-0, BEIGE
3	SHELL	PHOSPHOR BRONZE	Sn(NO POLISH) 0.50 μm MIN. OVER Ni 1.00 μm MIN.
2	CONTACT	PHOSPHOR BRONZE	PART NO. 20439-0**E-0* MATING AREA : Au 0.10 μm MIN. OVER Ni 1.00 μm MIN. OTHER AREA : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN. PART NO. 20439-0**E-1* MATING AREA : Au 0.30 μm MIN. OVER Ni 1.00 μm MIN. OTHER AREA : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN.
1	HOUSING	LCP	UL94V-0, BLACK

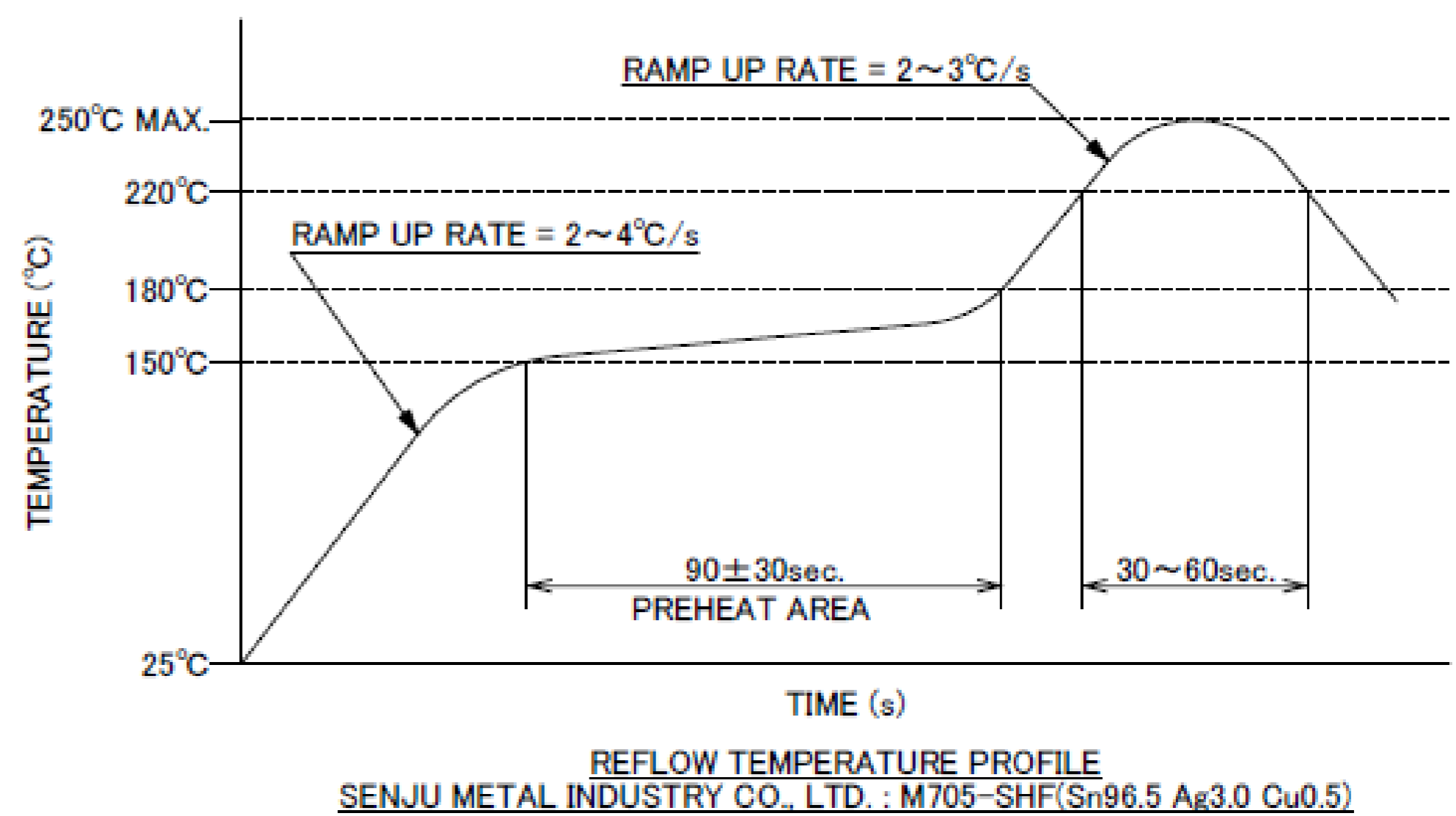
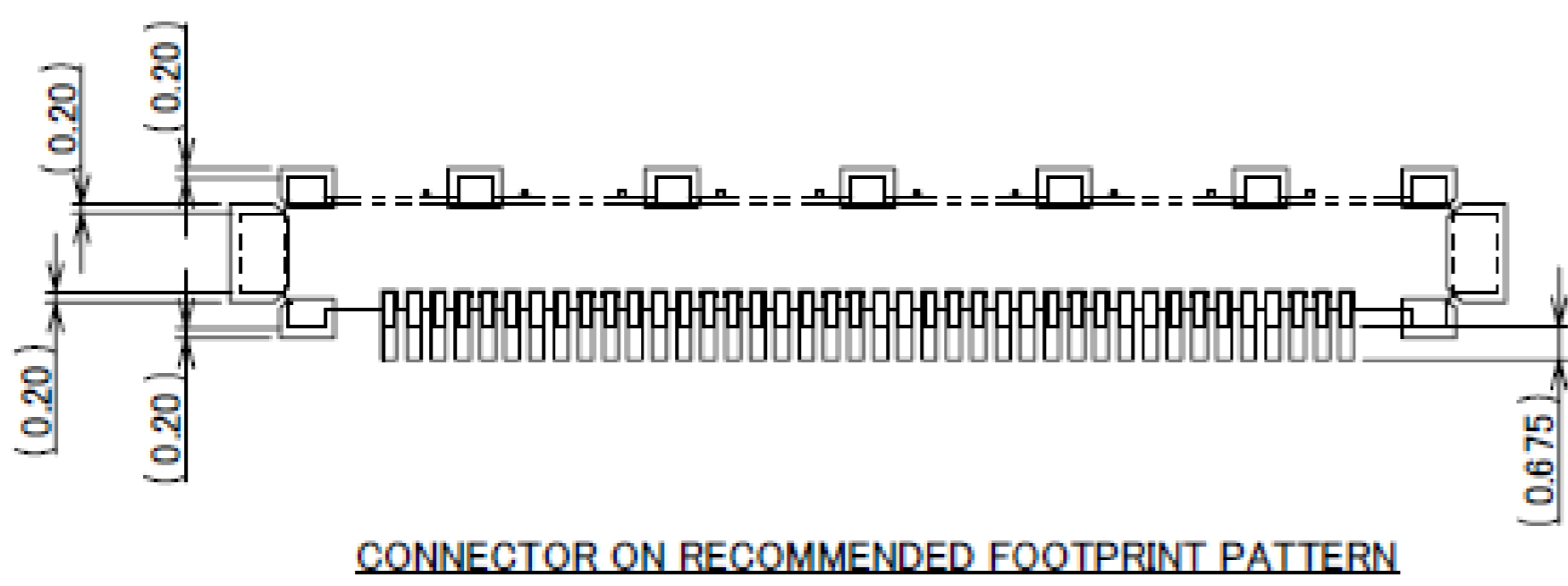
Rev.24

Receptacle Assembly

PART NO.	Pos.	B	C	D	E
20439-030E-*1	30	17.86	12.00	14.50	18.60
20439-040E-*1	40	22.86	16.00	19.50	23.60
20439-050E-*1	50	27.86	20.00	24.50	28.60



Rev.24



Rev.24

Receptacle Assembly

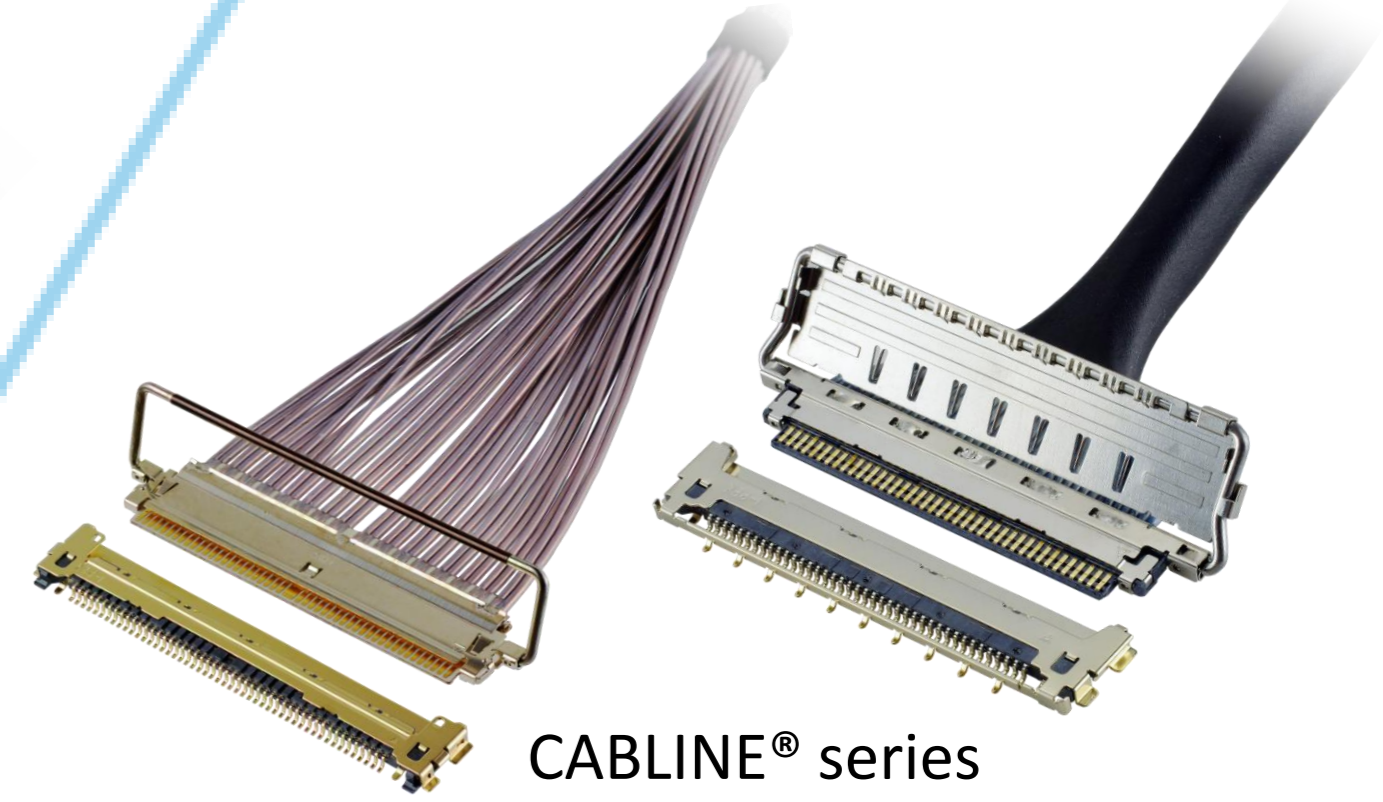
ITEMS	SPECIFICATION
APPLICABLE CABLE	MICRO-COAXIAL CABLE : AWG# 40, 38, 36, 34, 32 DISCRETE WIRE : AWG# 36, 34, 32 TWINAX CABLE : AWG# 40
RATING VOLTAGE	100V AC (PER CONTACT PIN)
RATING AMPERAGE (FOR CONTACT)	0.3A AC/DC [AWG#40] PER CONTACT PIN / UP TO 50 CONTACTS 0.6A AC/DC [AWG#38] PER CONTACT PIN / UP TO 6 CONTACTS 0.8A AC/DC [AWG#36] PER CONTACT PIN / UP TO 4 CONTACTS 1.0A AC/DC [AWG#34, 32] PER CONTACT PIN / UP TO 7 CONTACTS TESTING BY REAL MACHINE IS RECOMMENDED BECAUSE TEMPERATURE RISE MAY AFFECTED BY ACTUAL SITUATION.
OPERATING TEMPERATURE	233~358K(-40°C~+85°C)
OPERATING HUMIDITY	85% MAX.
CONTACT RESISTANCE	INITIAL : 145mohm MAX.(AWG#32) / AFTER TEST : \triangle 40mohm MAX. 185mohm MAX.(AWG#34) 210mohm MAX.(AWG#36) 335mohm MAX.(AWG#38) 575mohm MAX.(AWG#40)
GROUND SHELL RESISTANCE	INITIAL : 50mohm 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 : 50.0N MAX. 40P : 60.0N MAX. 50P : 70.0N MAX.
UNMATING FORCE (INITIAL / AFTER TEST)	30P : 5.0N MIN. 40P : 6.0N MIN. 50P : 7.0N MIN.
CABLE RETENTION FORCE	30.0N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-1383
TEST REPORT	TR-07048
PACKING STANDARD	300-583
INSTRUCTION MANUAL	HIM-09007
ASSEMBLY MANUAL	ASM-07005
APPEARANCE CRITERIA No.	QLS-A***

Rev.24

Custom Connectors Available

 RF Connectors

MHF® series



CABLINA® series

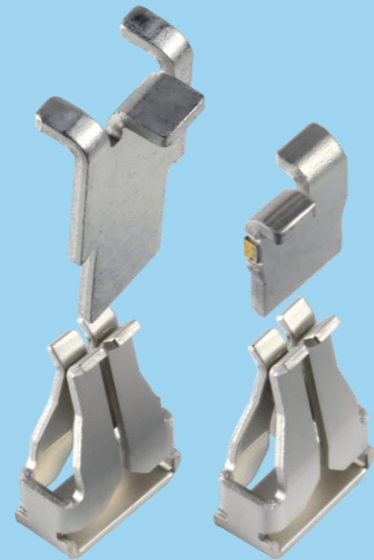


Micro-Coaxial/Twinax Connectors

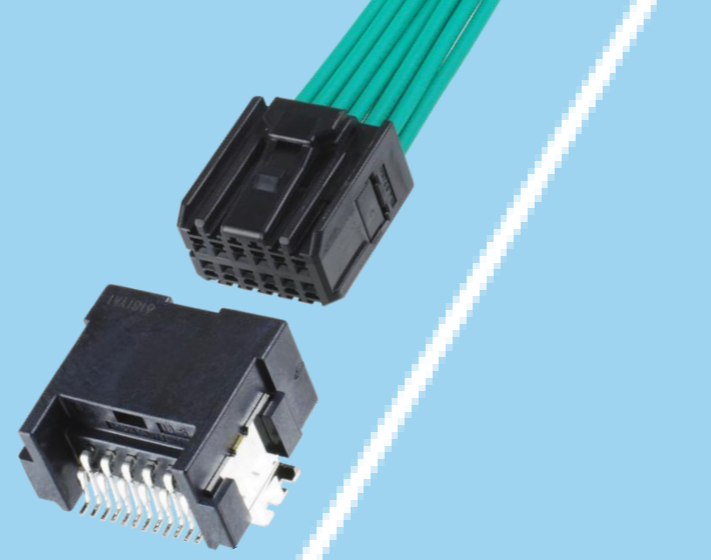


Wire-to-Board Connectors/Terminals

AP series



ISH® series



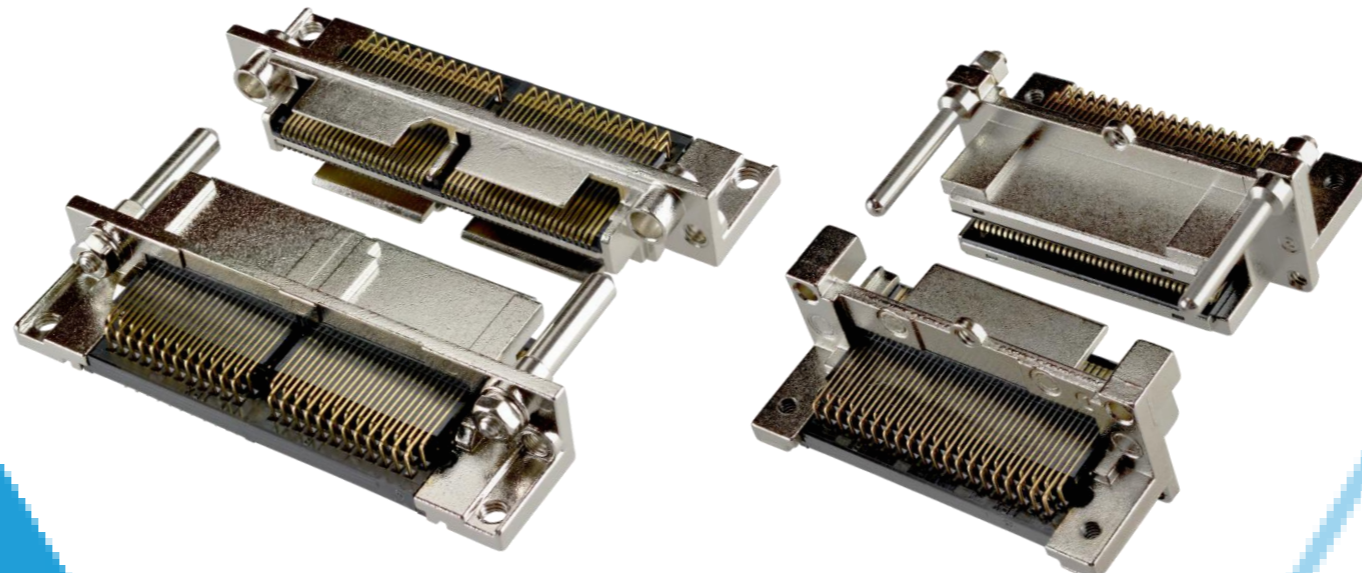
NOVASTACK® series



Board-to-Board Connectors



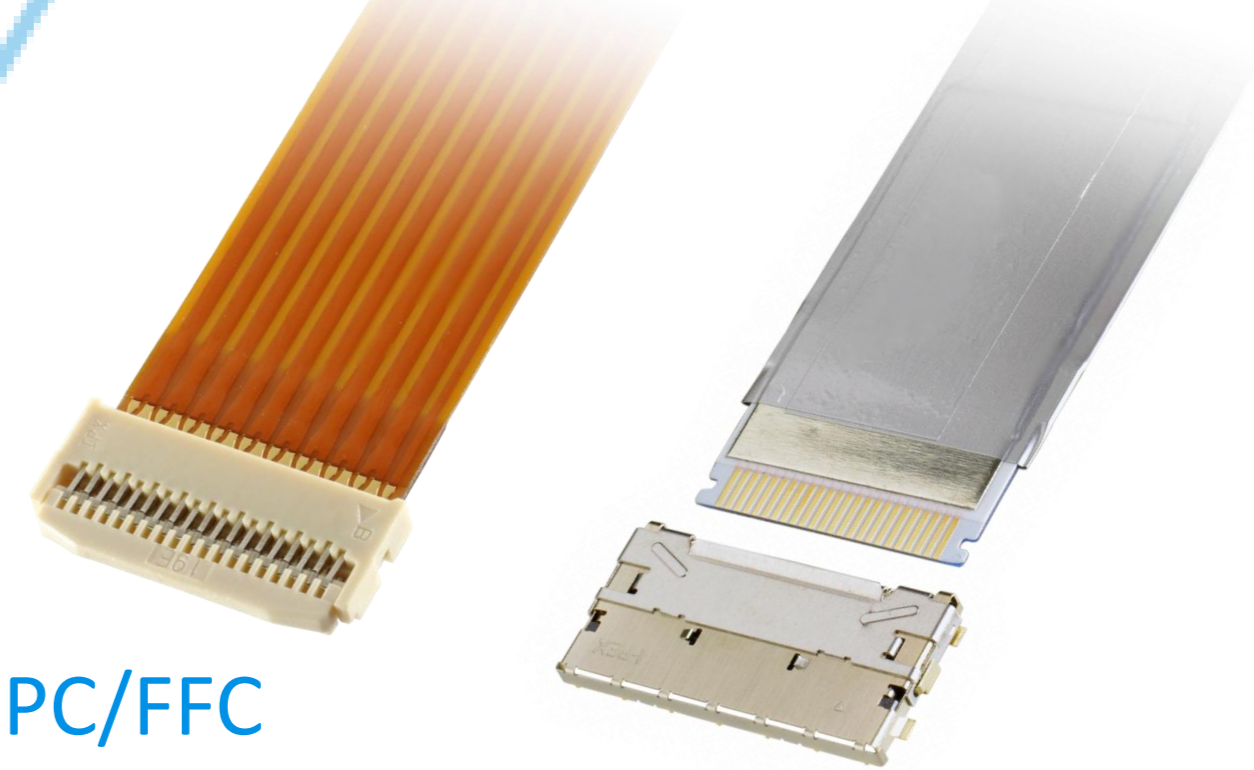
I/O Connectors



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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