

FPL™ II

High-data-rate transfer (12 Gbps/lane), Max power delivery (AWG #32), Durable to noise, 0.5 mm pitch, Vertical mating type micro-coaxial connector

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)
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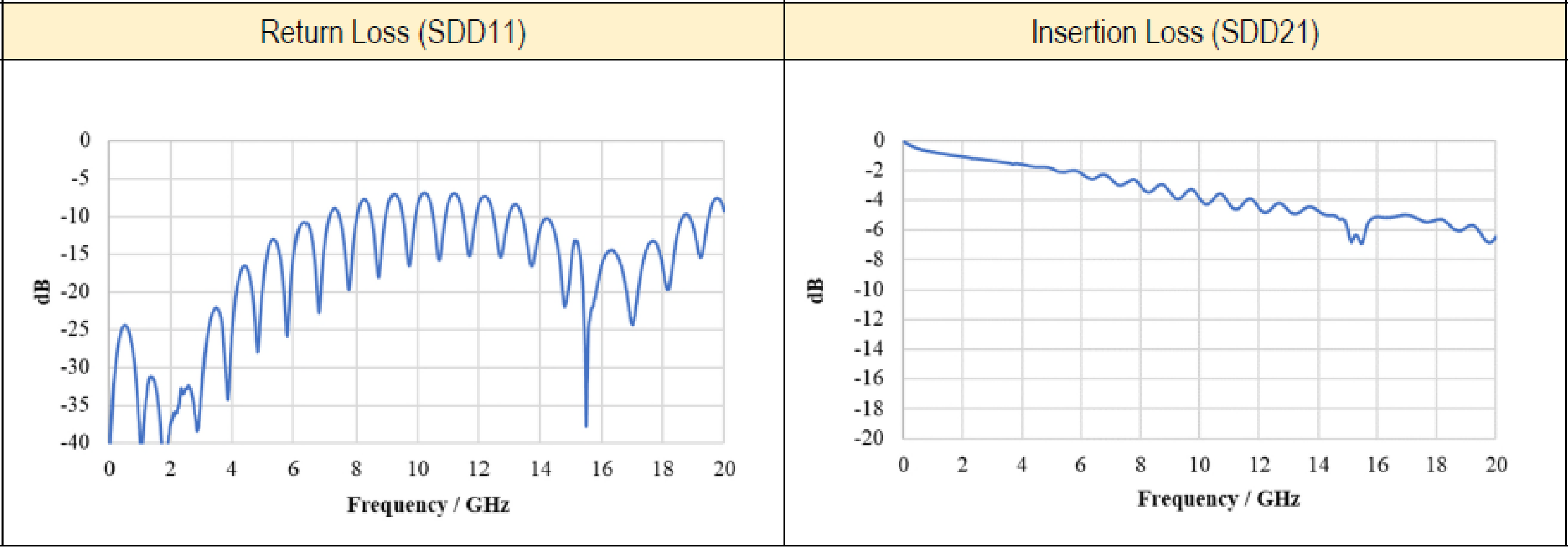


* Please inquire for pin counts not listed or outside of the pin count range.

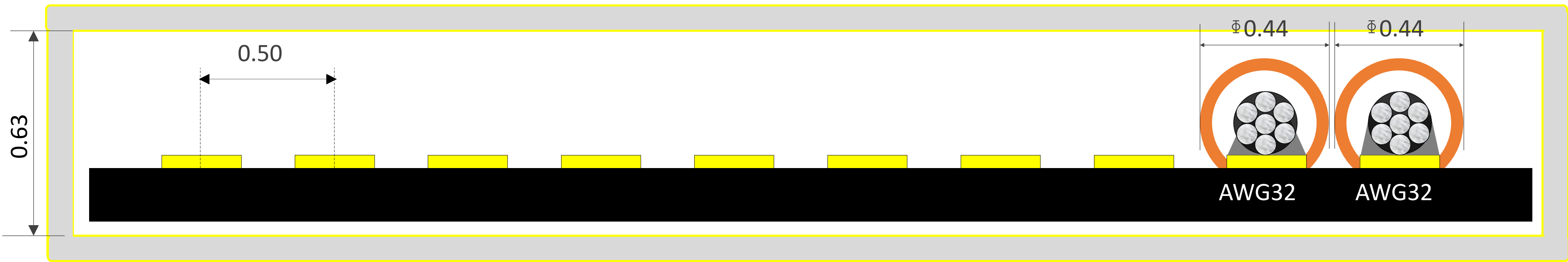
High-data-rate transfer, ideal for 12 Gbps/lane applications

Measurement results

Connector: FPL II 40P
Cable: Micro-coaxial cable
AWG #40, 50ohm , Length : 100 mm
Pin Assignment: GSSGSSG

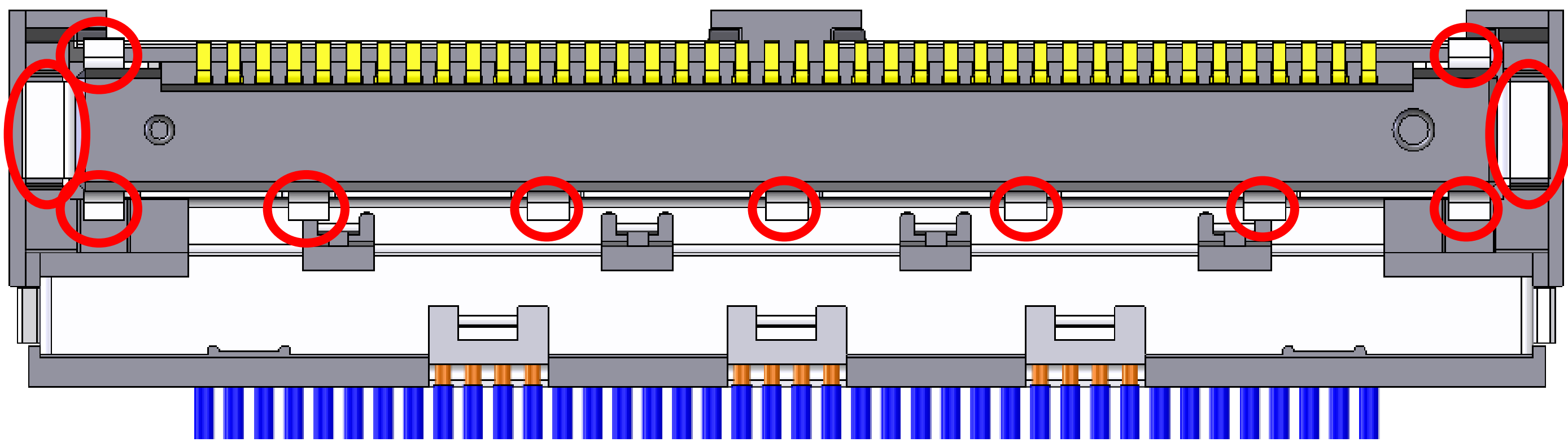


Maximum power delivery (AWG #32)



Metal shell FPL™ II 0.5 mm pitch with discrete wire (Unit : mm)

Several ground points durable to noise



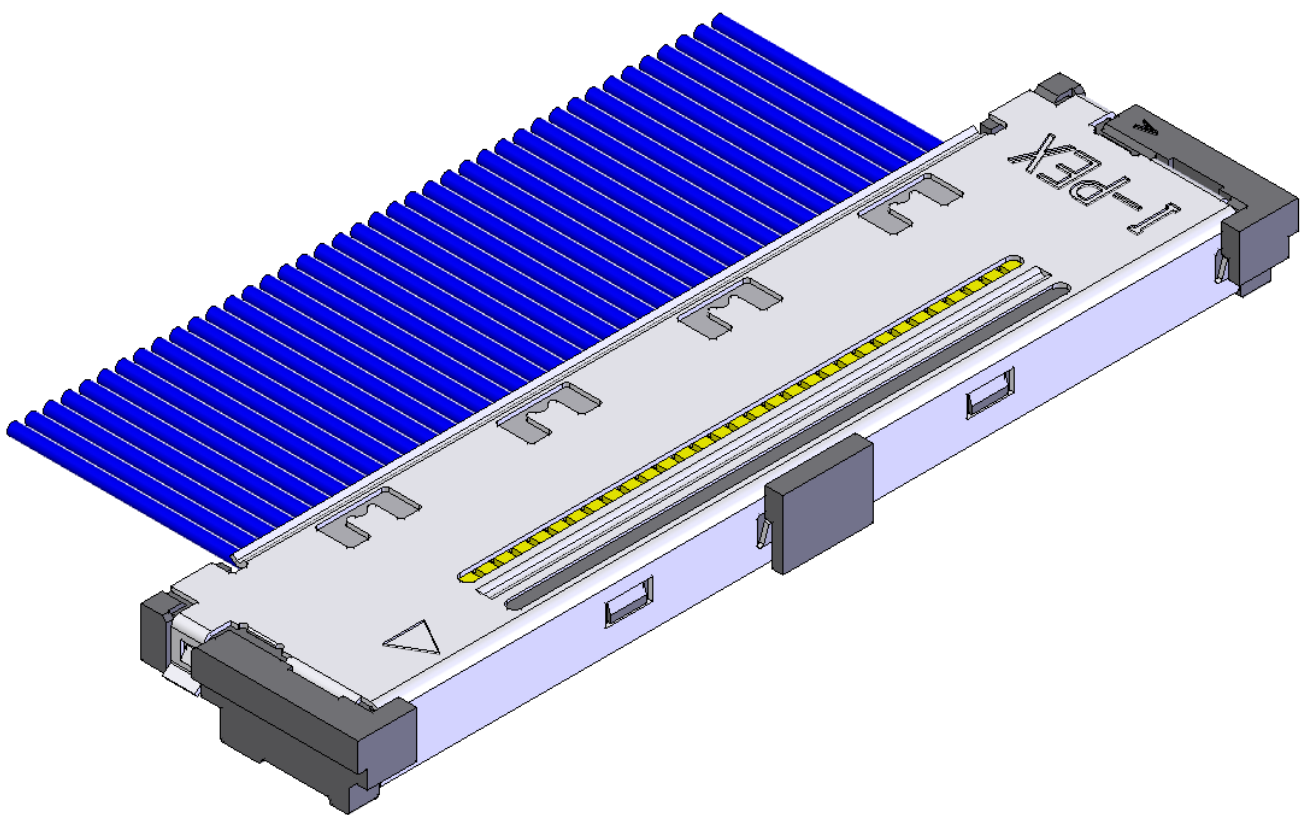
View from back FPL™ II 30P

○ Ground position

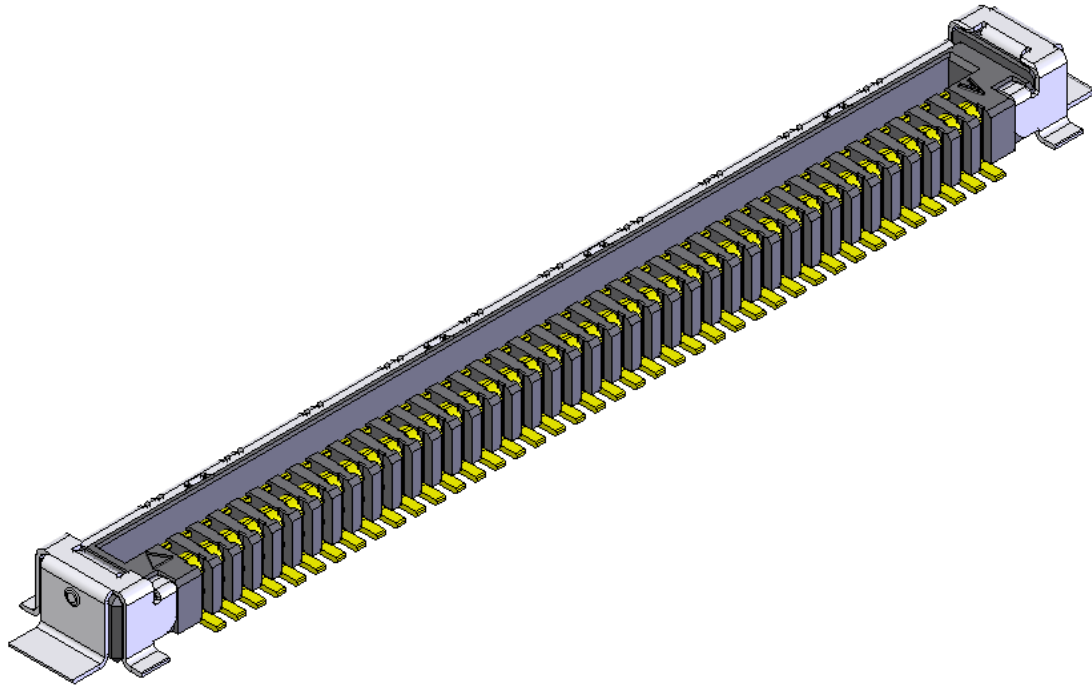
Component Parts Details

Component Parts

Connector parts

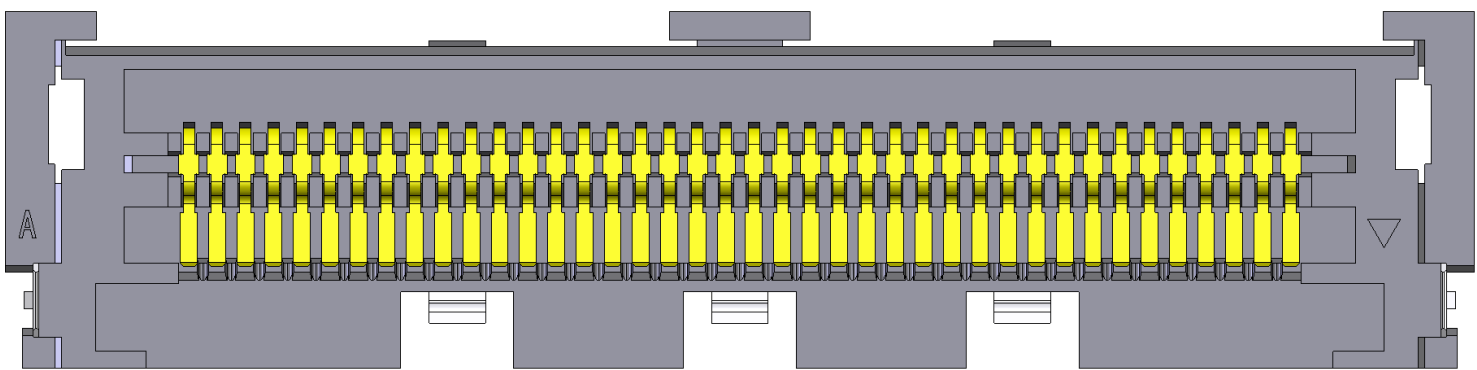


PLUG

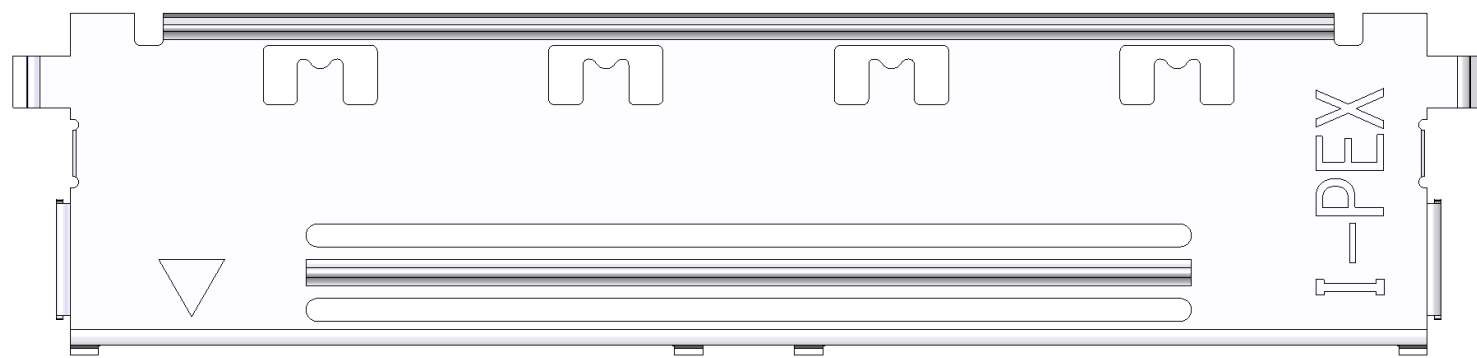


RECEPTACLE

Plug parts



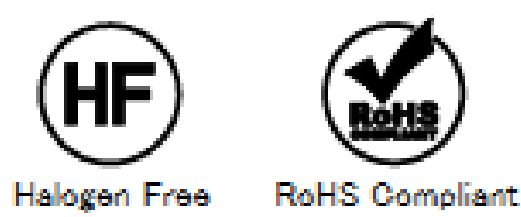
PLUG HOUSING ASSEMBLY



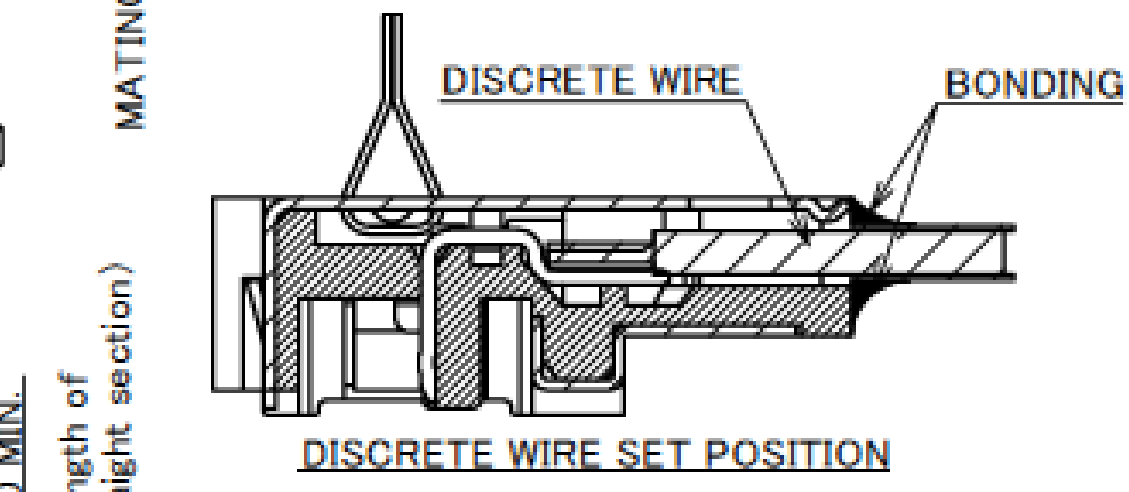
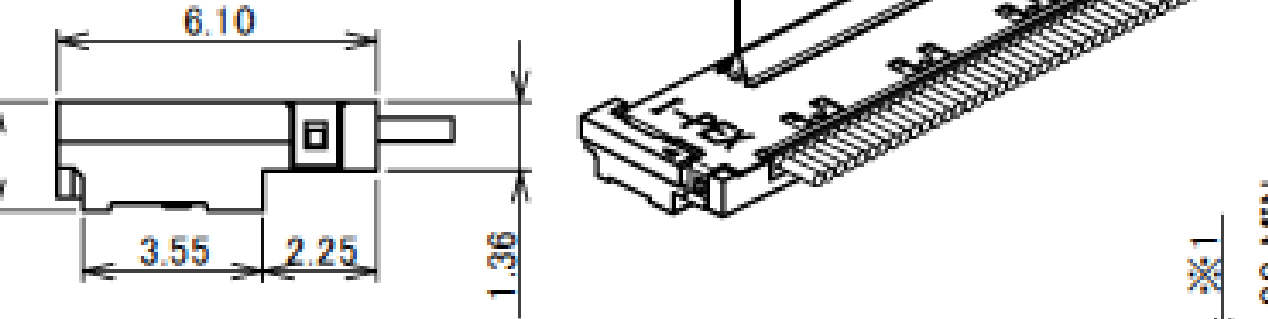
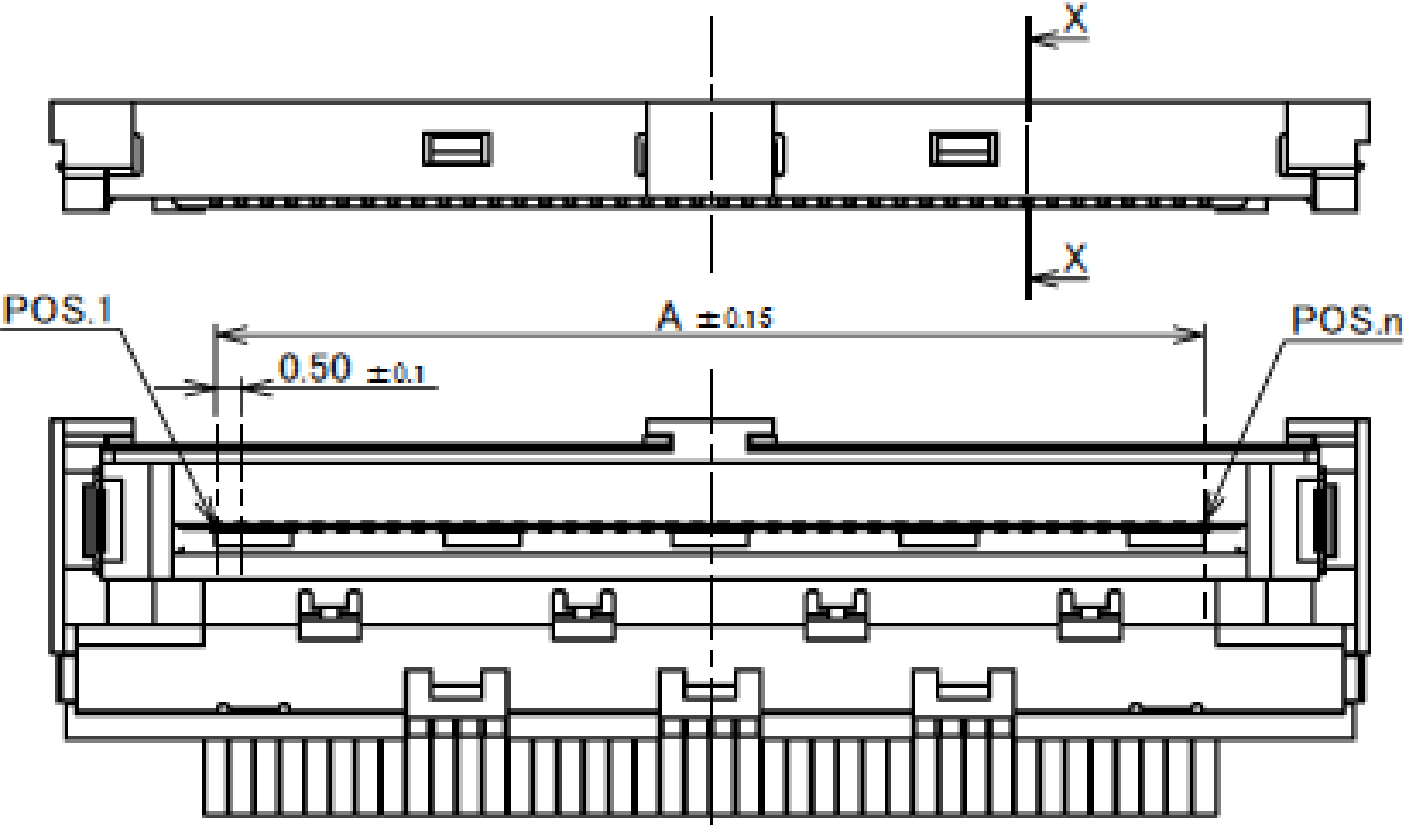
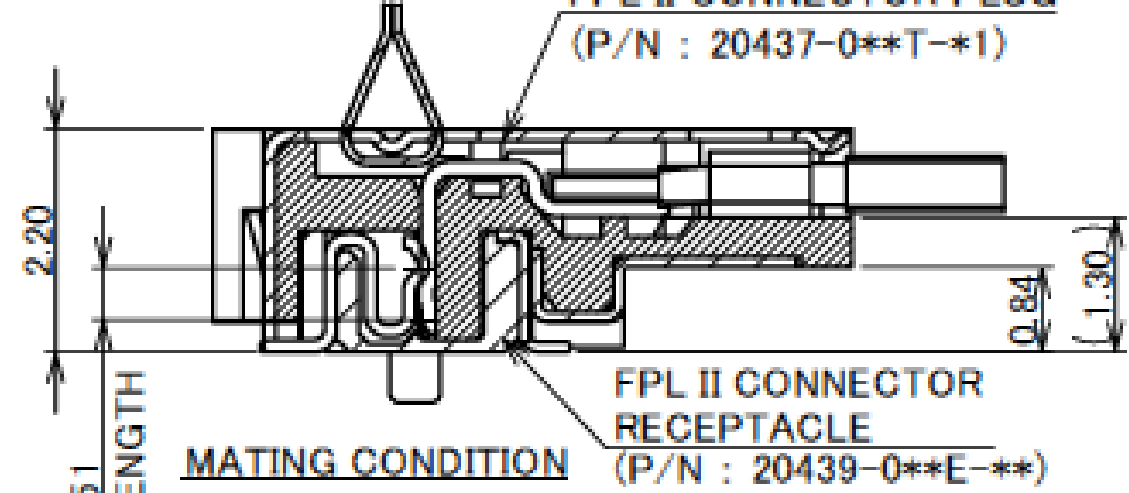
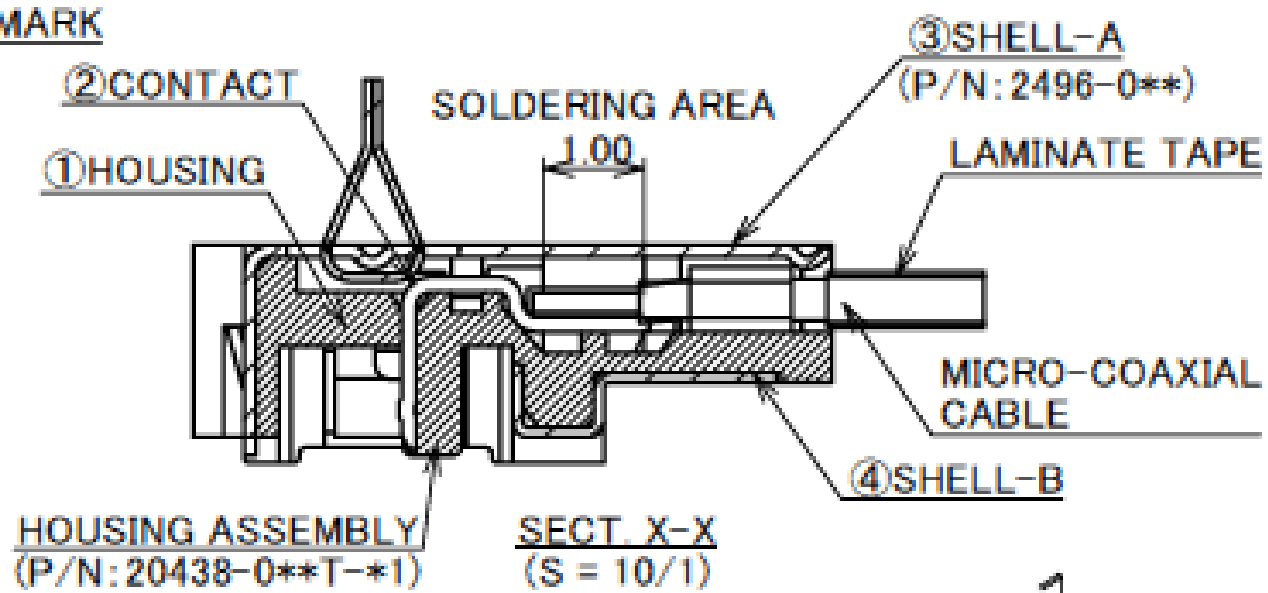
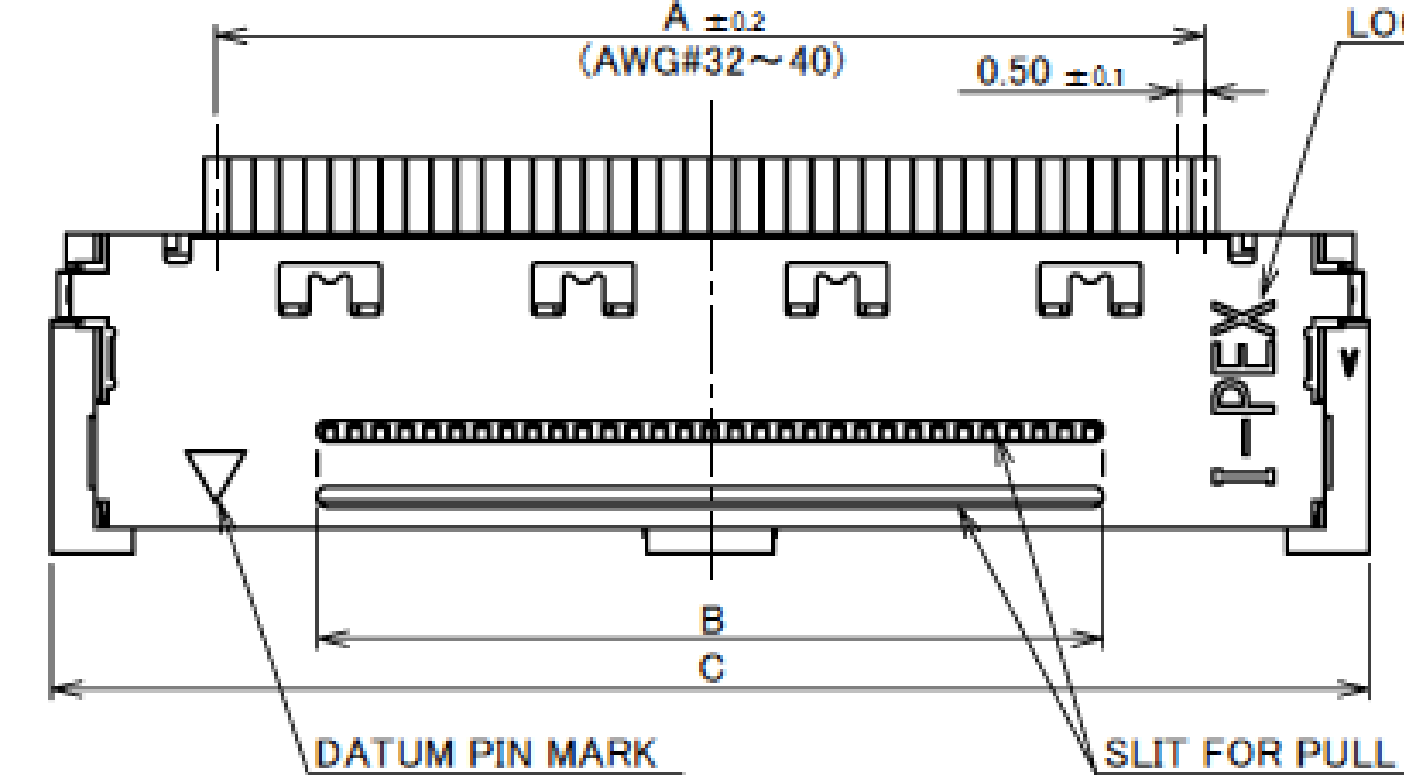
PLUG SHELL-A

Plug for Cable Assembly

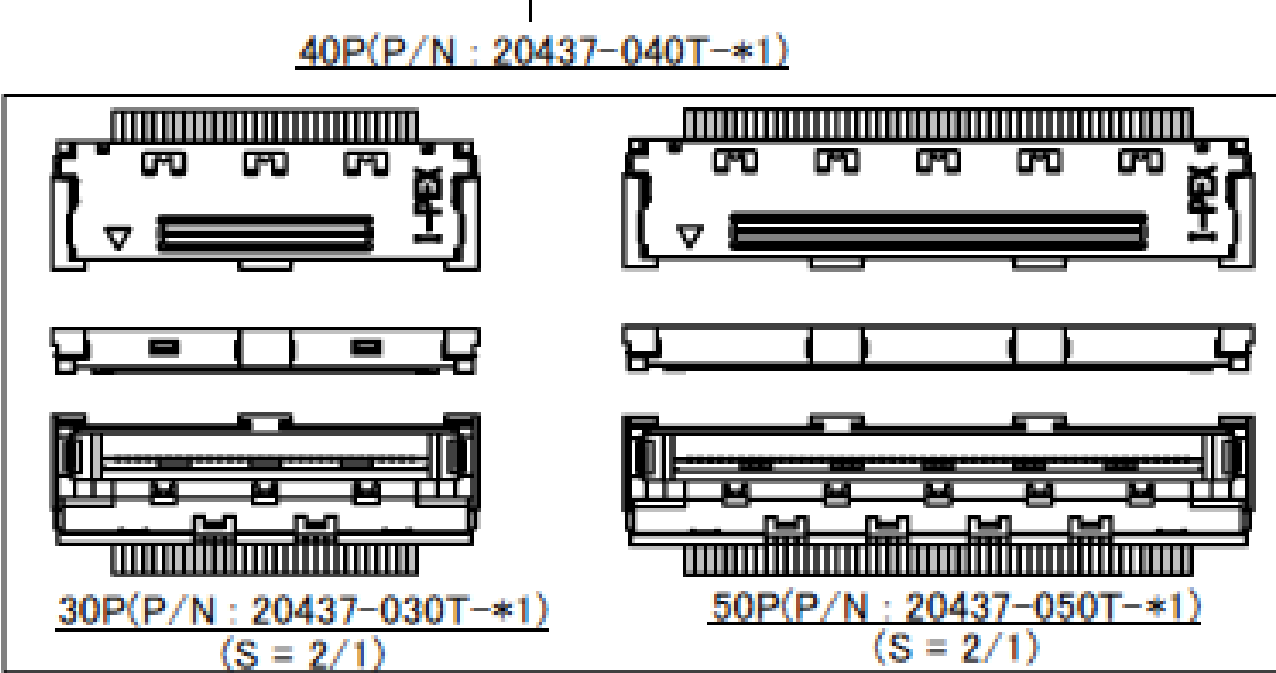
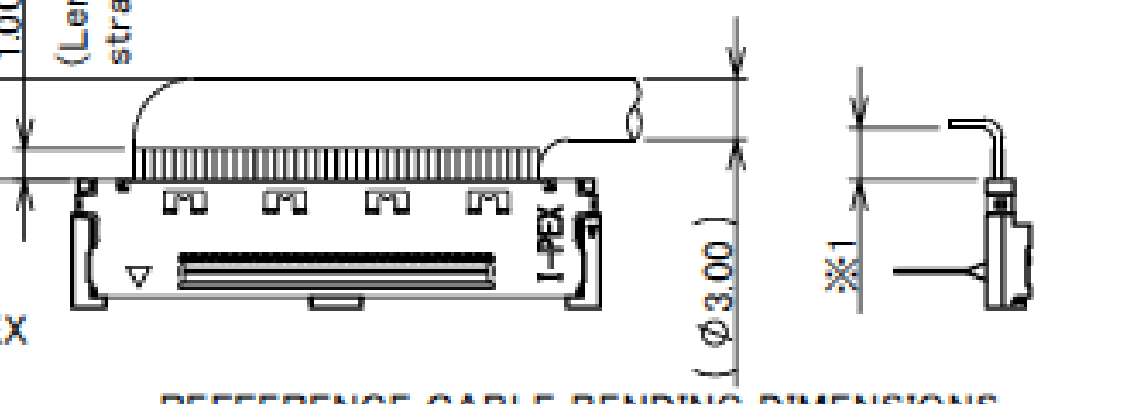
Recommended P/N		20437-0**T-01		
PART No.	POS.	A	B	C
20437-030T-*1	30	14.50	10.50	20.80
20437-040T-*1	40	19.50	15.50	25.80
20437-050T-*1	50	24.50	20.50	30.80



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.



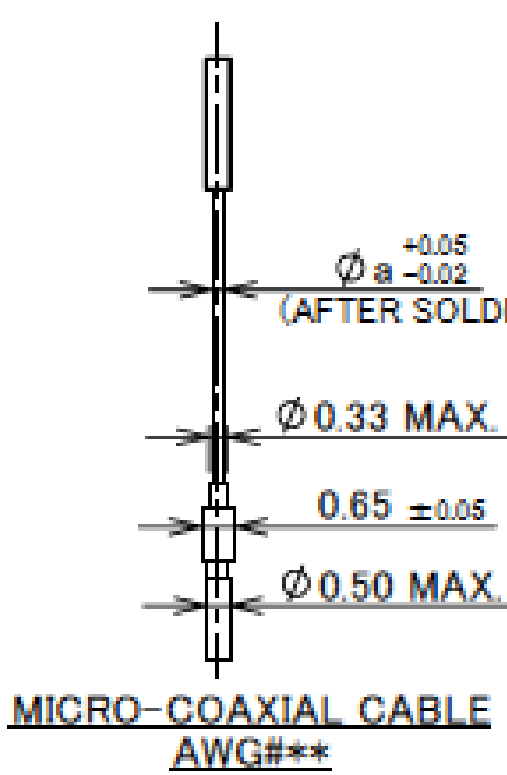
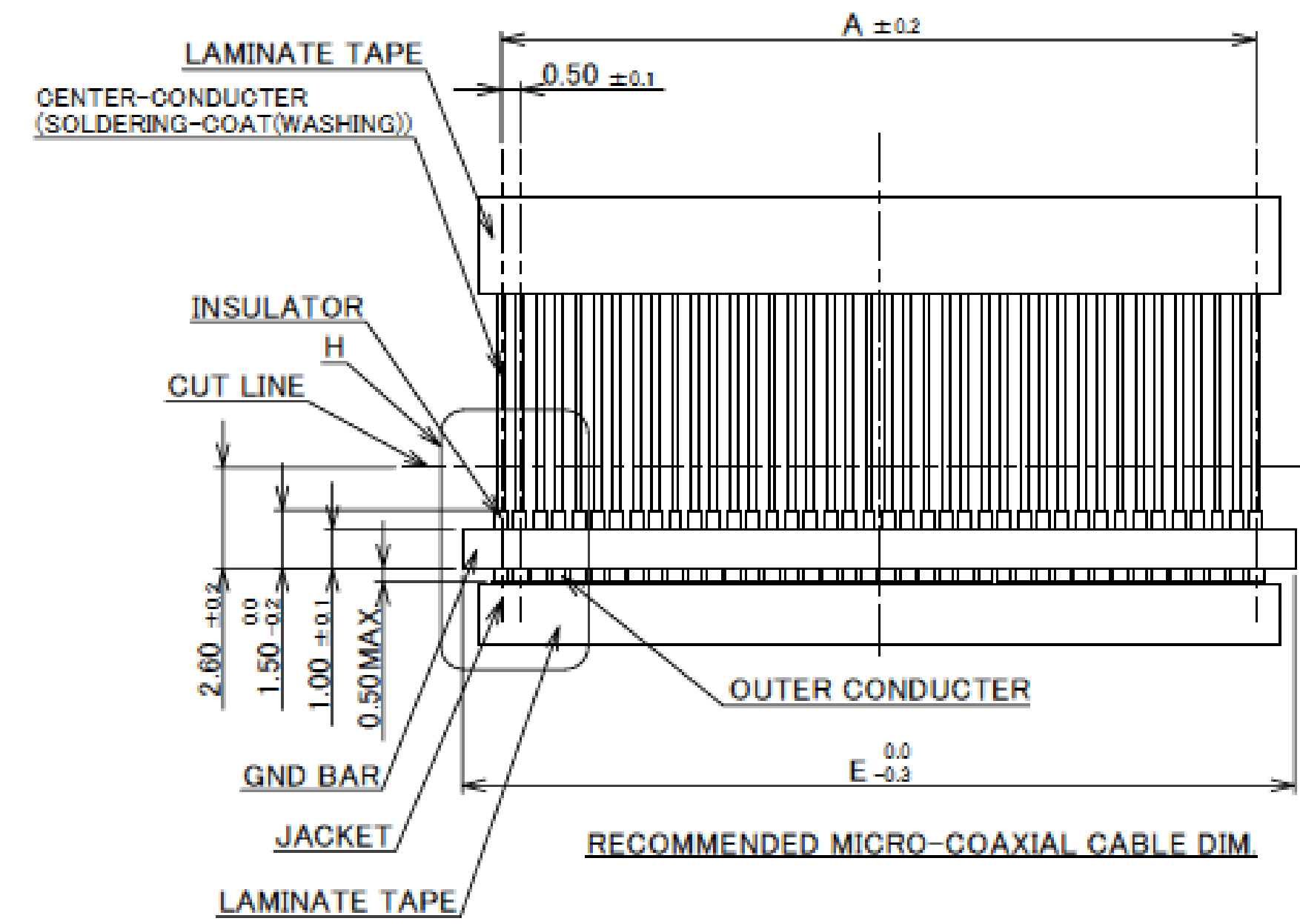
※1: THE BEND DIMENSIONS MAY VARY BASED ON THE SIZE AND QUANTITY OF CABLES. PLEASE CONFIRM THE MINIMUM BENDING RADIUS WITH I-PEX OR THE HARNESS MANUFACTURER.



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



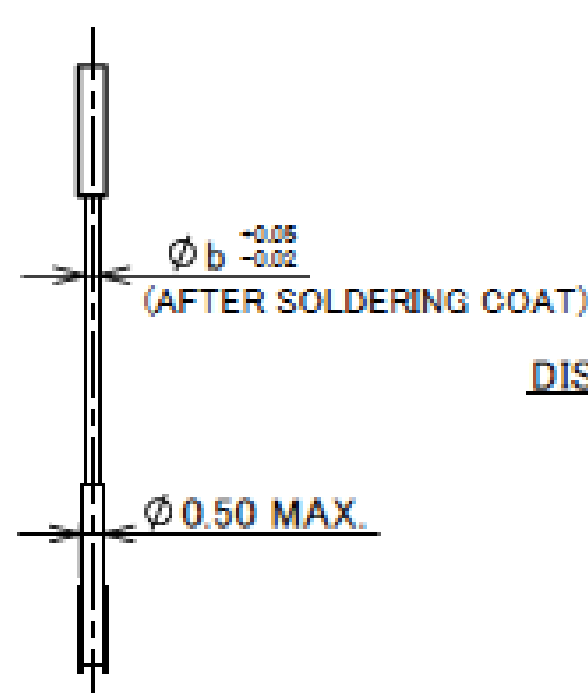
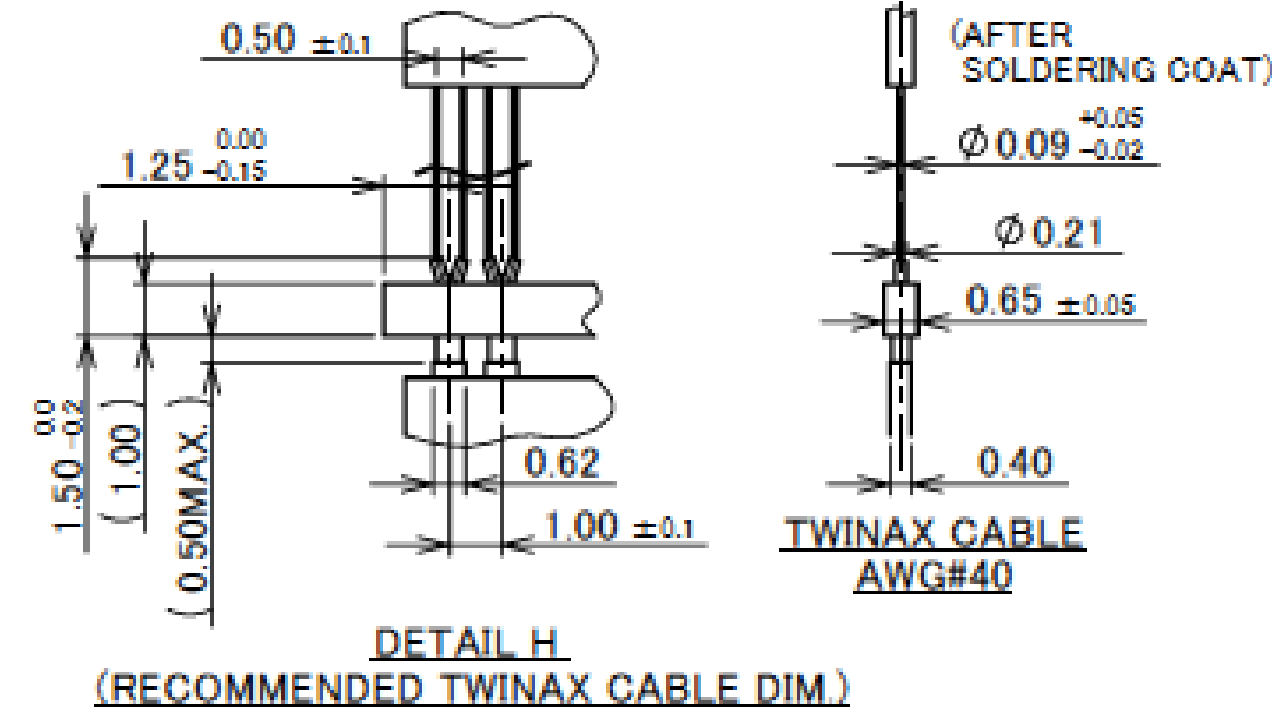
CHARACTERISTIC IMPEDANCE MATCHING MICRO-COAXIAL CABLE

	a
#36	0.15
#38	0.12
#40	0.09

CHARACTERISTIC IMPEDANCE UN-MATCHING MICRO-COAXIAL CABLE

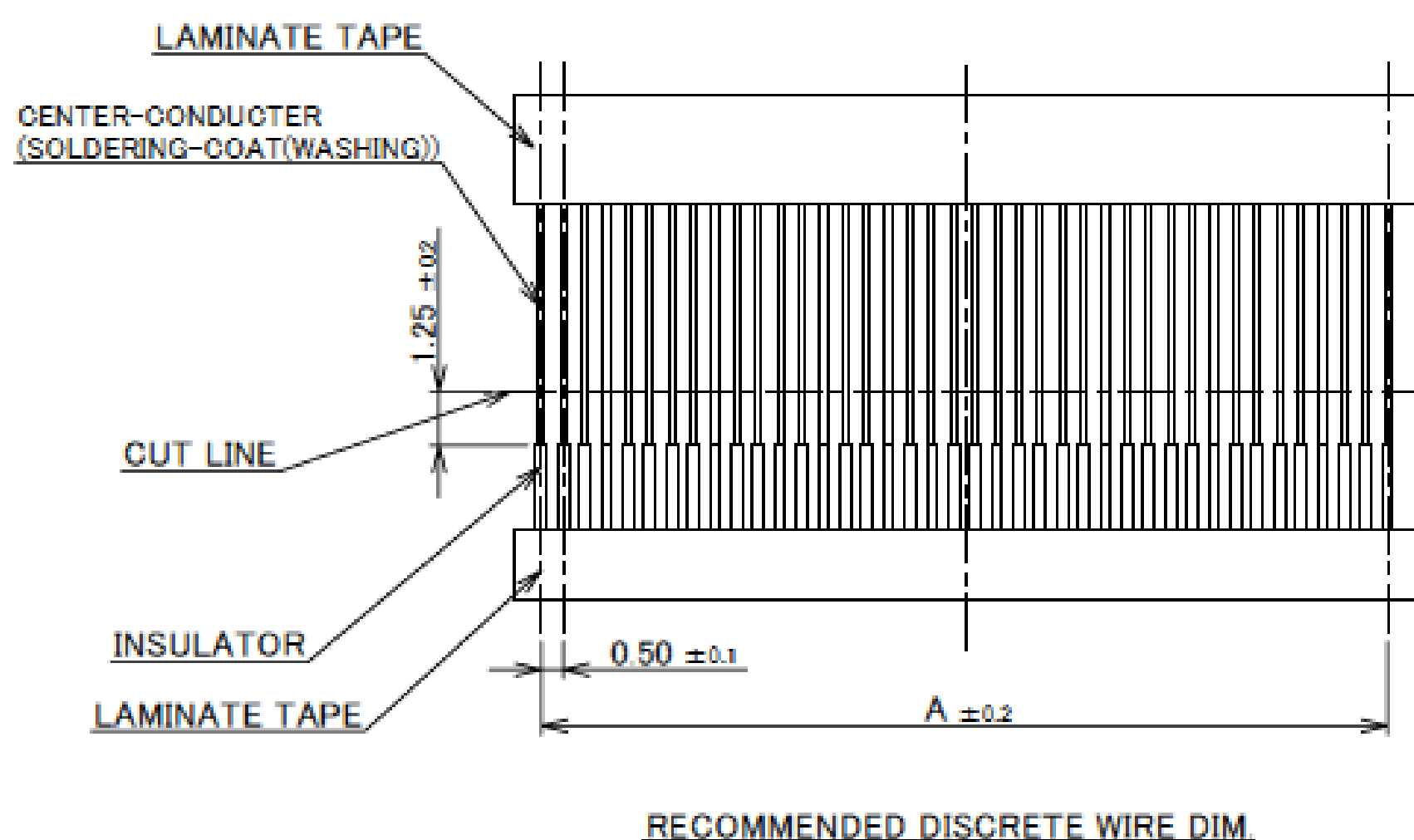
	a
#32	0.24
#34	0.192

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



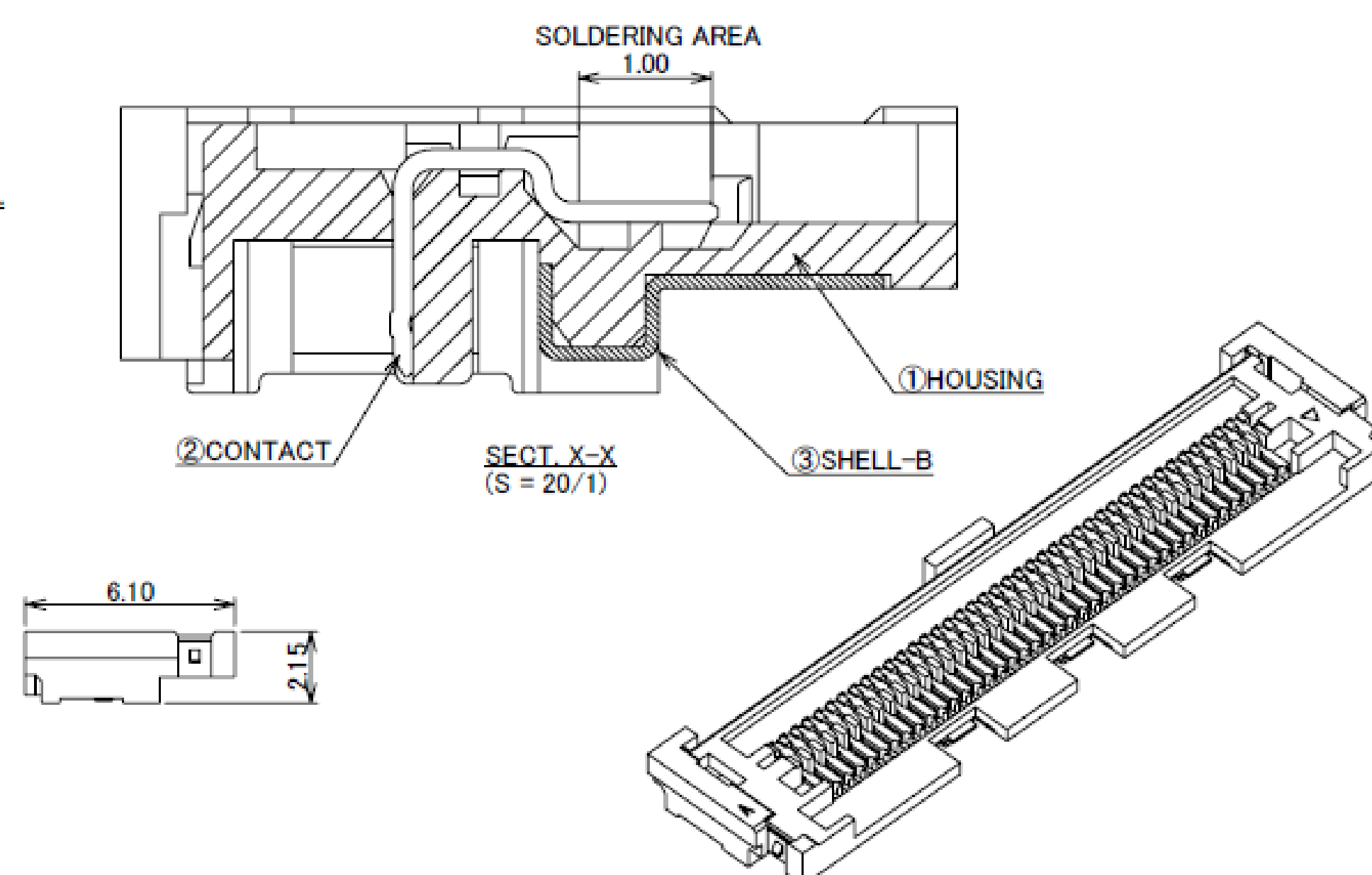
Rev.19

Plug Housing Assembly

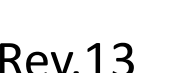
Recommended P/N		20438-0**T-01			
PART No.	POS.	A	B	C	D
20438-030T-*1	30	17.80	16.80	14.50	20.80
20438-040T-*1	40	22.80	21.80	19.50	25.80
20438-050T-*1	50	27.80	26.80	24.50	30.80




Halogen Free RoHS Compliant

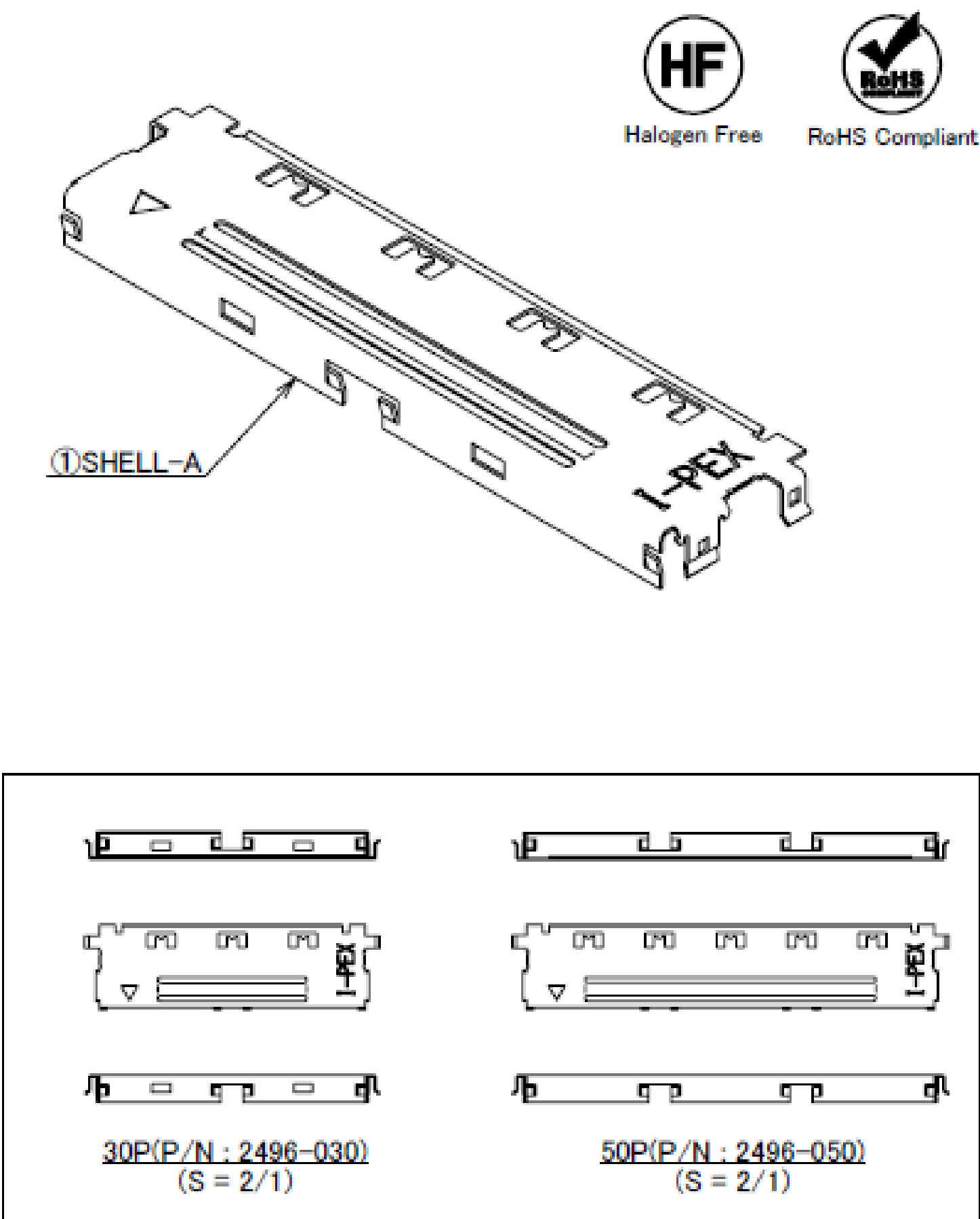
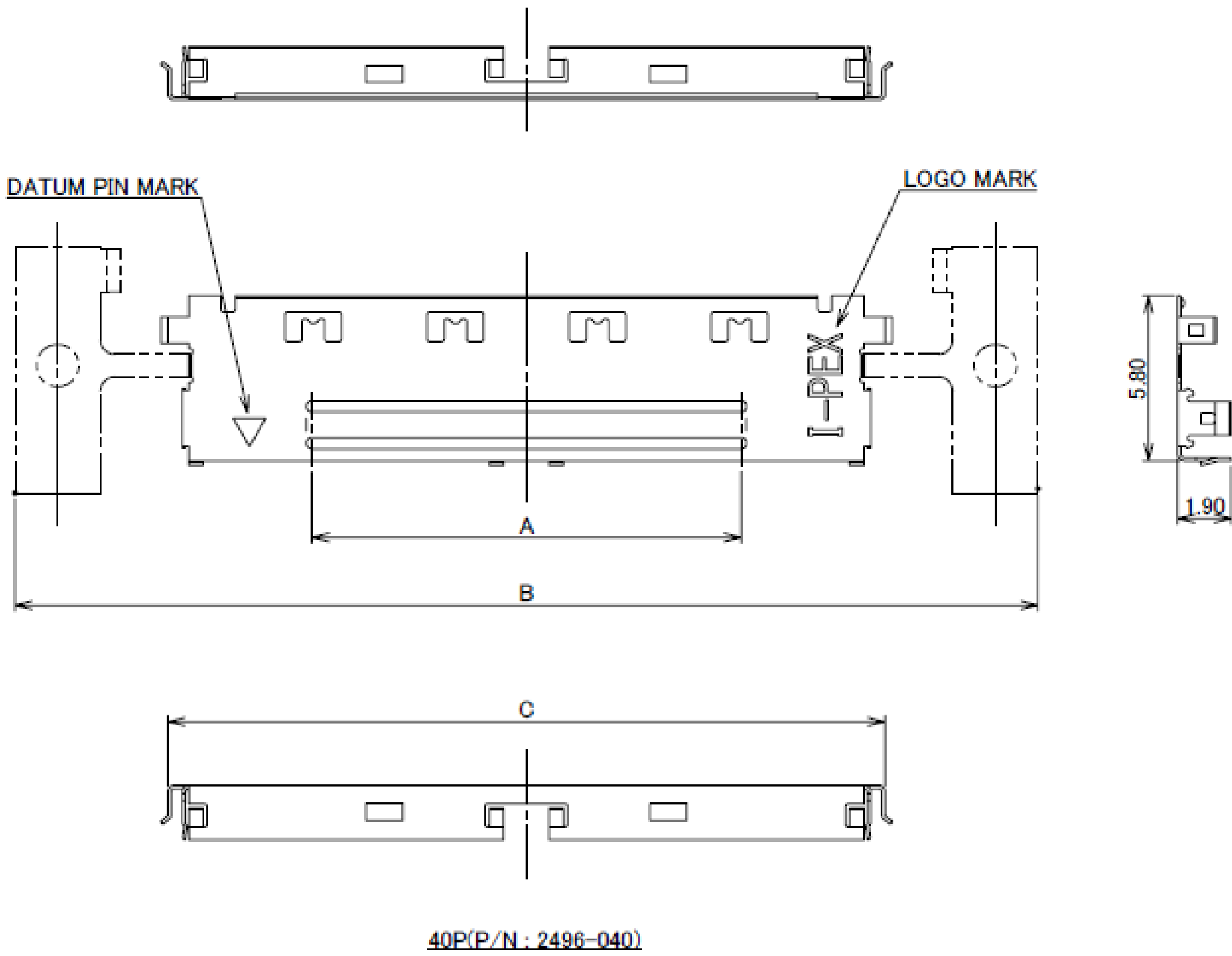


3	SHELL-B	PHOSPHOR BRONZE	Sn 2.00 μ m MIN. OVER Ni 1.00 μ m MIN.
2	CONTACT	PHOSPHOR BRONZE	<u>PART NO. 20438-0**T-01</u> MATING AREA : Au 0.10 μm MIN. OVER Ni 1.00 μm MIN. OTHER AREA : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN. <u>PART NO. 20438-0**T-11</u> MATING AREA : Au 0.30 μm MIN. OVER Ni 1.00 μm MIN.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



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

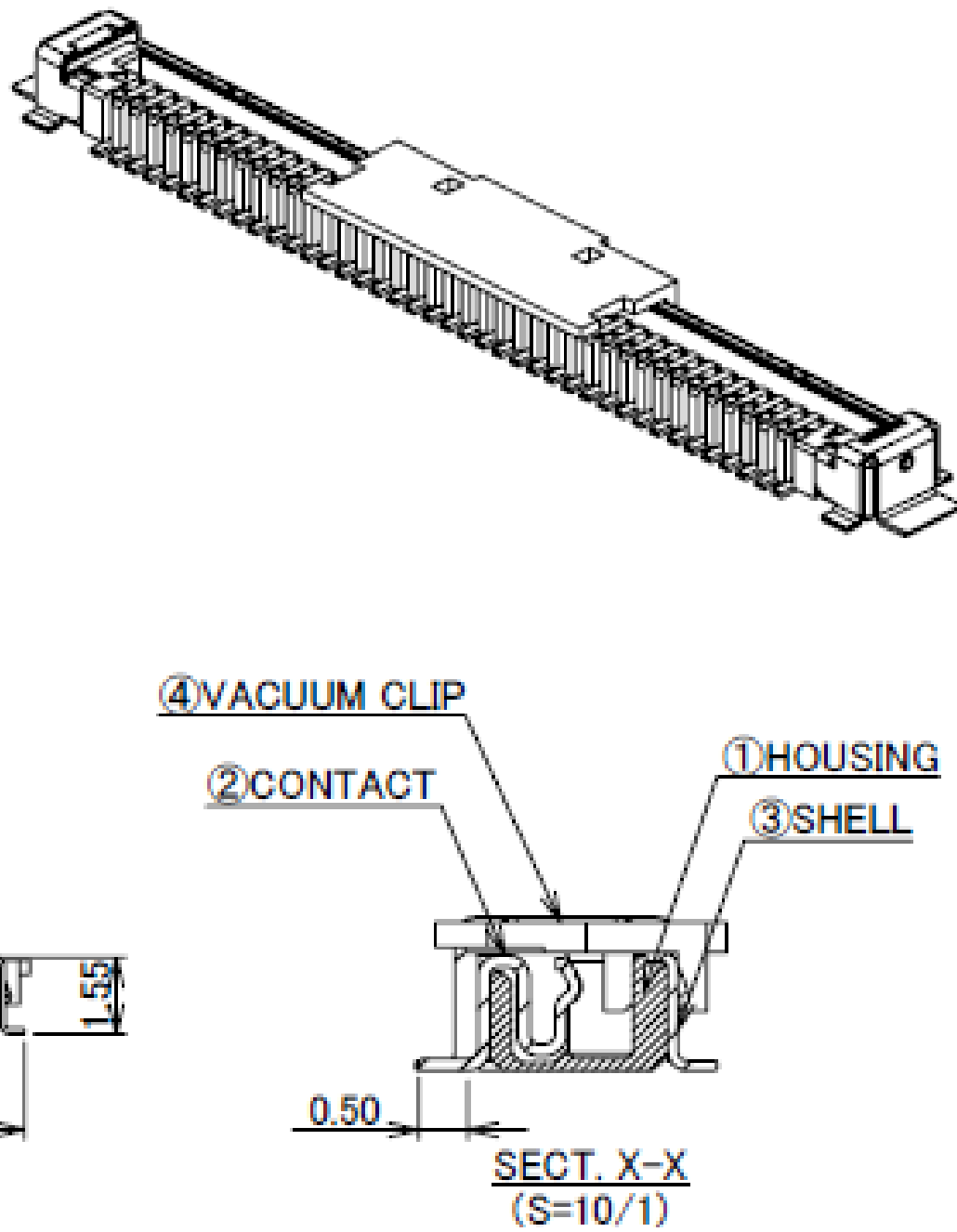
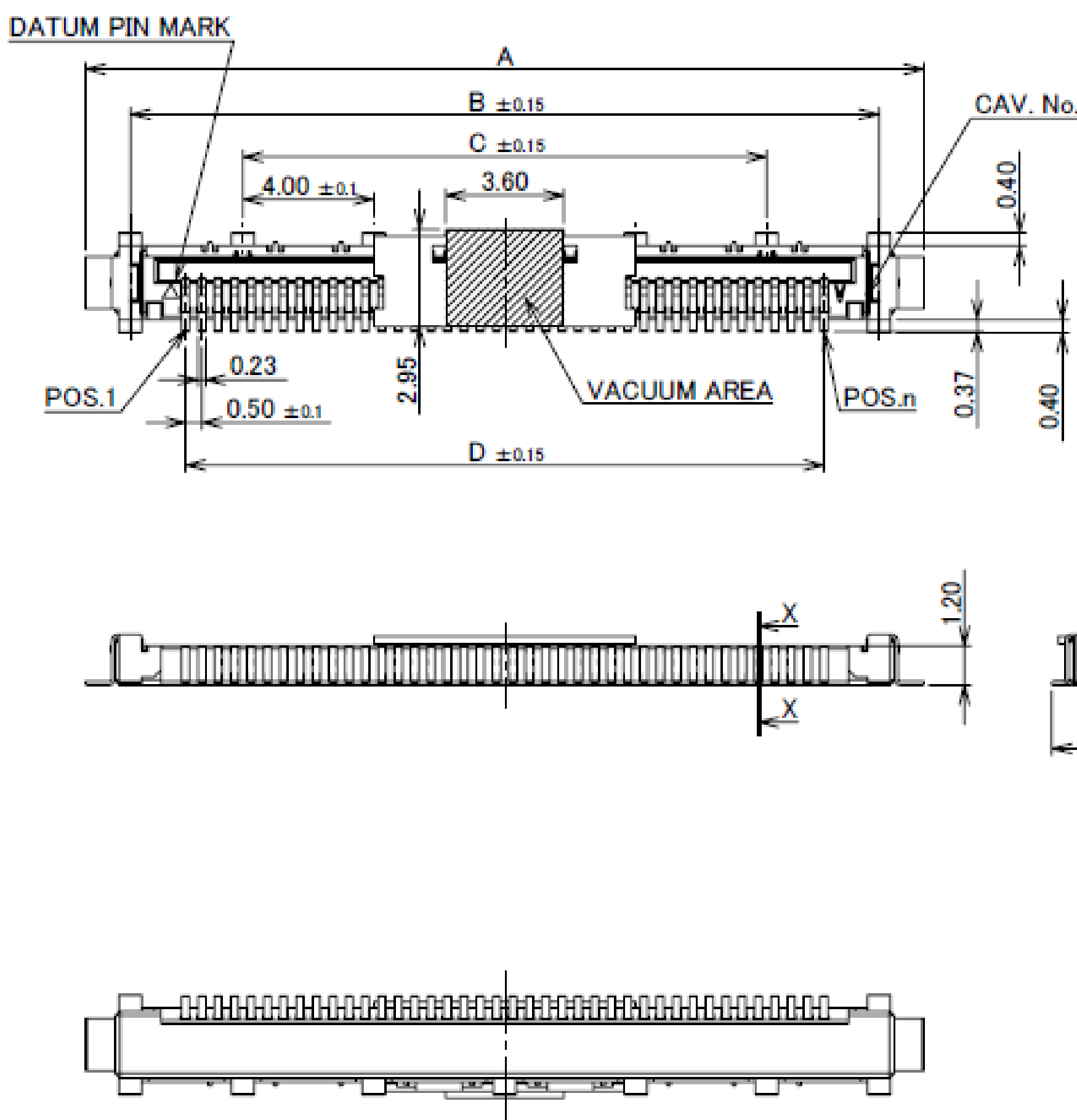


1	SHELL-A	PHOSPHOR BRONZE	Sn(NO POLISH) 2.00 μ m MIN. OVER Ni 1.00 μ m MIN.
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

Rev.11

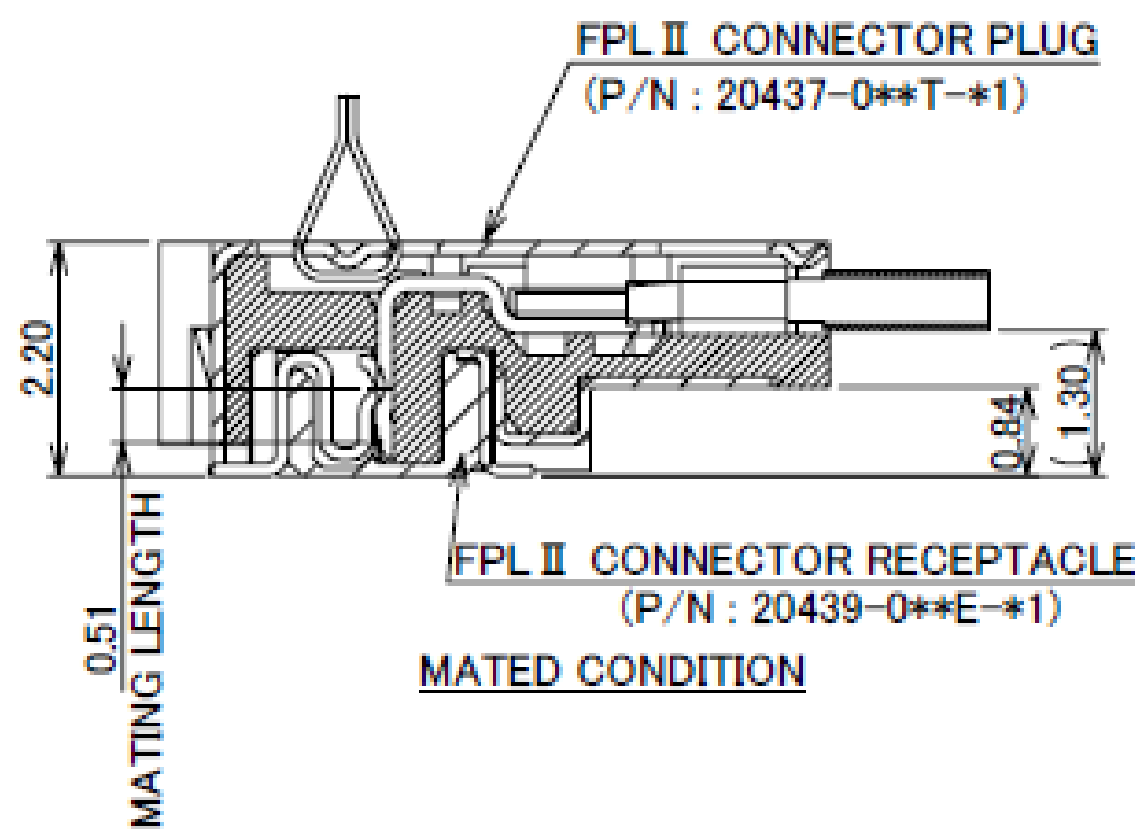
Receptacle Assembly

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 μ m MIN.
20439-0**E-11	Au 0.3 μ m 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

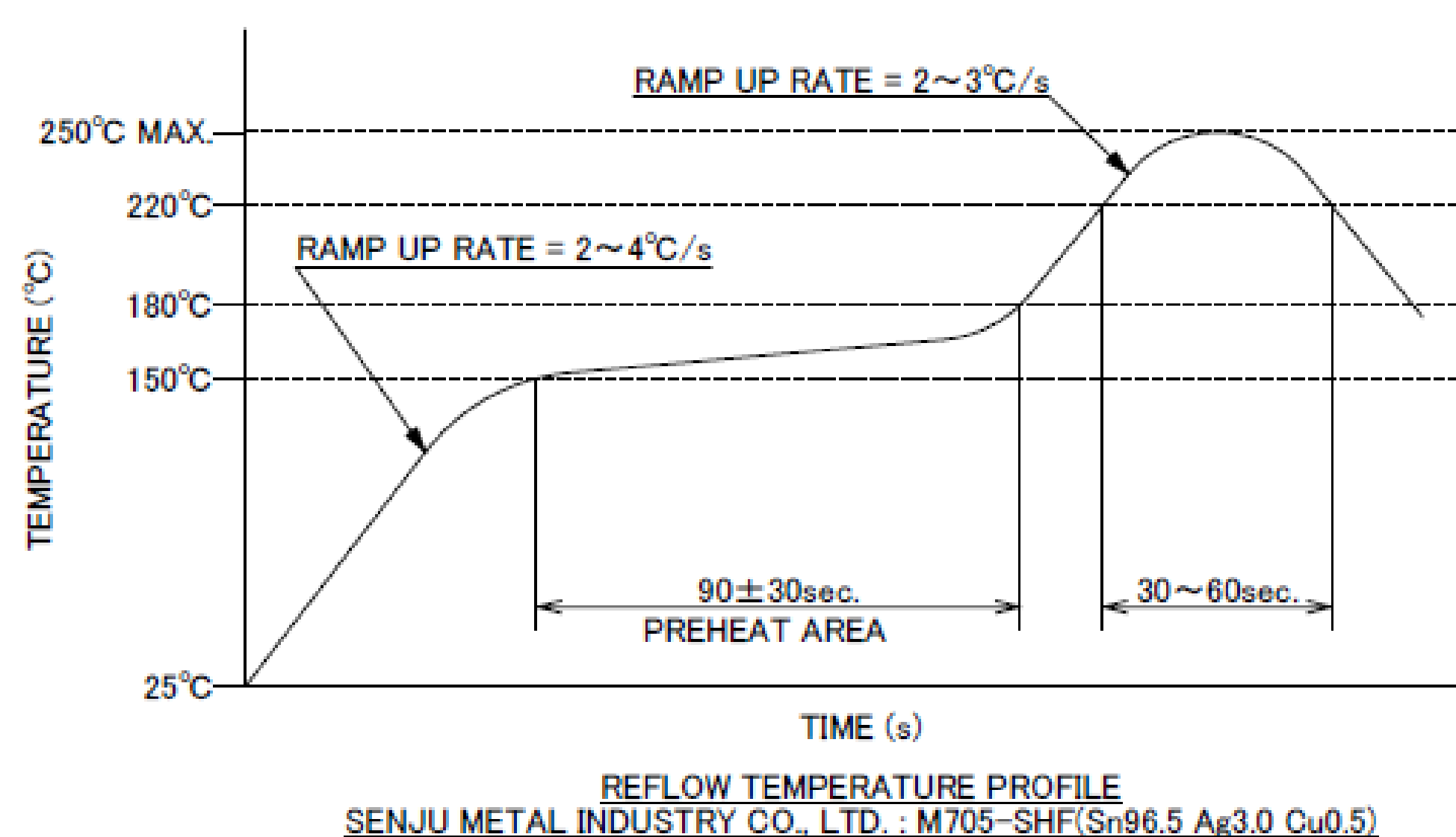
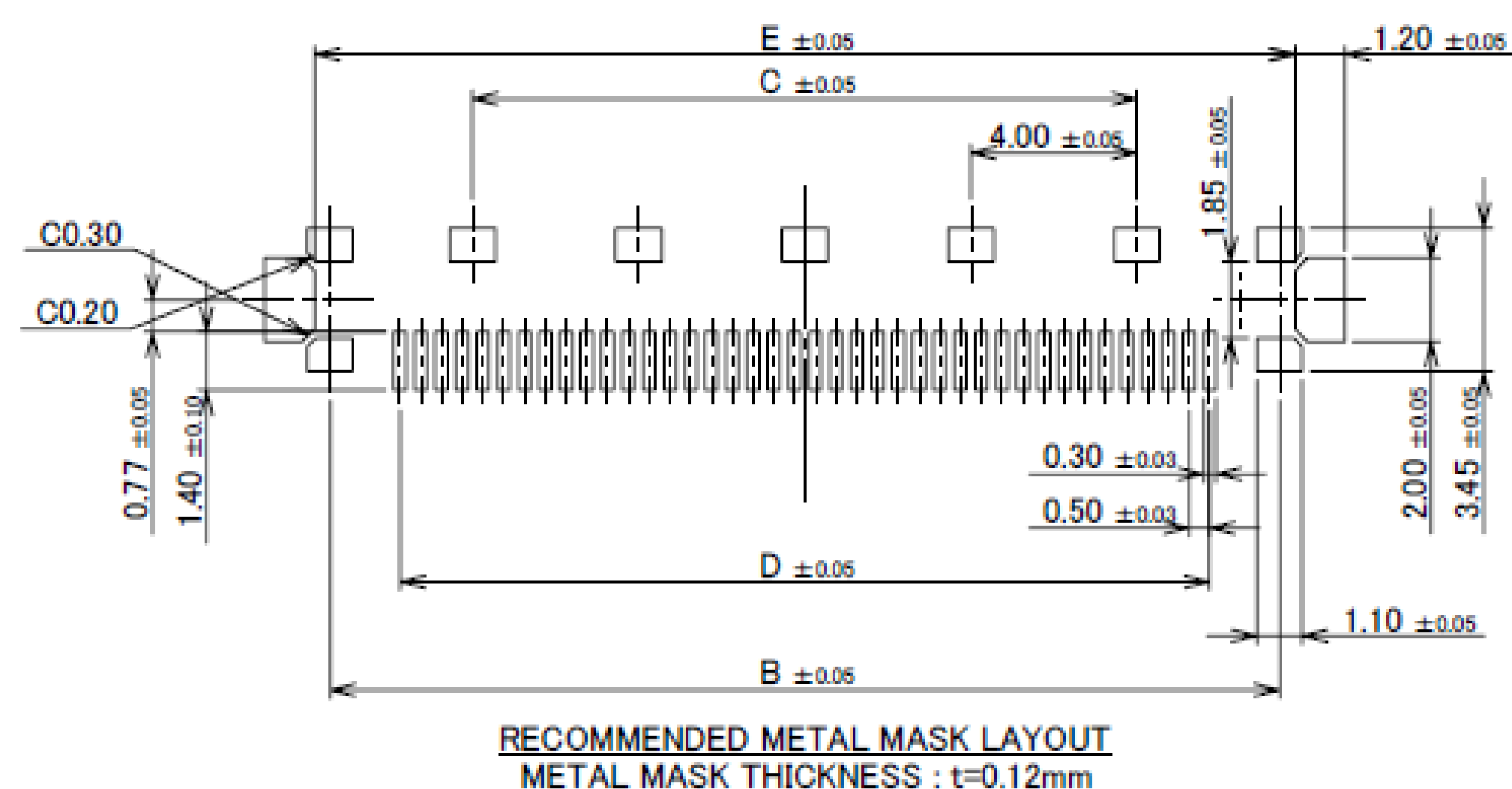
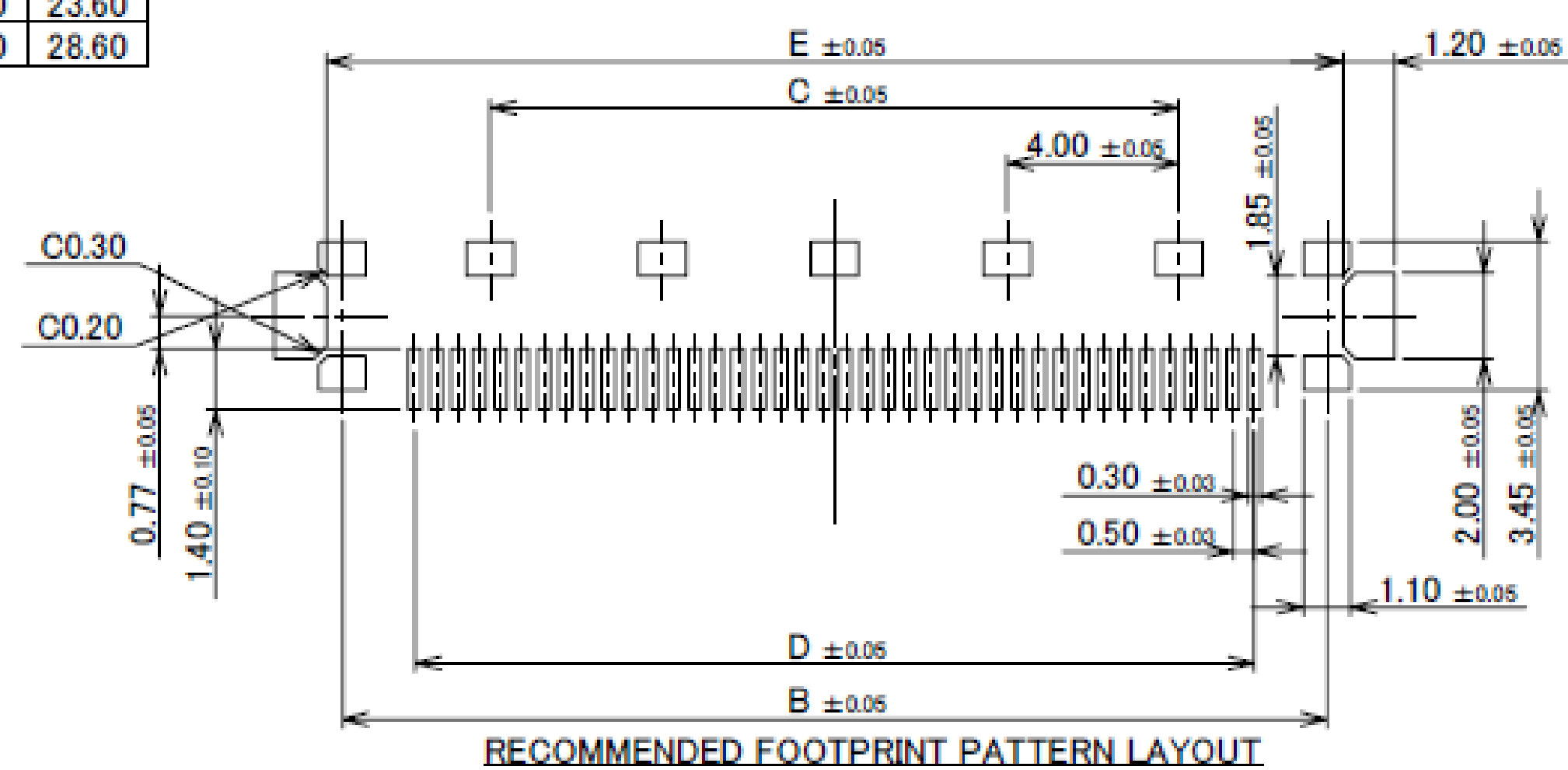


4	VACUUM CLIP	LCP	UL94V-0, BEIGE
3	SHELL	PHOSPHOR BRONZE	Sn(NO POLISH) 0.50 μ m MIN. OVER Ni 1.00 μ m MIN.
2	CONTACT	PHOSPHOR BRONZE	PART NO. 20439-0**E-0* MATING AREA : Au 0.10 μ m MIN. OVER Ni 1.00 μ m MIN. OTHER AREA : Au 0.05 μ m MIN. OVER Ni 1.00 μ m MIN. PART NO. 20439-0**E-1* MATING AREA : Au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

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



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℃~+85℃)
OPERATING HUMIDITY	85% MAX.
CONTACT RESISTANCE	INITIAL : 145mohm MAX.(AWG#32) / AFTER TEST : ≦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 : ≦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***

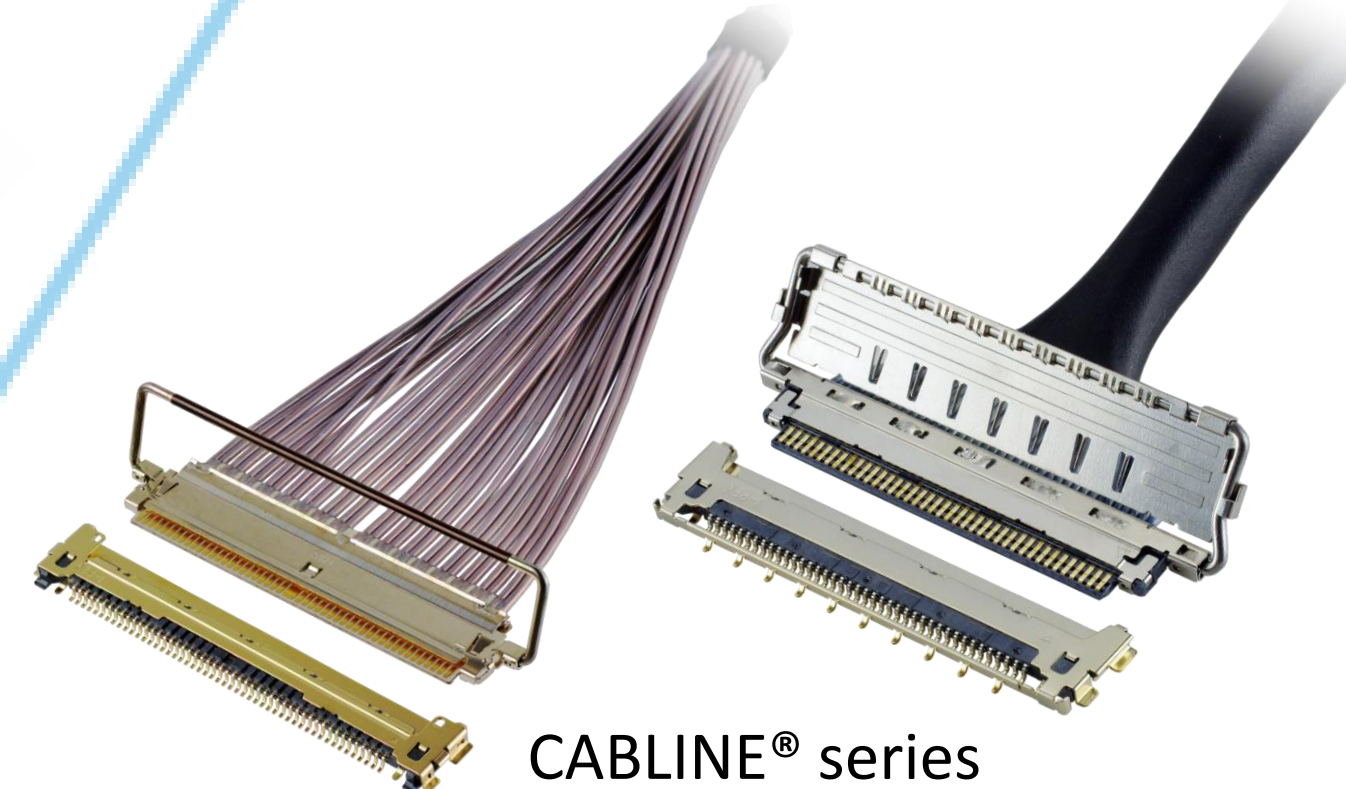
Custom Connectors Available

 RF
Connectors

MHF® series



Micro-Coaxial/Twinax
Connectors

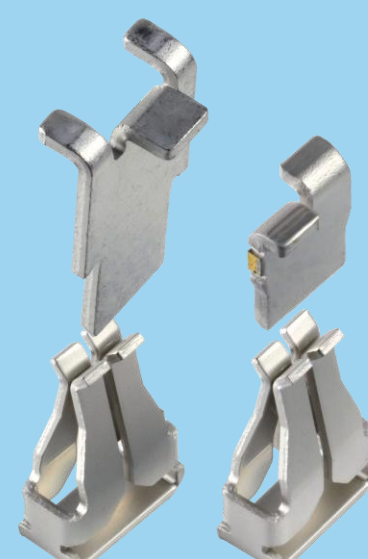


CABLIN® series

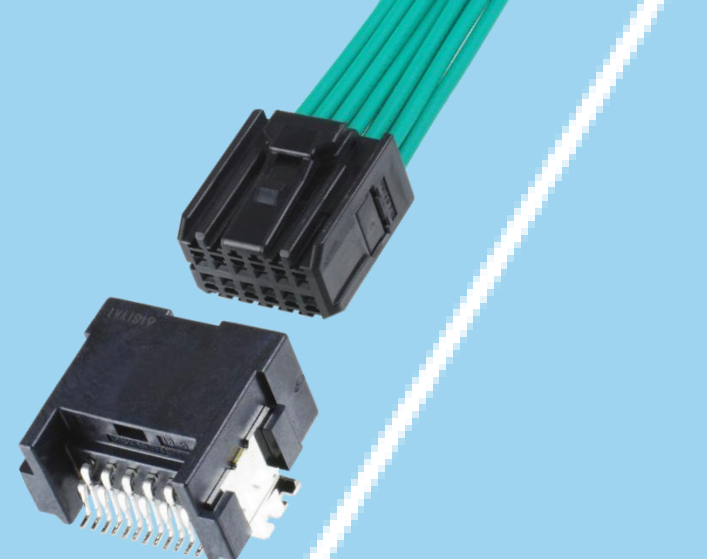


Wire-to-Board
Connectors/
Terminals

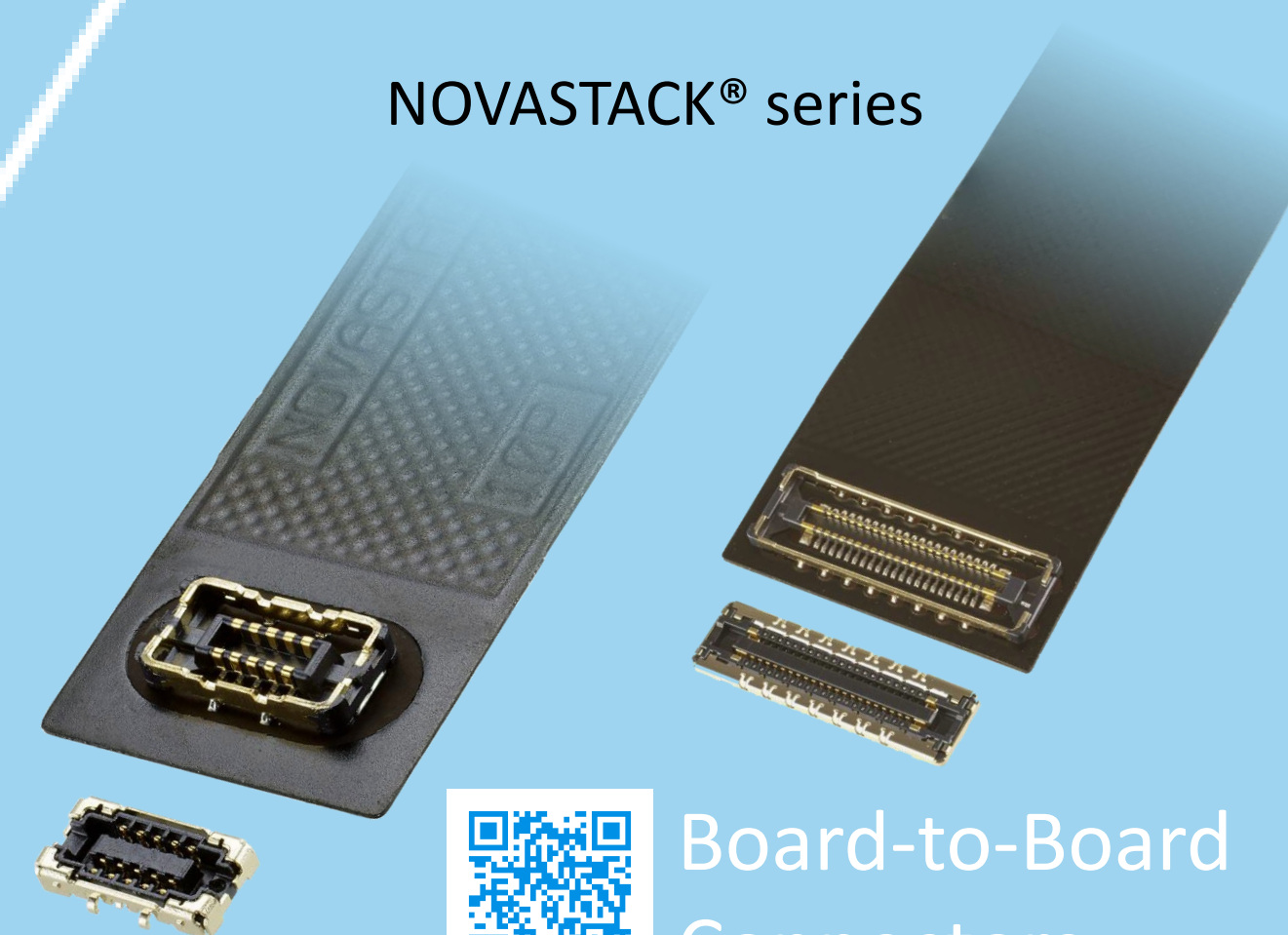
AP series



ISH® series



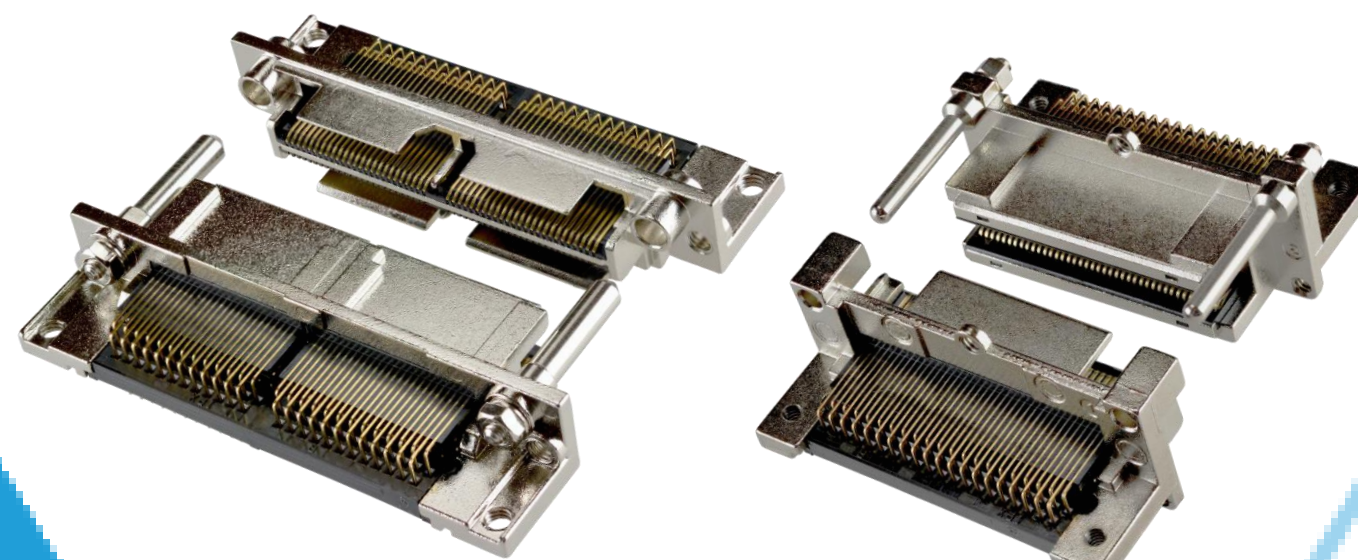
NOVASTACK® series



Board-to-Board
Connectors



I/O
Connectors



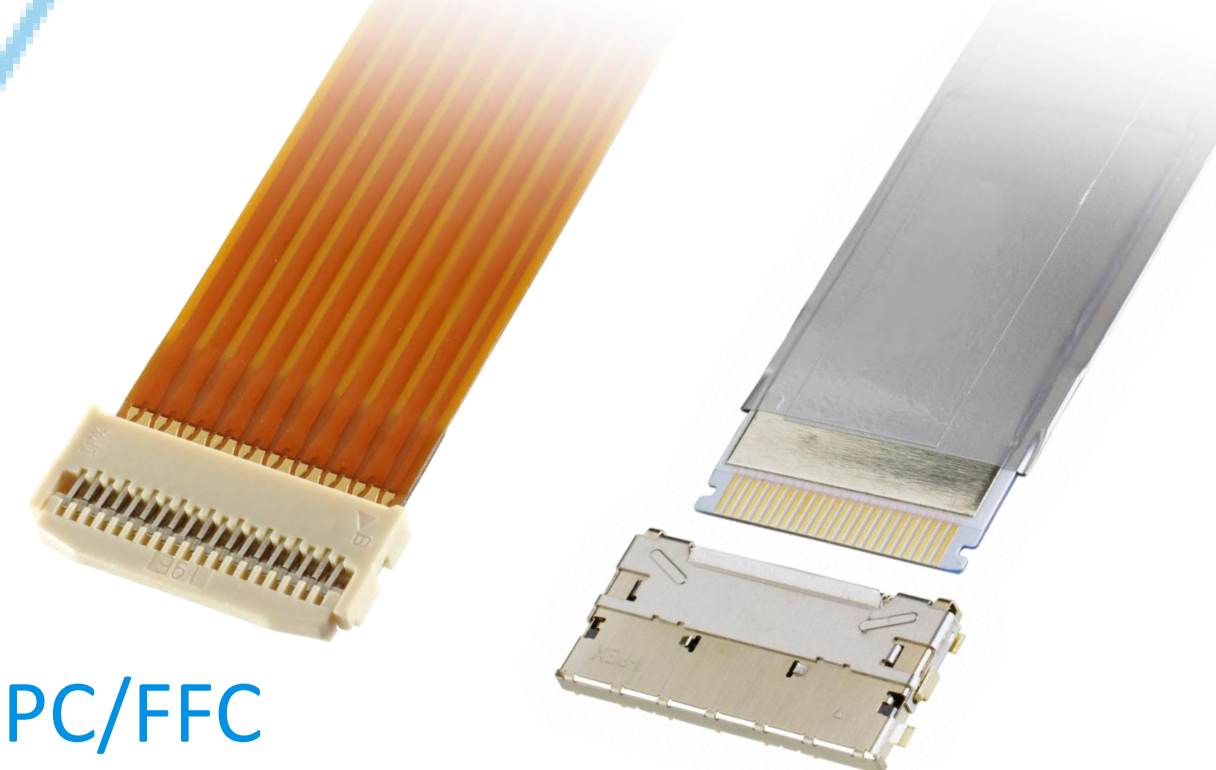
MINIDOCK™ series



FPC/FFC
Connectors

MINIFLEX® series

EVAFLEX® series



Inquiry



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