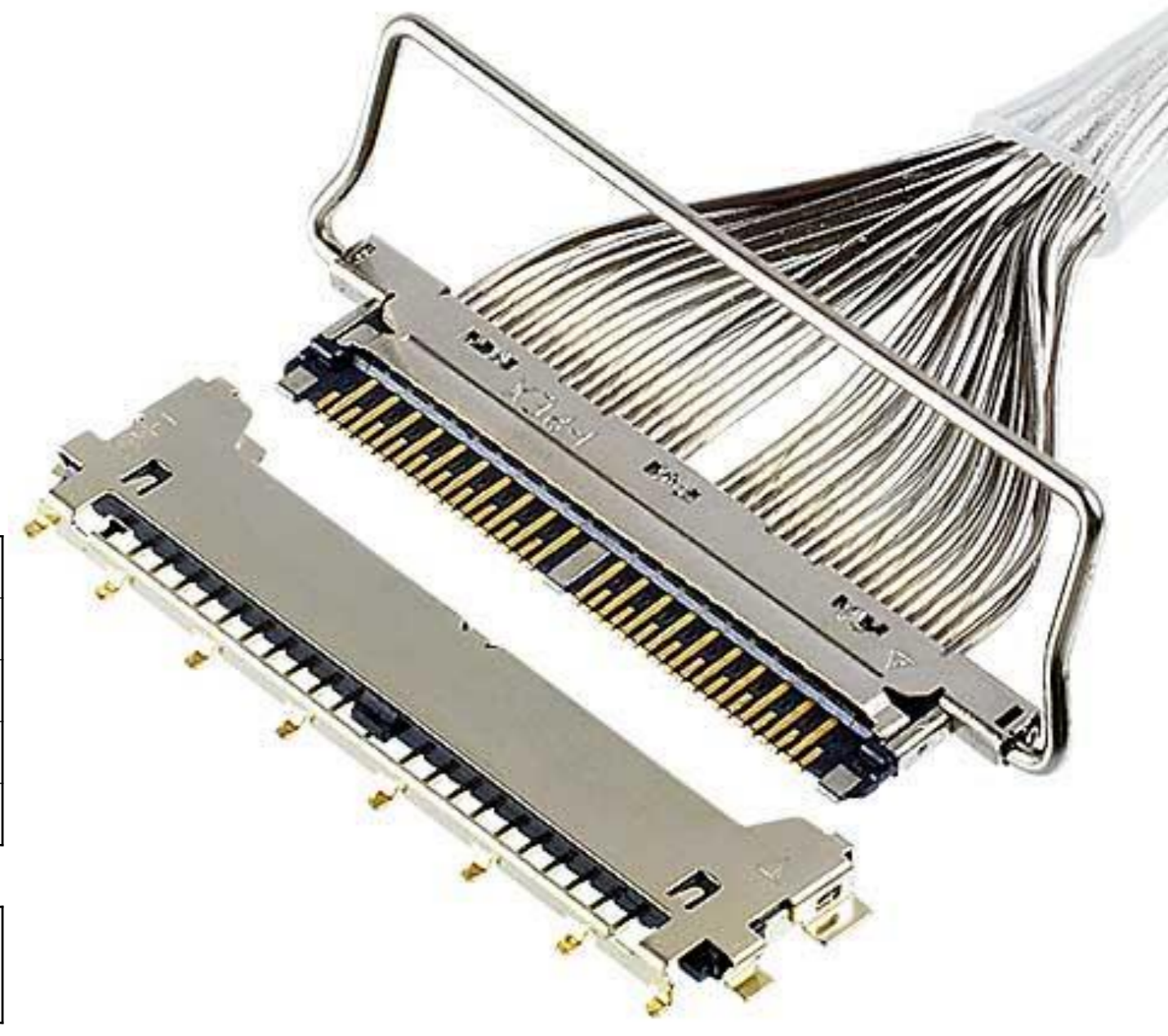


# CABLINE®-CX II Without Cover

Narrow pitch (0.25 mm pitch), Low mating height (Height = 0.78 mm max), Mechanical lock with shielding and multi-point ground, Horizontal mating type micro-coaxial connector



**Product Specifications:**

Mating type	Horizontal	
Board Pitch (mm)	0.5	
Wiping Length (mm)	0.54	
Mated size (mm)	Height	0.78 Max
	Width	Formula: 6.45 + (0.25*?p)
	Depth	5.21
Pin Counts	Range	Up to 40
	Available	40

**Applicable Cable Size:**

Maximum O.D. (mm)	0.25
Micro-Coaxial for Signal (AWG)	45 ohm: #44 or smaller
	50 ohm: #46 or smaller
Twinax (AWG)	-
Discrete (AWG)	#39 or smaller

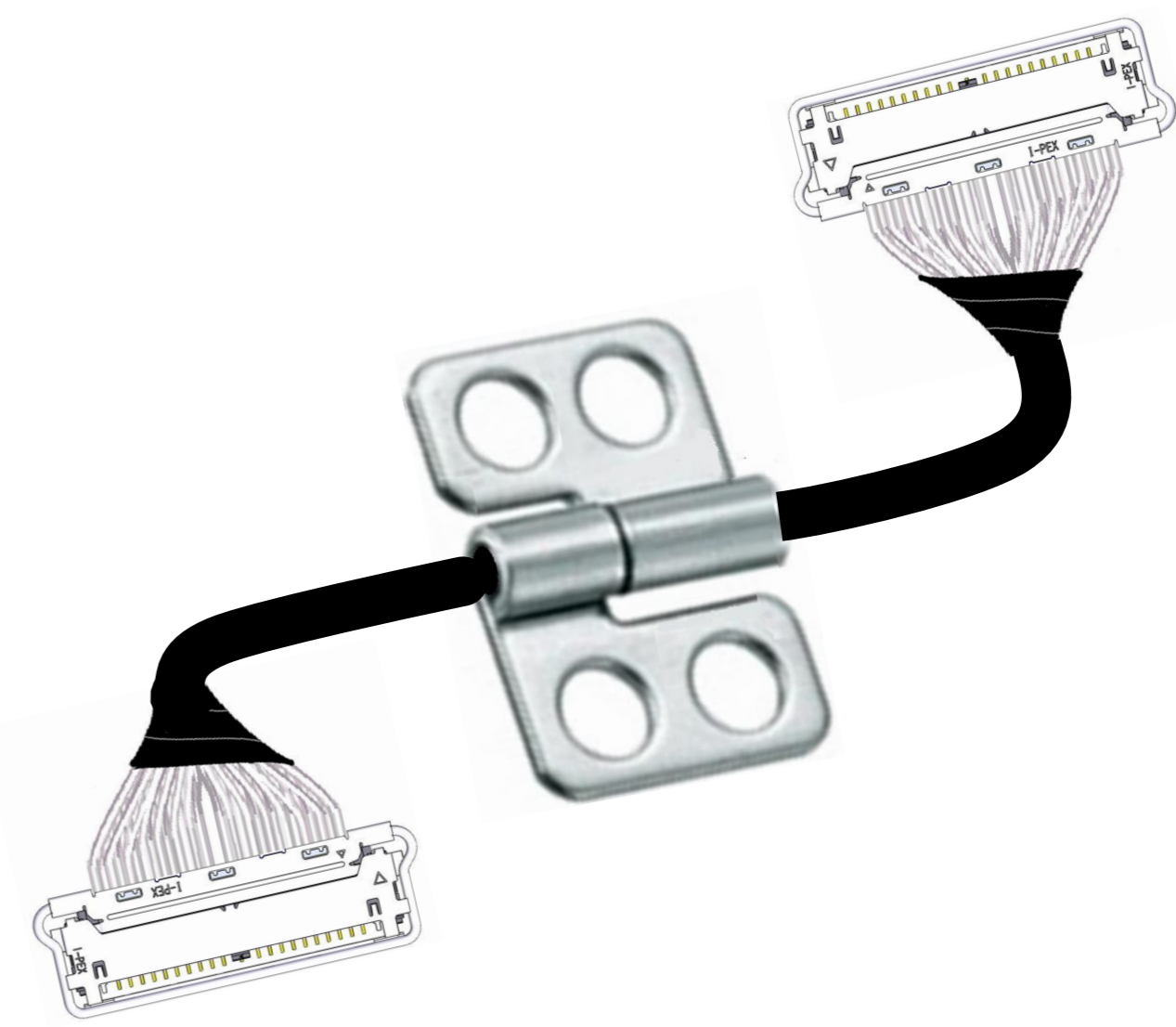
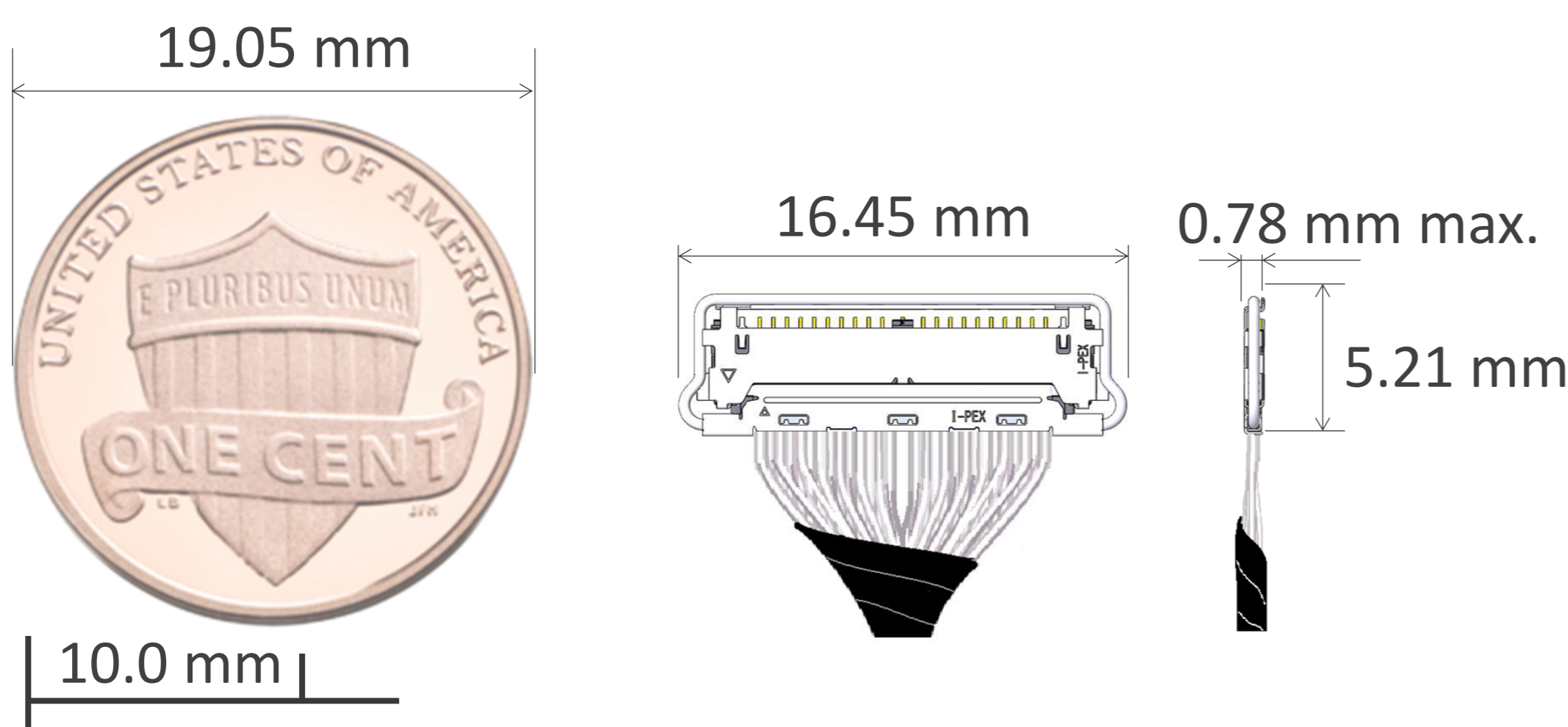
**Applicable Standards (Reference Only):**

USB 3.1 Gen 1 (5 Gbps), V-By-One HS 1.4 (4 Gbps), HDMI 1.3 (3.4 Gbps) Gbps

\* Please inquire for pin counts not listed or outside of the pin count range.  
\* CABLINE®-CX II With Cover type (mating height 1.0 mm max.) is also available.

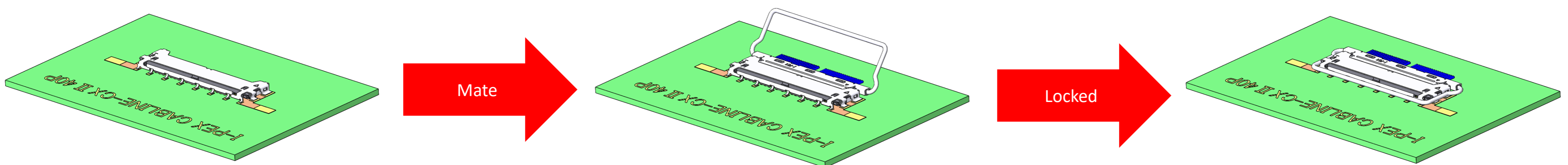
► **Suitable for small spaces** [Hinge Component Pass-Through with CABLINE® Harness Assemblies](#)

CABLINE-CX II 40p size is smaller than a one-cent coin.  
Mating Height: 0.78 mm maximum



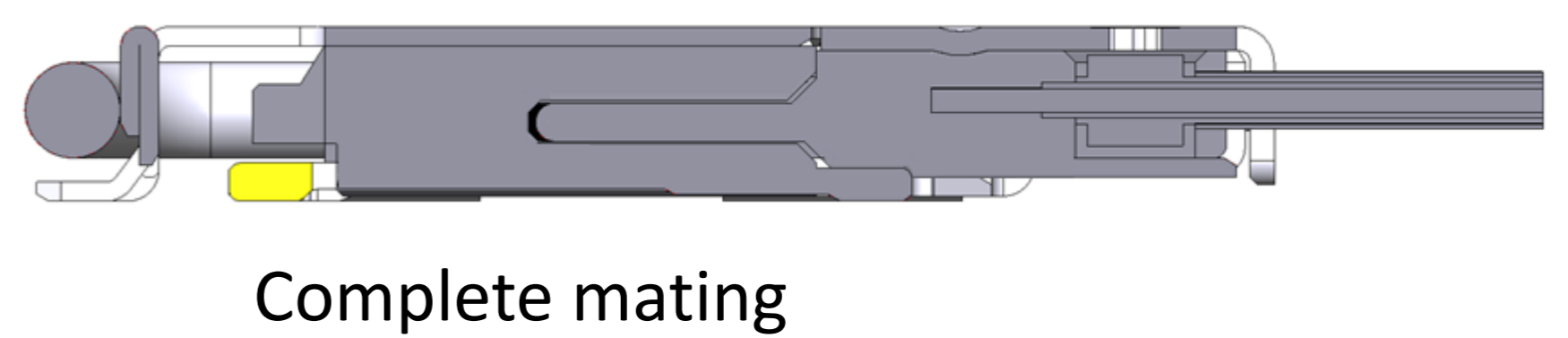
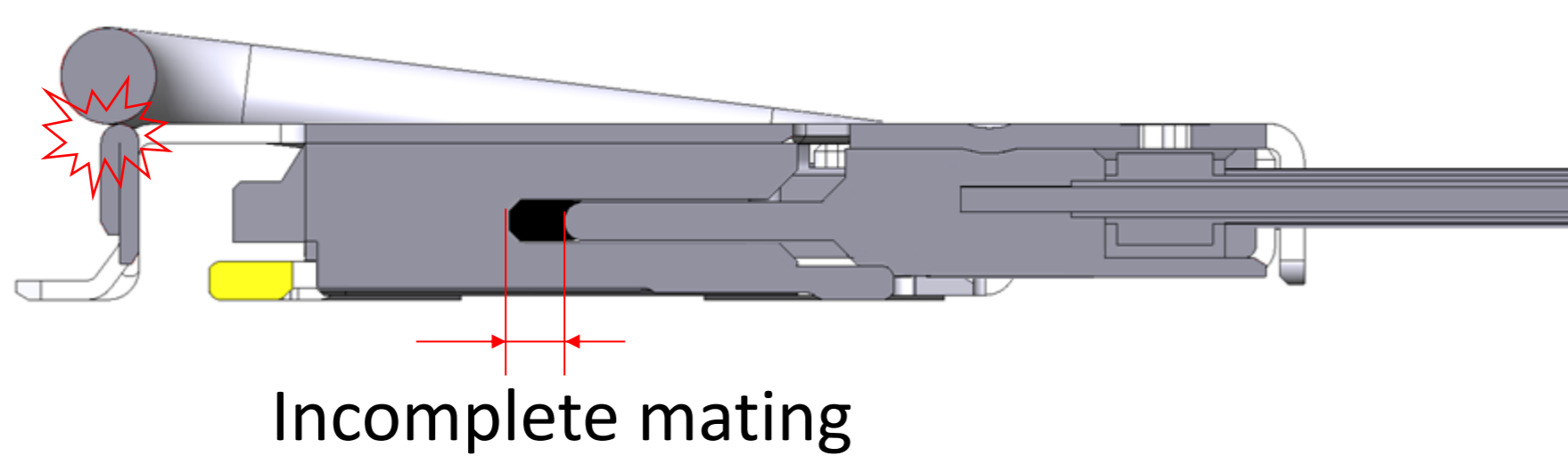
Flexible micro-coaxial cable harness is suitable for small applications with hinge design.

► **Mechanical locking bar prevents incomplete mating and back-out/un-mating**

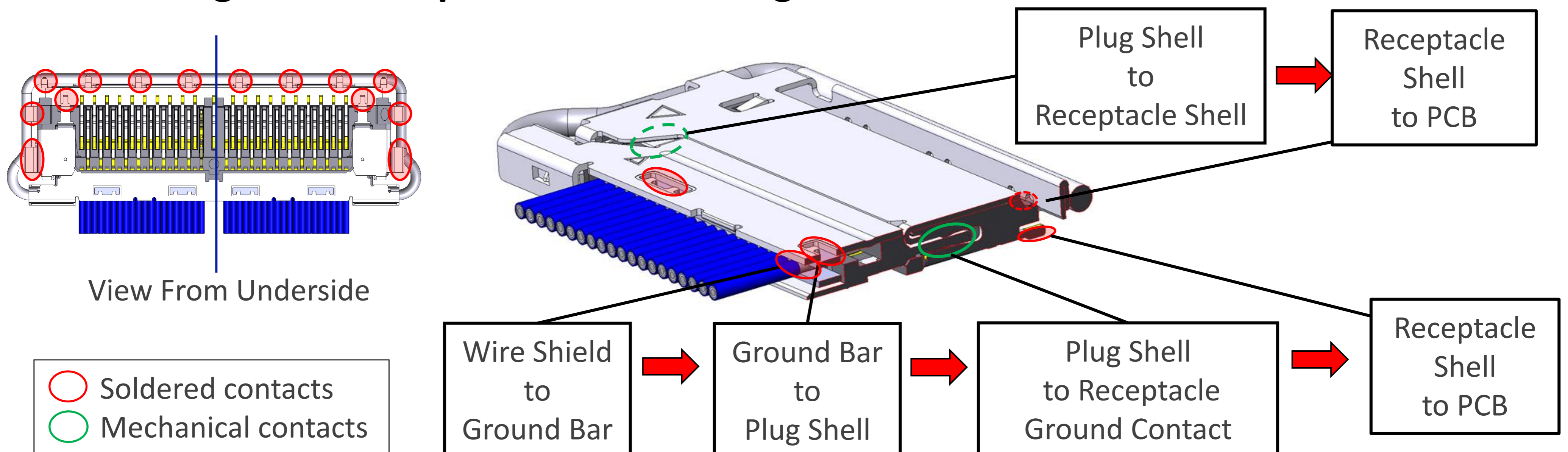


Mechanical locking bar can be locked only when plug is fully mated to receptacle.

**Interference**

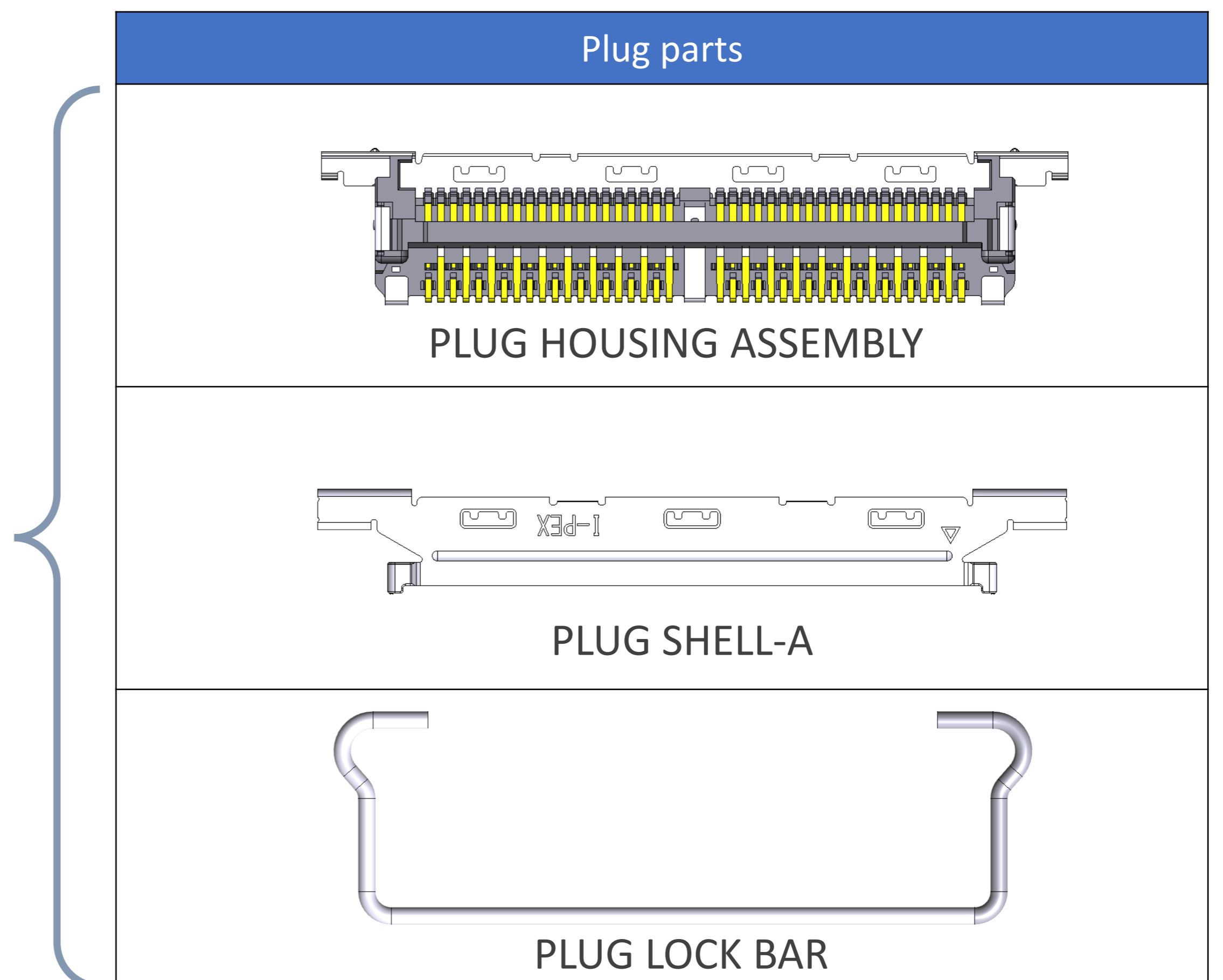
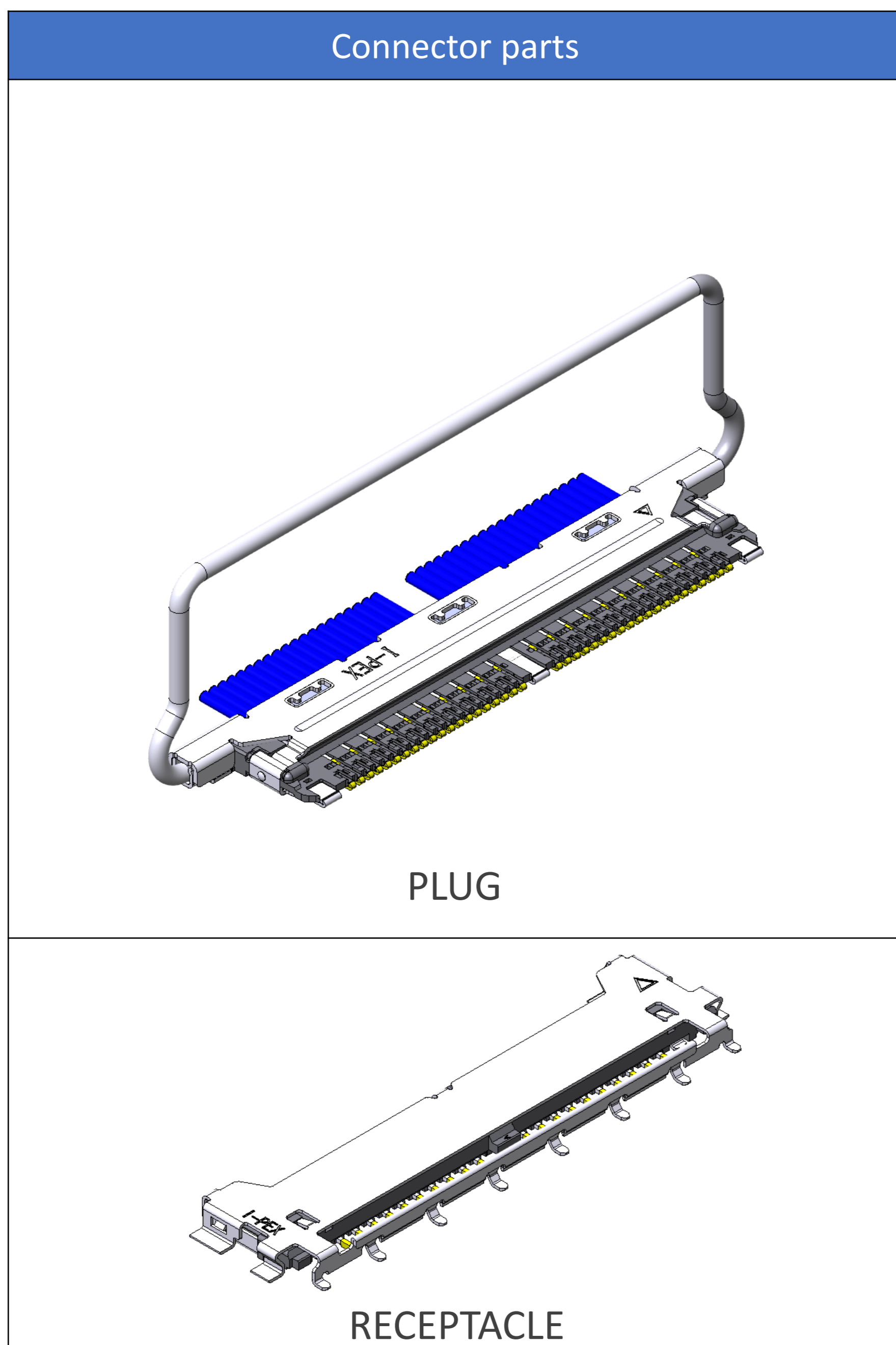


► **EMI Shielding and Multi-point Ground Design**



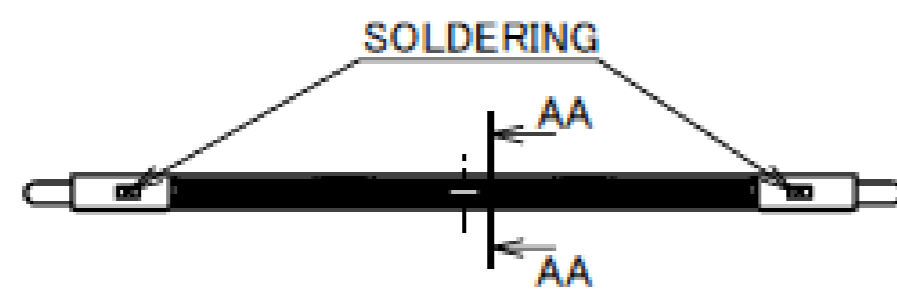
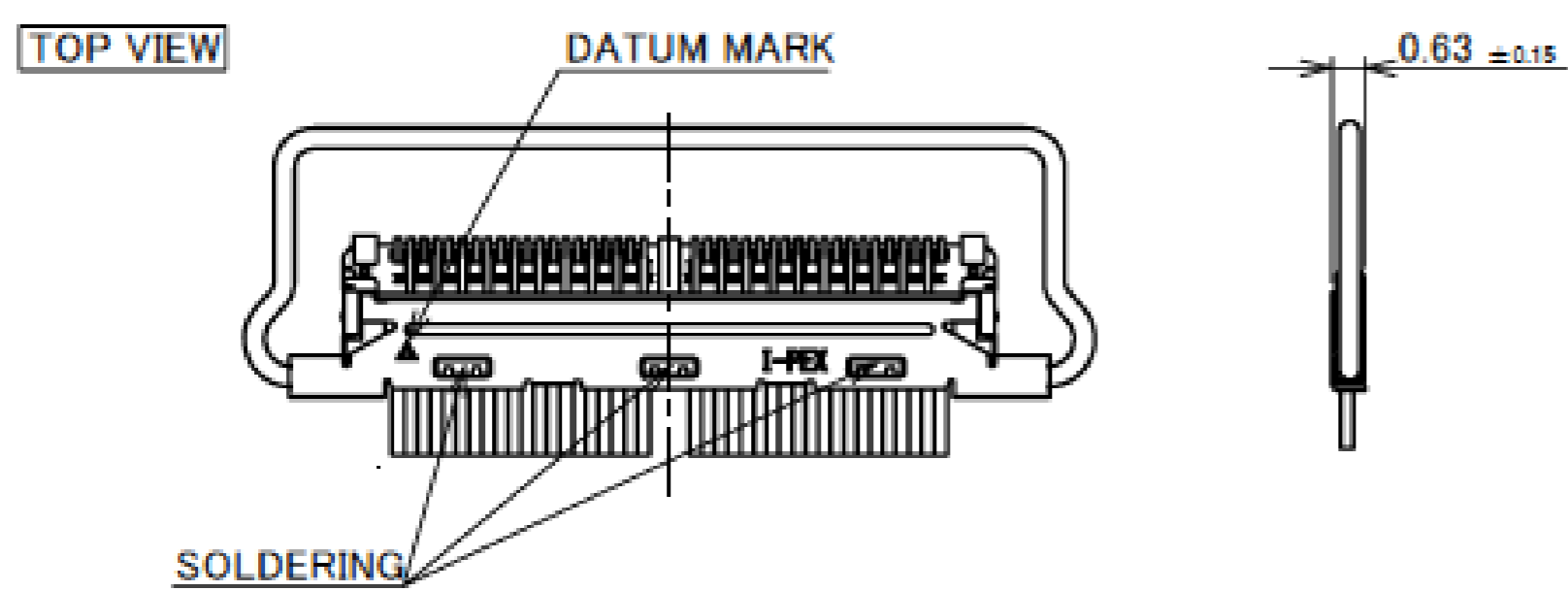
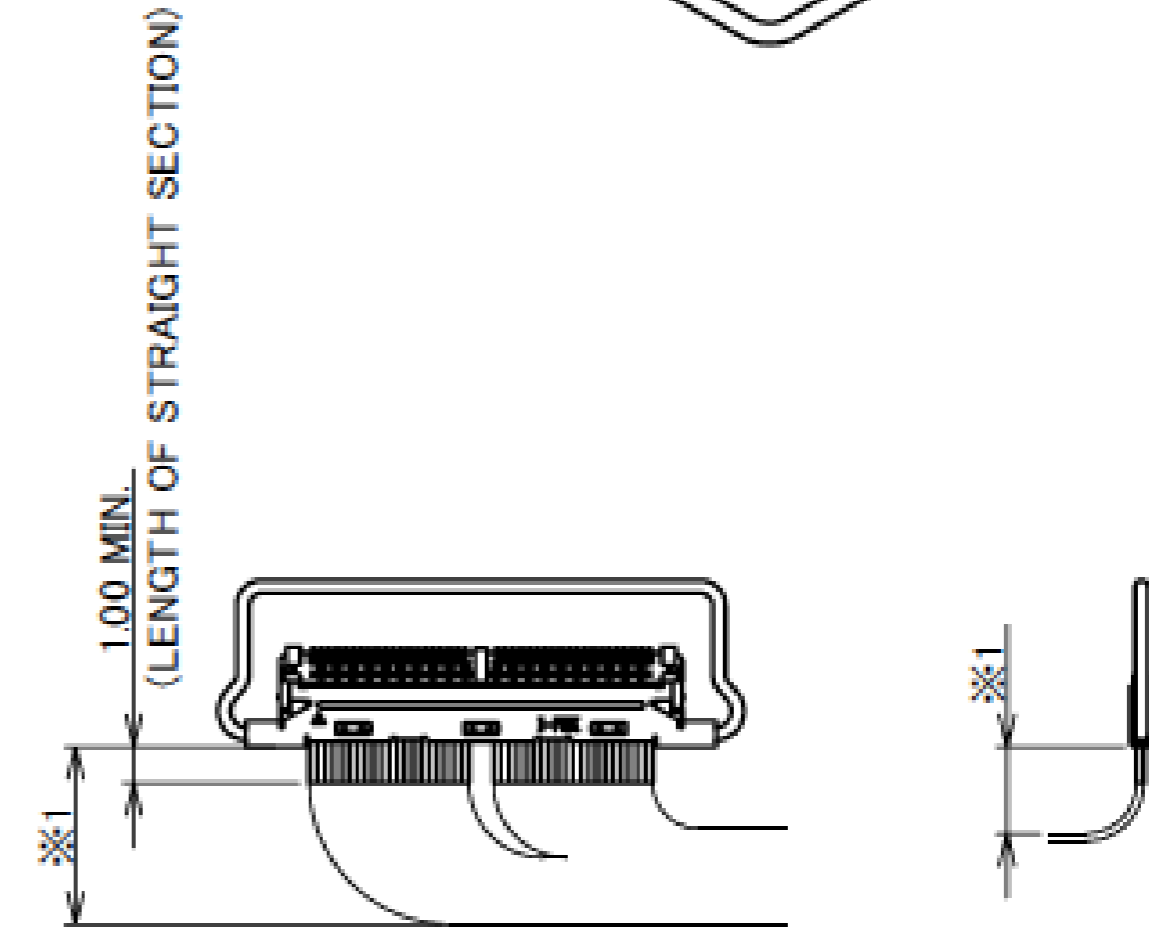
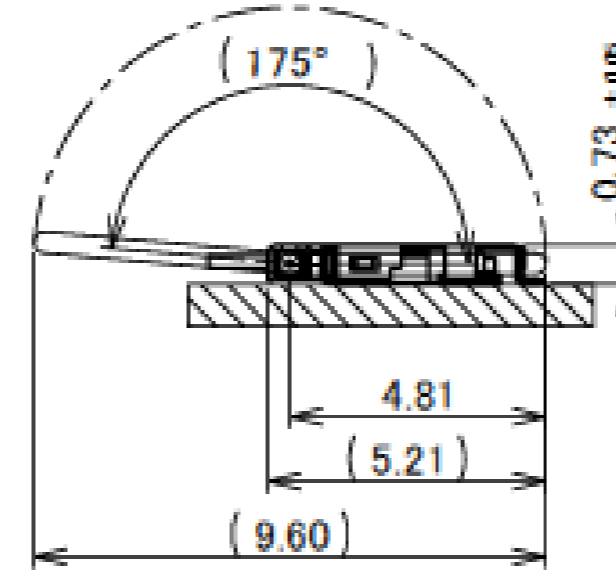
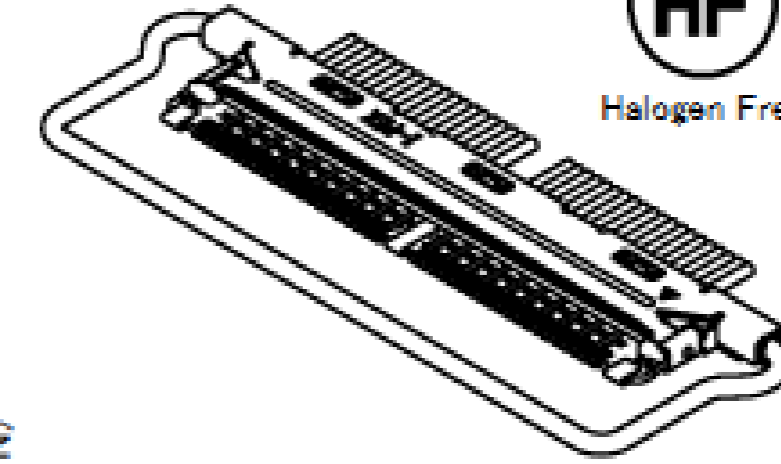
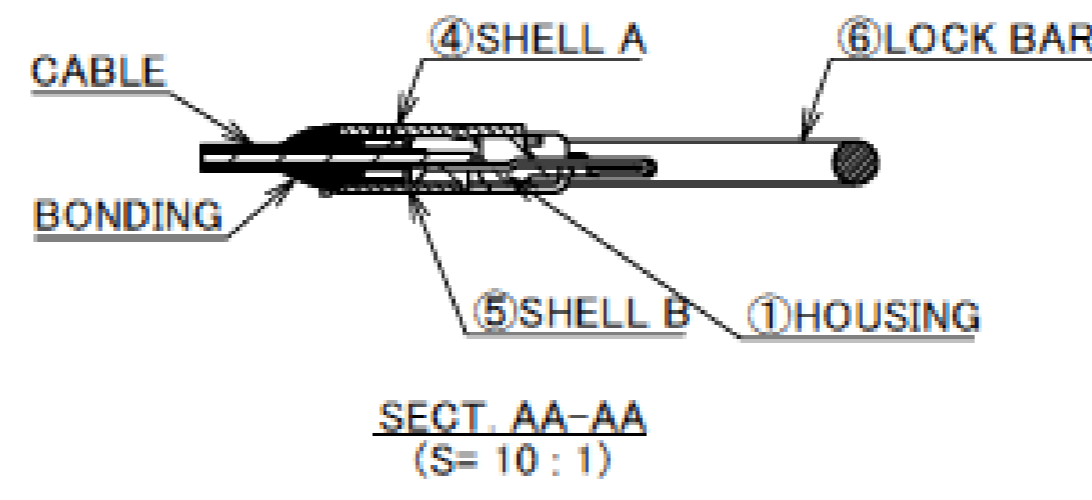
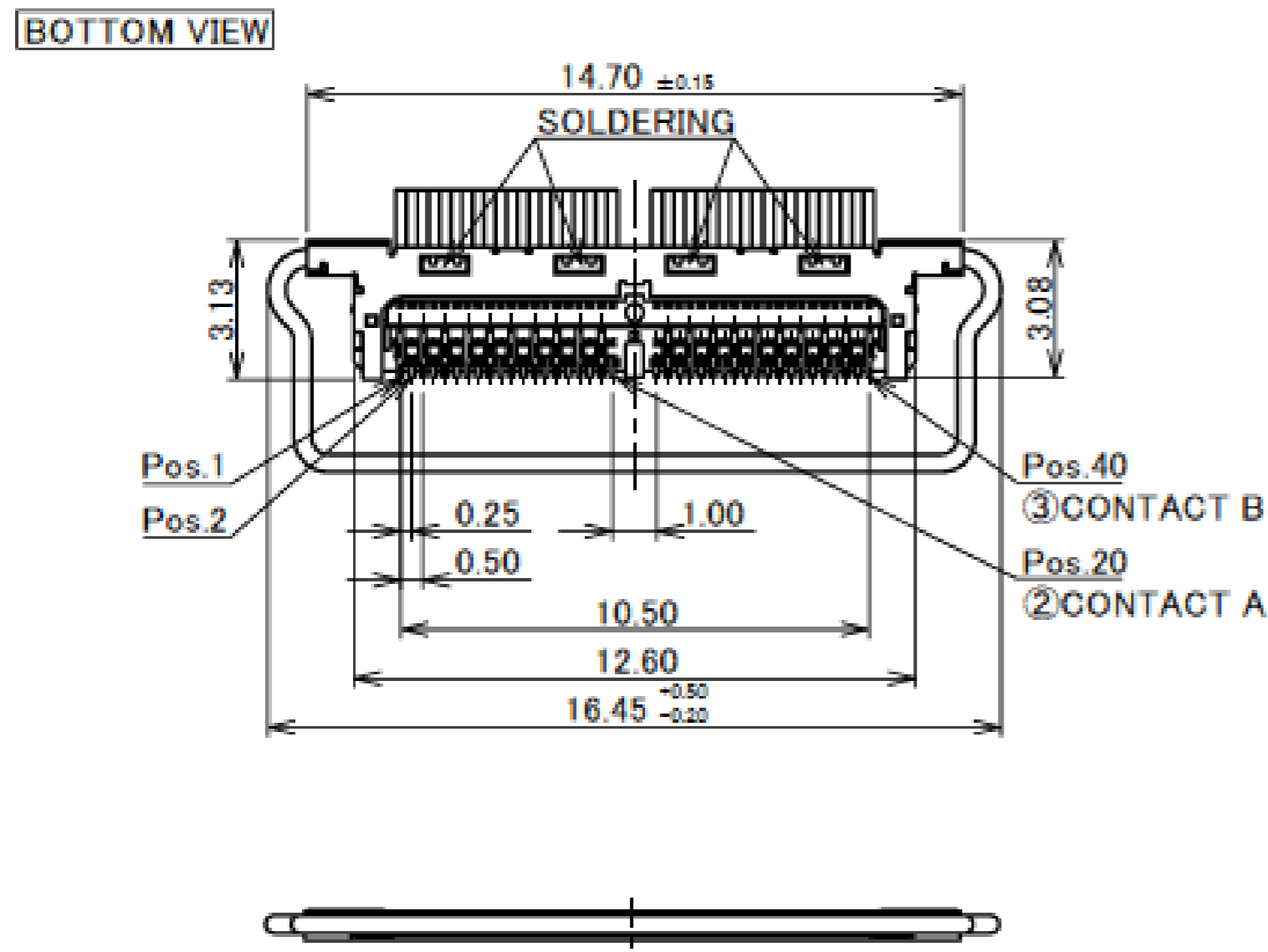
# Component Parts Details

## Component Parts



# Plug for Cable Assembly

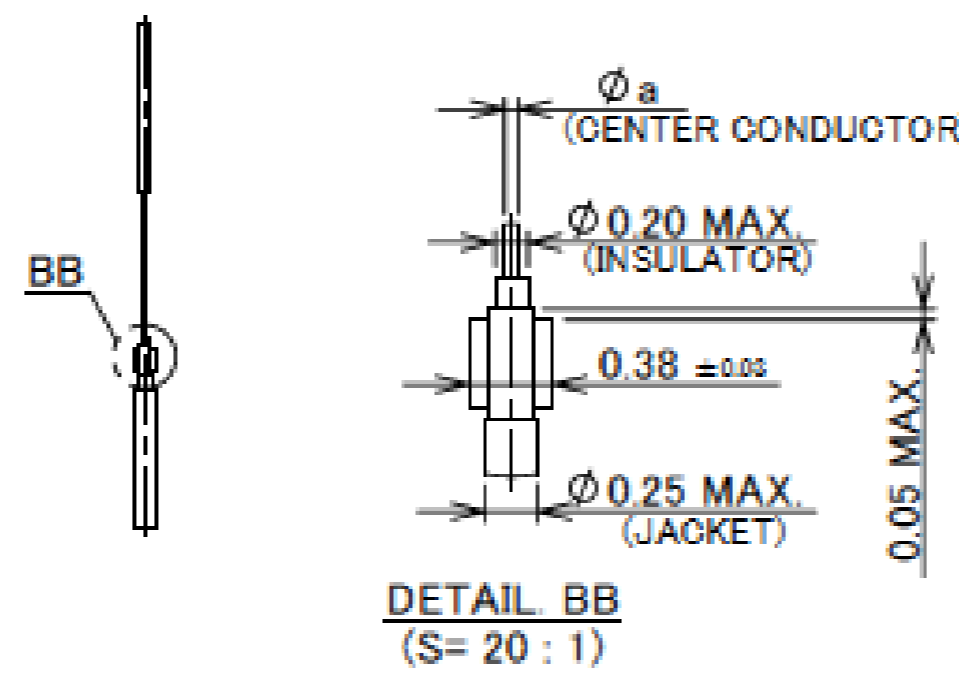
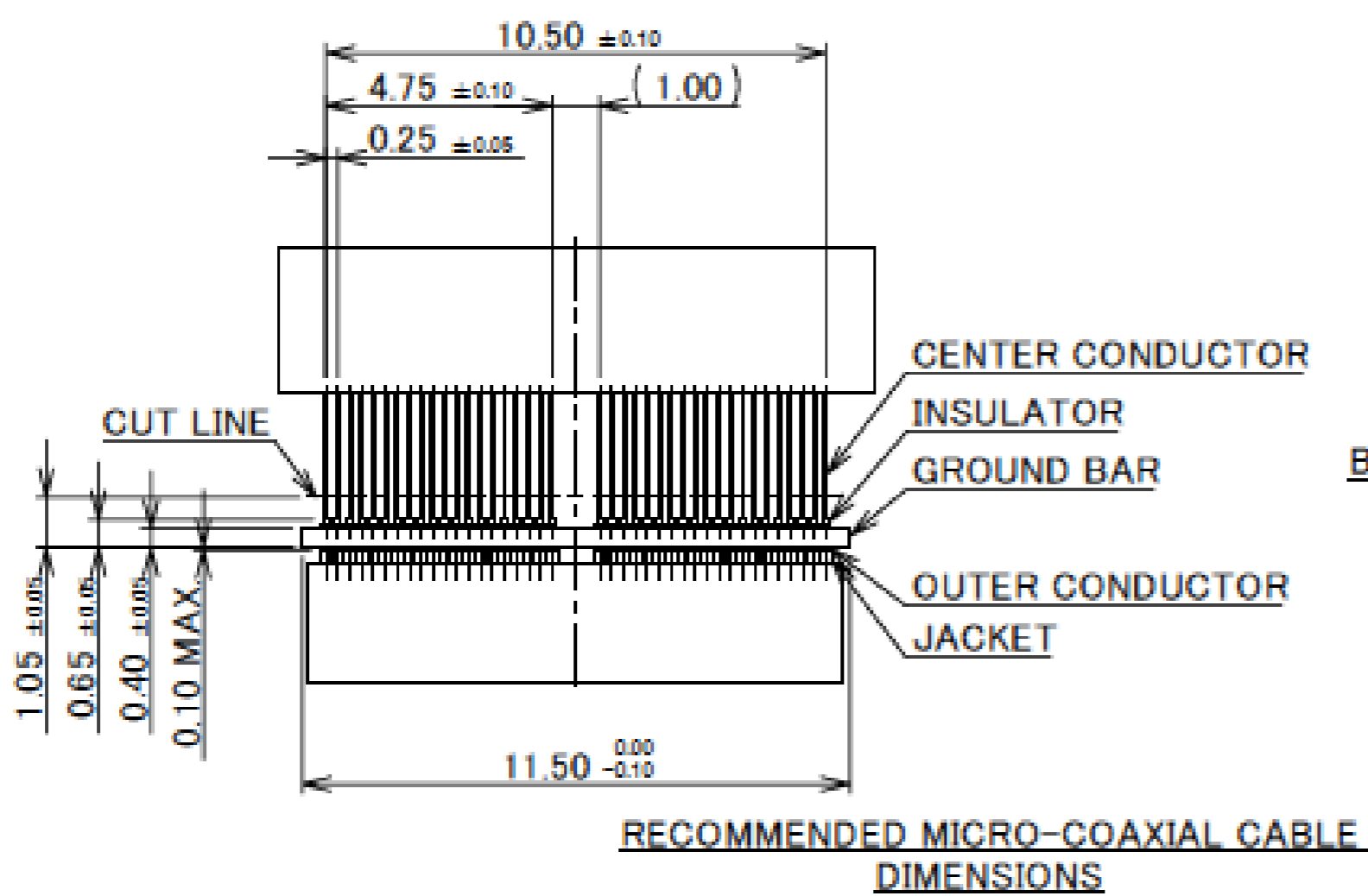
Recommended P/N		20978-040T-01
PART NO.	Pos.	
20978-040T-01	40	



※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
6	LOCK BAR	SUS	-
5	SHELL B	SUS	PARTIAL Au 0.003 μm MIN. OVER Ni 1.00 μm MIN.
4	SHELL A	SUS	PARTIAL Au 0.003 μm MIN. OVER Ni 1.00 μm MIN.
3	CONTACT B	CORSON ALLOY	CONTACT AREA : Au 0.25 μm MIN. OVER Ni 2.00 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.
2	CONTACT A	CORSON ALLOY	CONTACT AREA : Au 0.25 μm MIN. OVER Ni 2.00 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.
1	HOUSING	LCP	UL94V-0, BLACK

Rev.4



### CHARACTERISTIC IMPEDANCE MATCHING MICRO-COAXIAL CABLE

	a
#44	0.063
#46	0.048

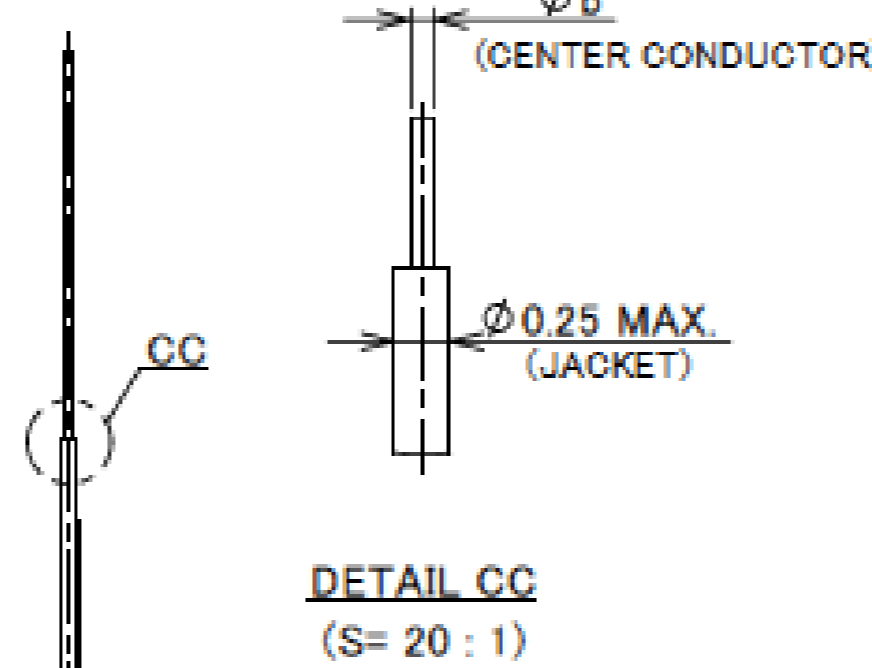
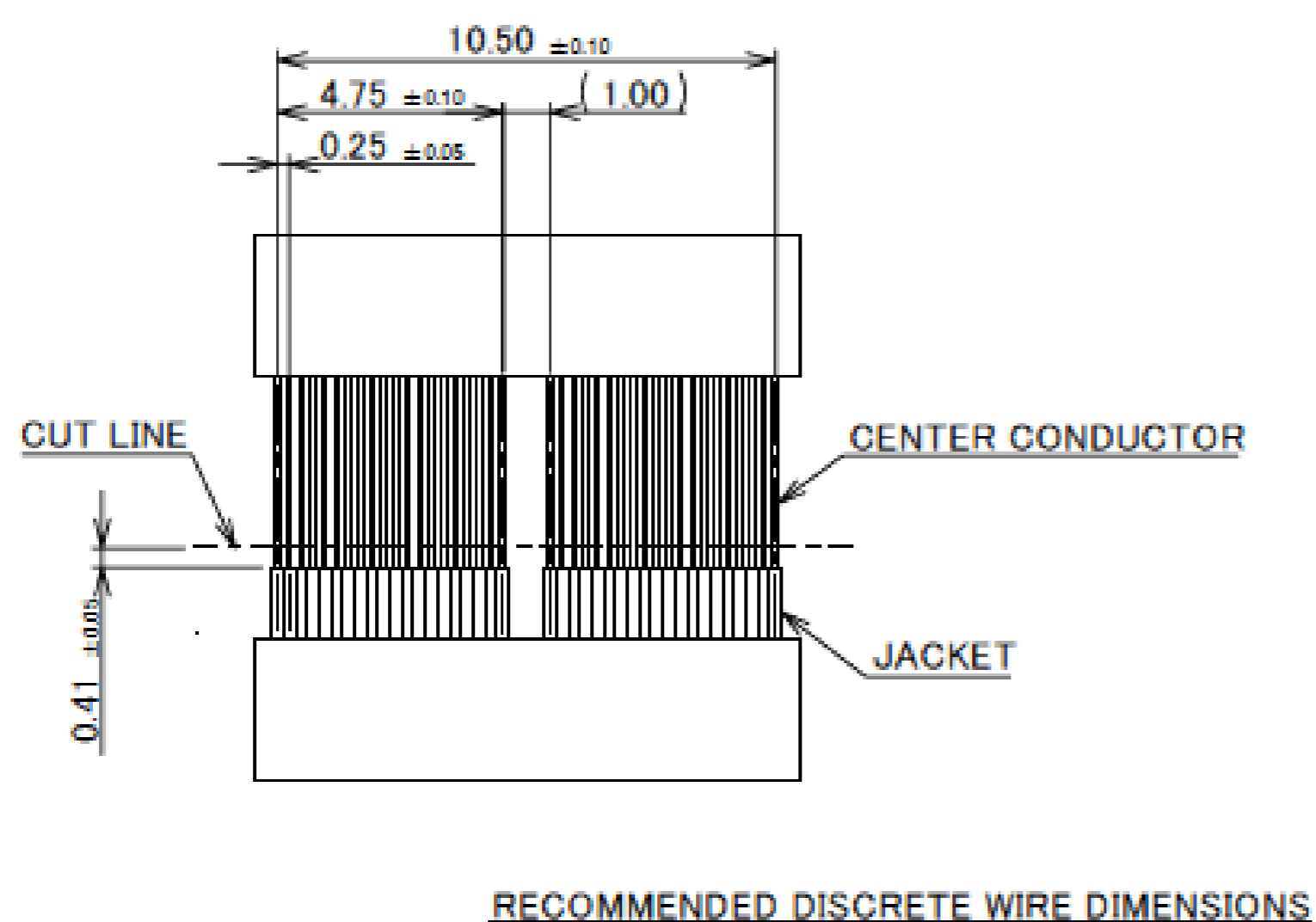
### CHARACTERISTIC IMPEDANCE UN-MATCHING MICRO-COAXIAL CABLE

	a
#39	0.102

MICRO-COAXIAL CABLE #39 : NOT RECOMMENDED  
FOR HIGH SPEED SIGNAL TRANSFER

### DISCRETE WIRE DIMENSION

	b
#39	0.102



RECOMMENDED DISCRETE WIRE DIMENSIONS

Rev.4

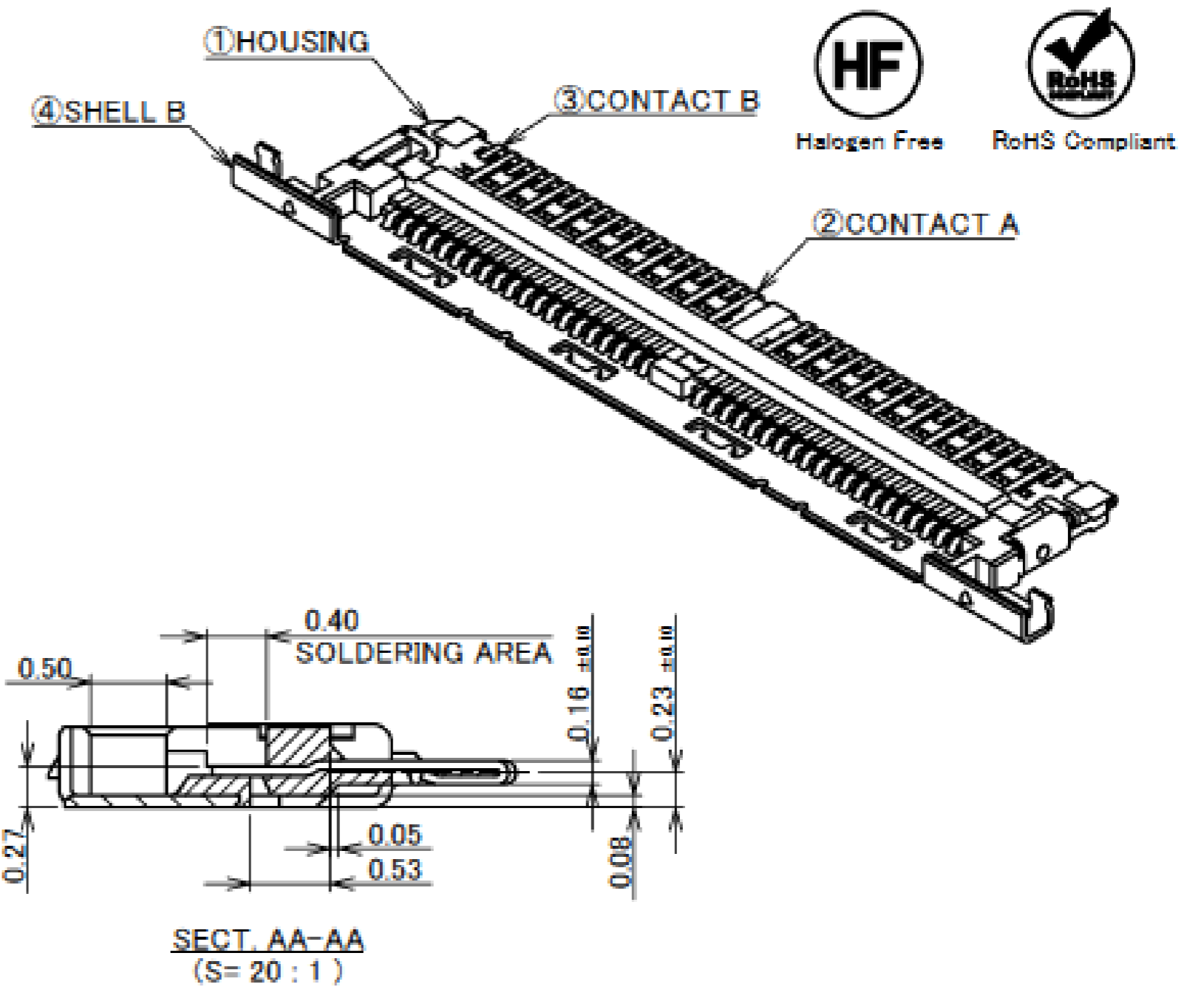
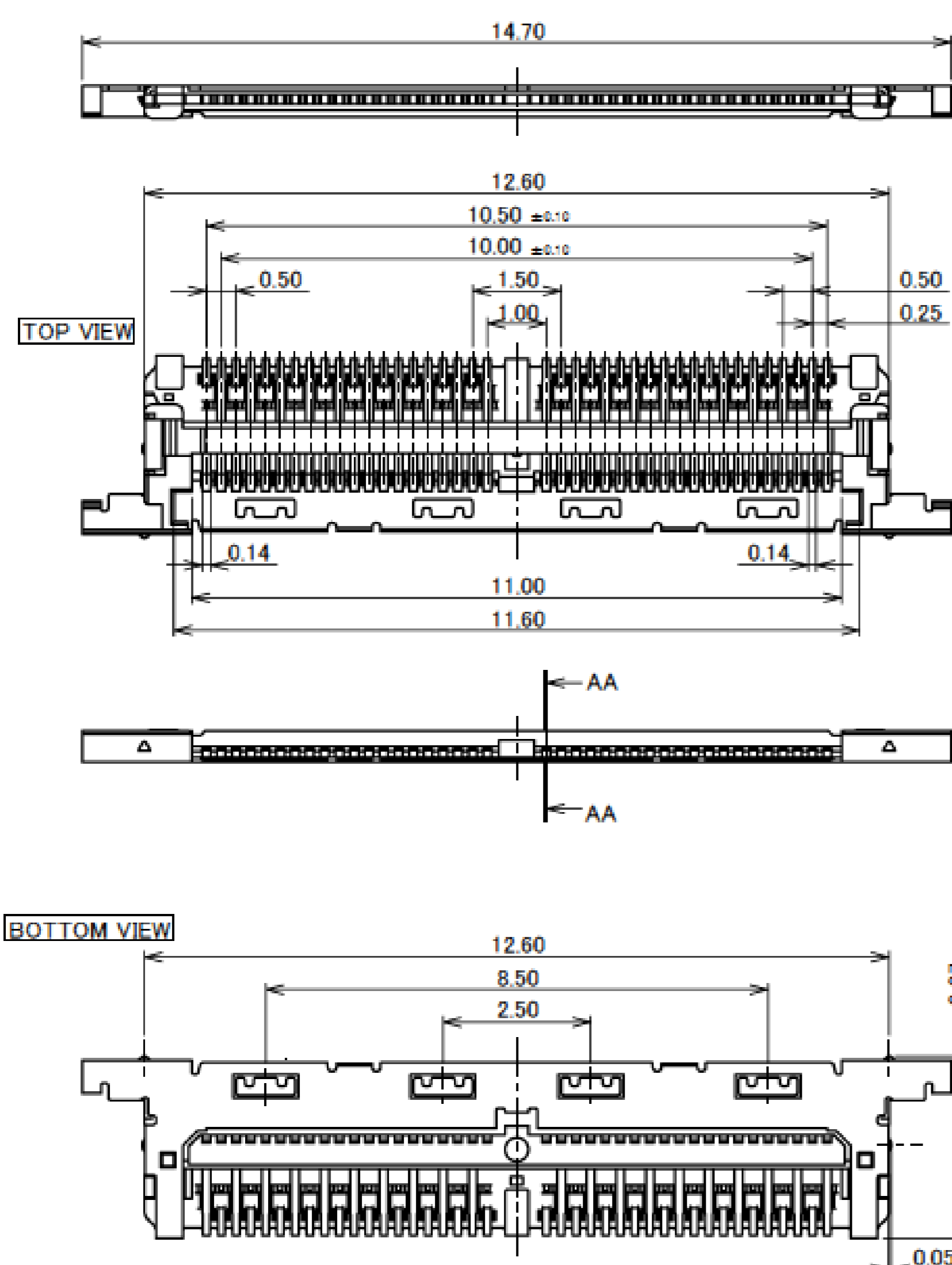
# Plug for Cable Assembly

ITEMS	SPECIFICATION
APPLICABLE CABLE	MICRO-COAXIAL CABLE : AWG# 46,44,39 DISCRETE WIRE : AWG# 39
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)	0.10A AC/DC [AWG#46] PER CONTACT PIN/UP TO 40 CONTACTS 0.15A AC/DC [AWG#44] PER CONTACT PIN/UP TO 40 CONTACTS 0.50A AC/DC [AWG#39] PER CONTACT PIN/UP TO 7 CONTACTS ※TESTING BY A REAL MACHINE IS RECOMMENDED BECAUSE TEMPERATURE RISE MAY AFFECTED BY ACTUAL SITUATION
OPERATING TEMPERATURE	233~358K(-40°C~+85°C) (CONTAINING TEMPERATURE RISE BY CURRENT)
OPERATING HUMIDITY	85% MAX.(NON-CONDENSING)
CONTACT RESISTANCE	INITIAL : 388mohm MAX.(AWG#39) / AFTER TEST : $\triangleleft$ 40mohm MAX. INITIAL : 1,080mohm MAX.(AWG#44) INITIAL : 1,830mohm MAX.(AWG#46)
GROUND SHELL RESISTANCE	INITIAL : 50mohm MAX. / AFTER TEST : $\triangleleft$ 40mohm MAX.
INSULATION RESISTANCE	INITIAL : 1,000Mohm MIN. / AFTER TEST : 500Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	20 CYCLES
MATING FORCE (INITIAL / 20 CYCLES)	40P : 30.0N MAX.
UNMATING FORCE (INITIAL / 20 CYCLES)	40P : 4.0N MIN.
CABLE RETENTION FORCE	40P : 19.60N MIN.
PRODUCT SPECIFICATION	PRS-2403
TEST REPORT	TR-17063
INSTRUCTION MANUAL	HIM-17040
ASSEMBLY MANUAL	ASM-17011
APPEARANCE CRITERIA No.	QLS-A***

Rev.4

# Plug Housing Assembly

Recommended P/N	20974-040T-01
PART NO.	Pos.
20974-040T-01	40



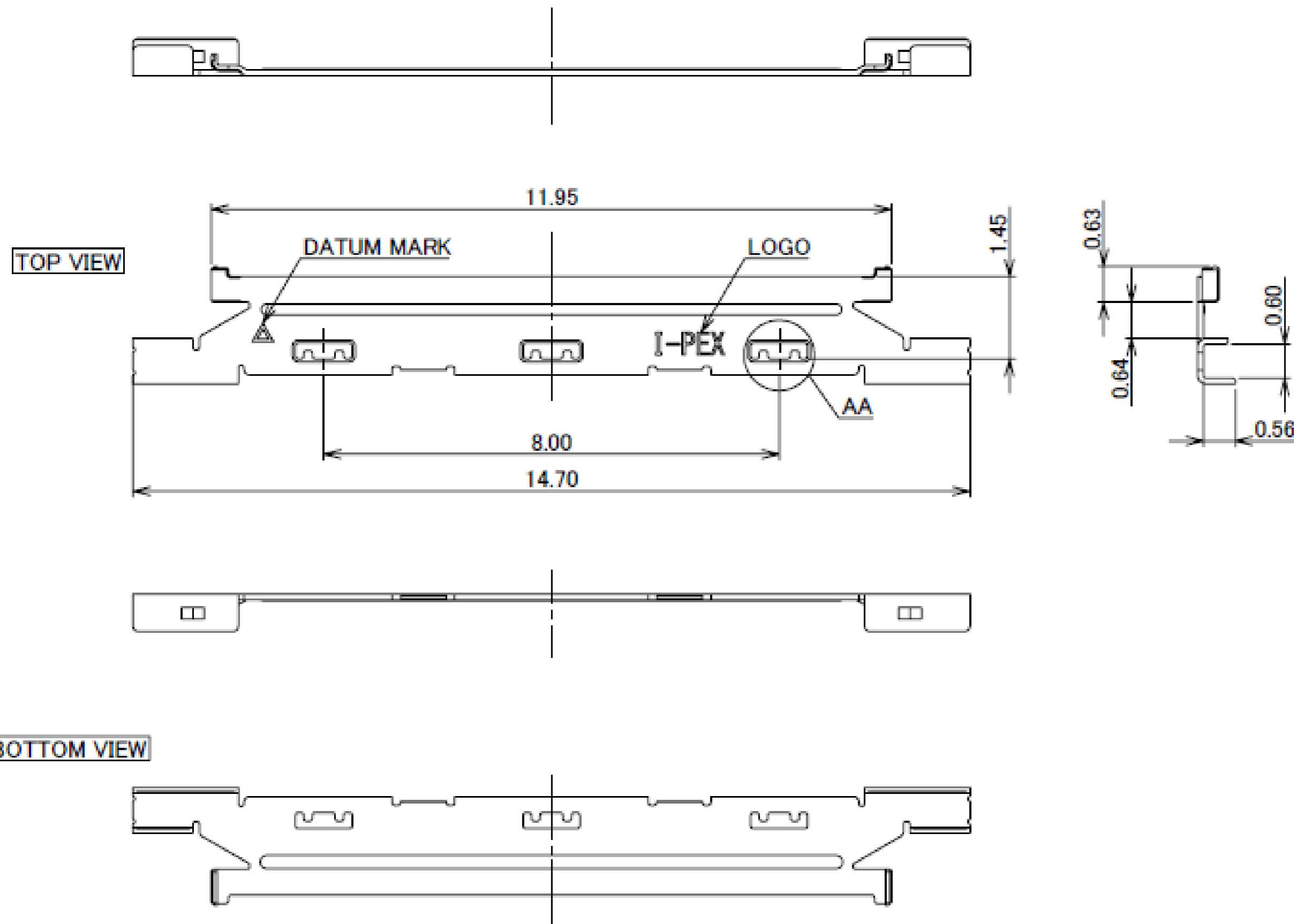
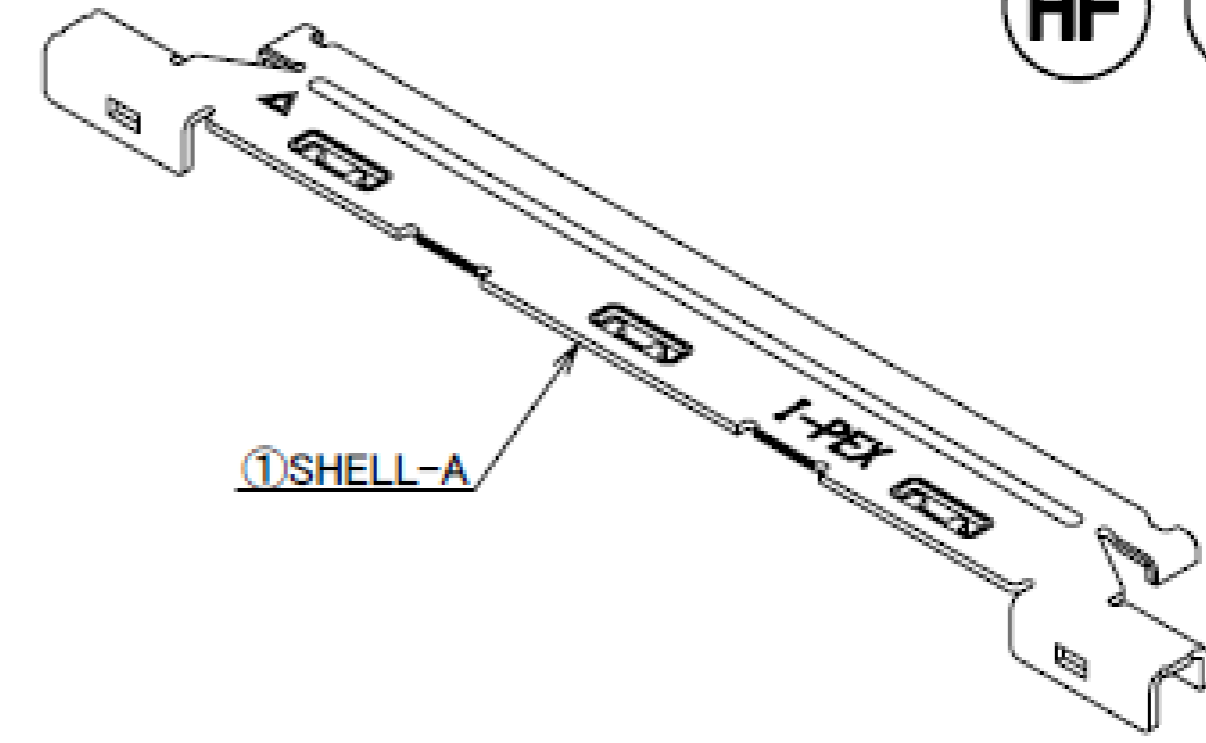
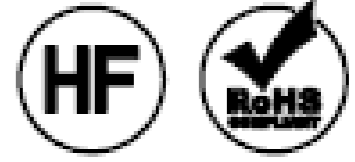
NOTES.  
1. ASSEMBLY  
1-1. 20977-040T-01  
THIS PART IS ASSEMBLED WITH SHELL A (P/N 3655-0401) AND LOCK BAR ASS'Y (P/N 20975-040T-01) AFTER SOLDERED THE CABLE.  
1-2. 20978-040T-01  
THIS PART IS ASSEMBLED WITH SHELL A (P/N 3655-0401) AND LOCK BAR (P/N 3656-0402) AFTER SOLDERED THE CABLE.

NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
4	SHELL B	SUS	PARTIAL Au 0.003 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN.
3	CONTACT B	CORSON ALLOY	CONTACT AREA : Au 0.25 $\mu$ m MIN. OVER Ni 2.00 $\mu$ m MIN. SOLDERING AREA : Au 0.03 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN.
2	CONTACT A	CORSON ALLOY	CONTACT AREA : Au 0.25 $\mu$ m MIN. OVER Ni 2.00 $\mu$ m MIN. SOLDERING AREA : Au 0.03 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN.
1	HOUSING	LCP	UL94V-0, BLACK

Rev.1

# Plug Shell-A

Recommended P/N	3655-0401
PART No.	3655-0401

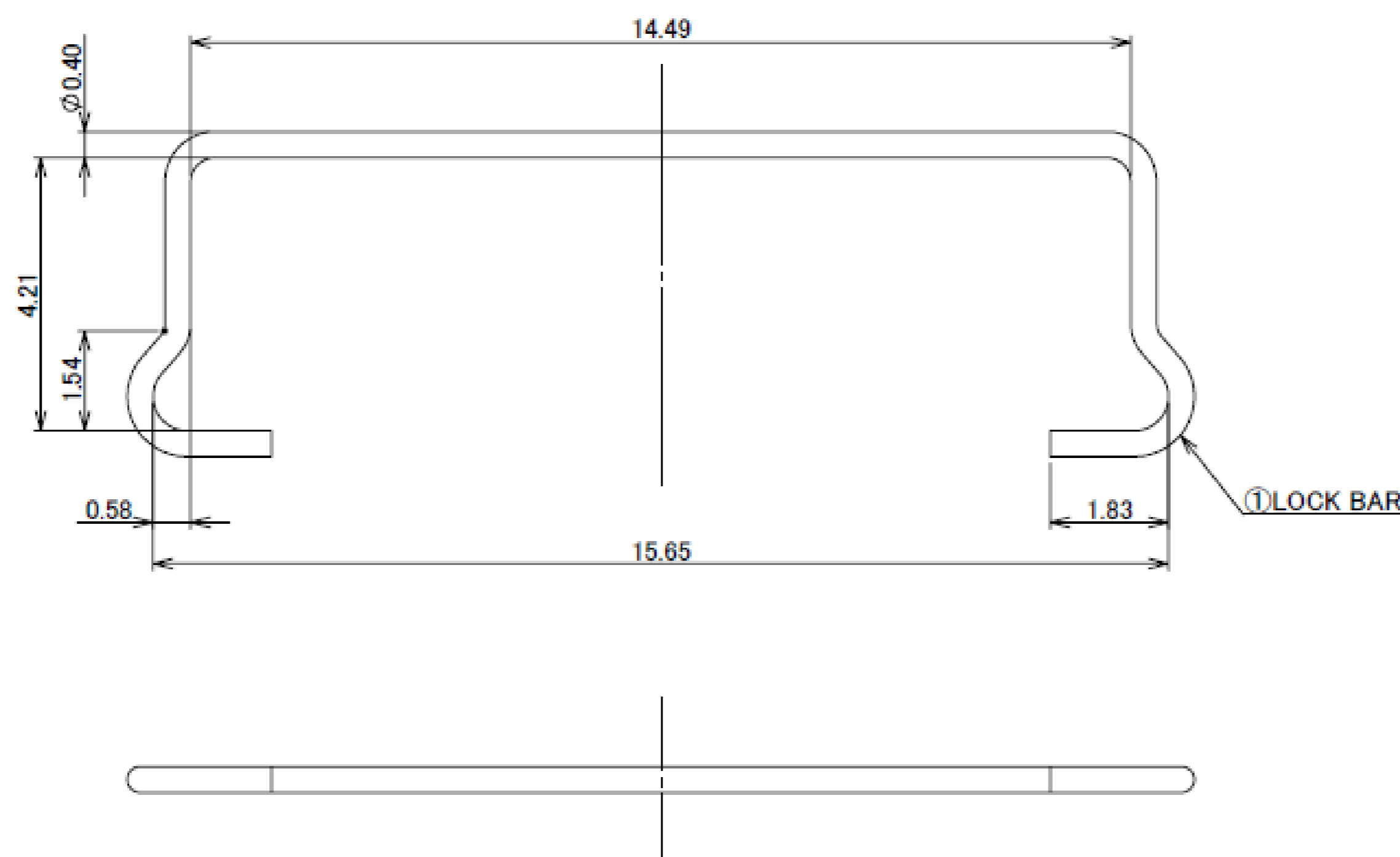


1	SHELL-A	SUS	PARTIAL Au 0.003 $\mu$ m MIN. OVER Ni 1.0 $\mu$ m MIN.
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

Rev.0

# Plug Lock Bar

Recommended P/N	3656-0402
PART No.	3656-0402

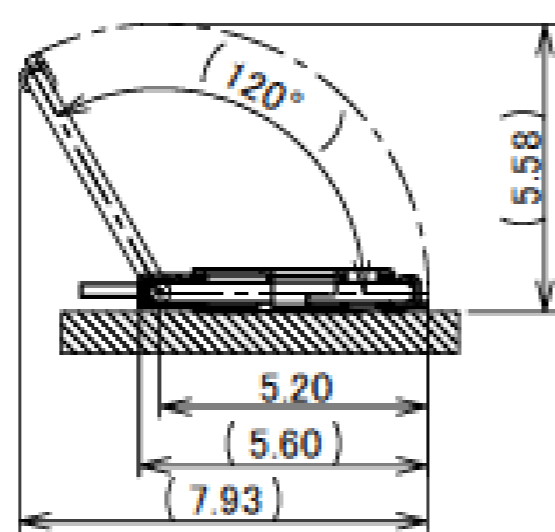
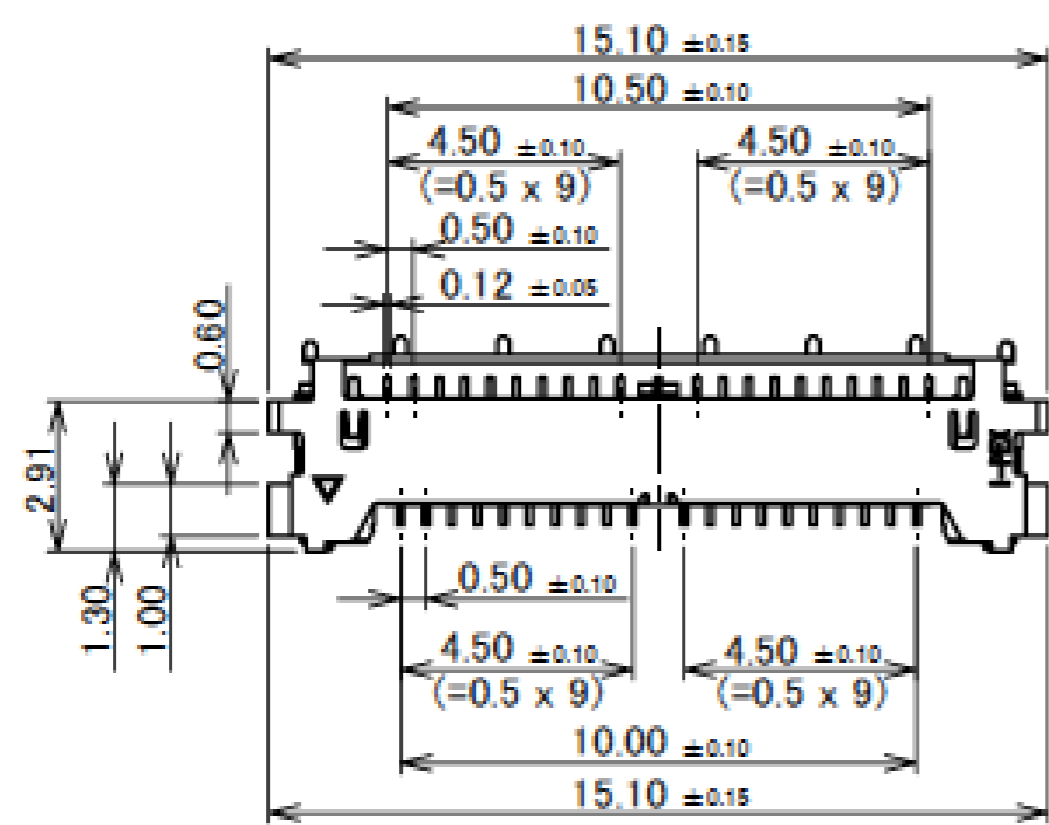


1	LOCK BAR	SUS $\phi$ 0.40	-
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

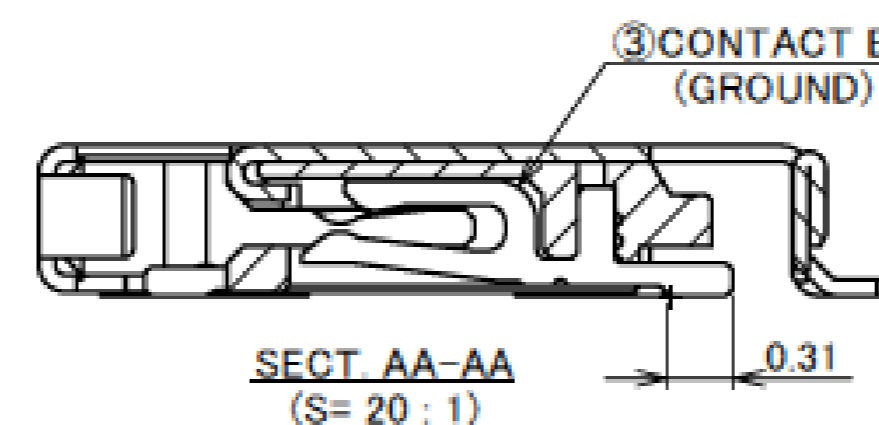
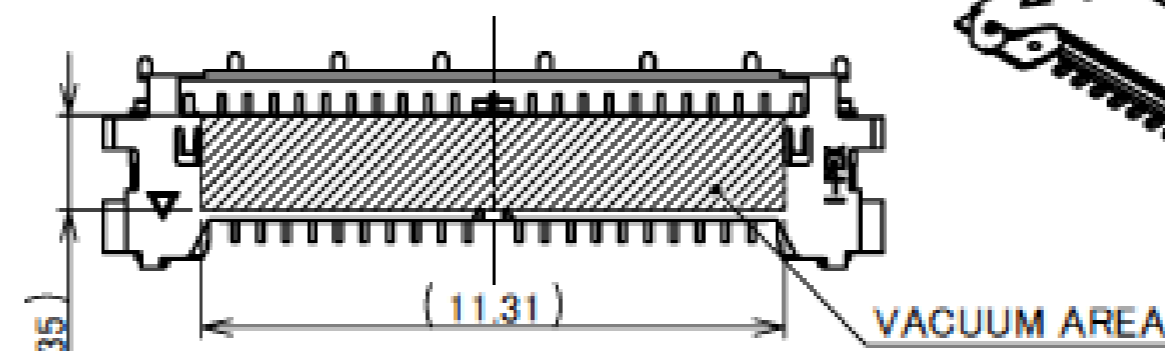
Rev.0

# Receptacle Assembly

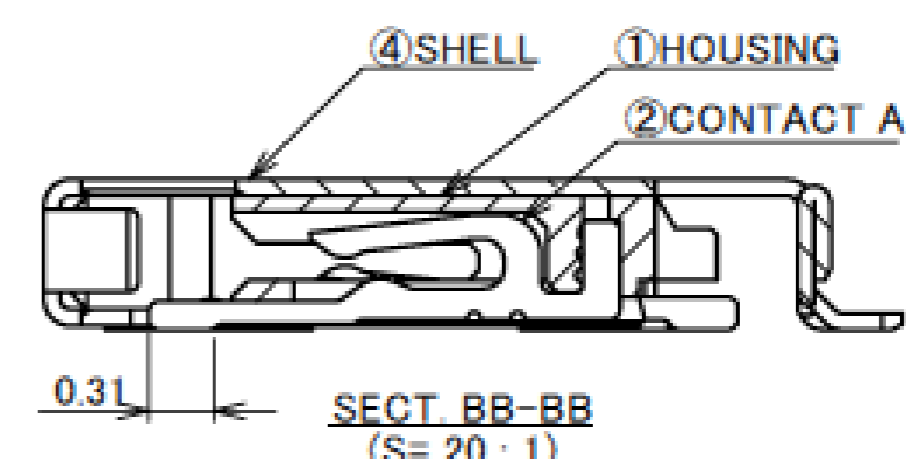
Recommended P/N	20976-040E-01
PART NO.	Pos.
20976-040E-01	40



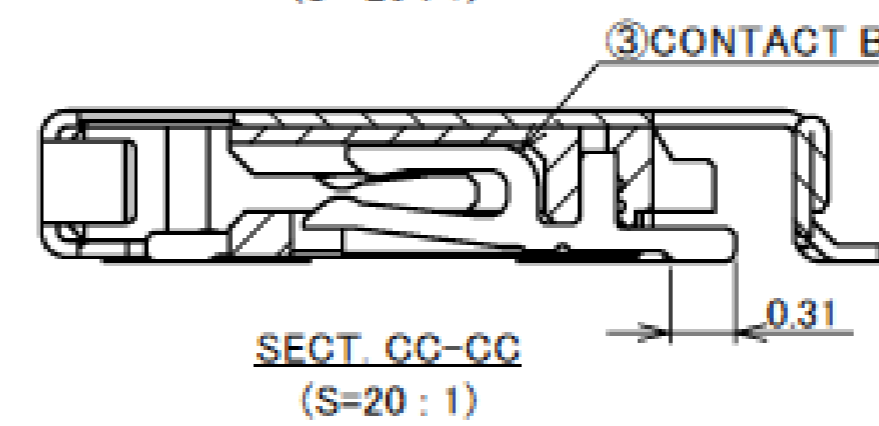
LOCK BAR MOVEMENT



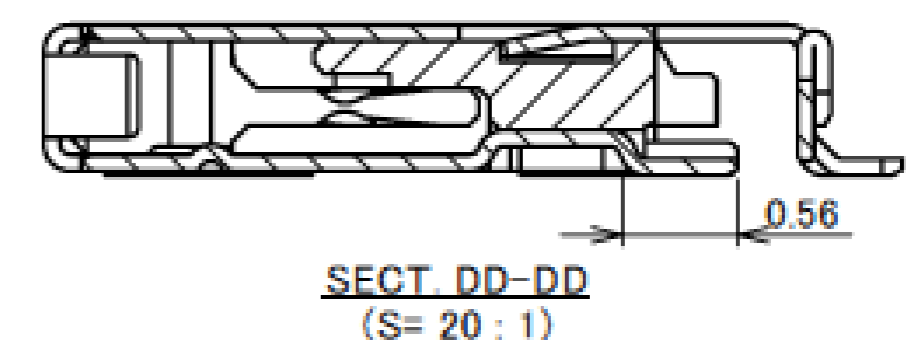
SECT AA-AA (S=20:1)



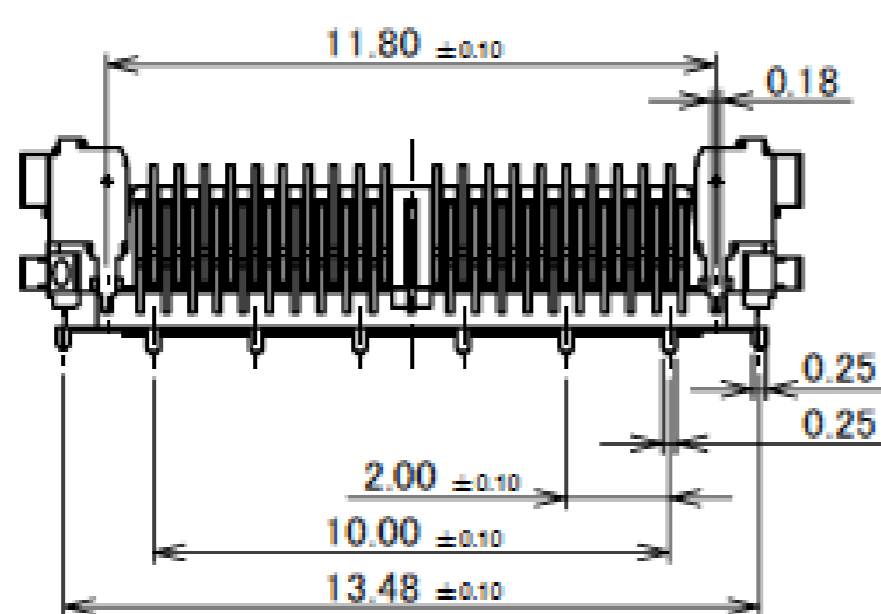
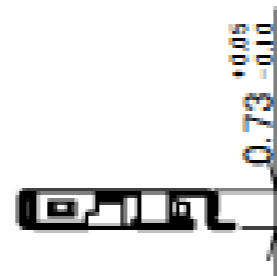
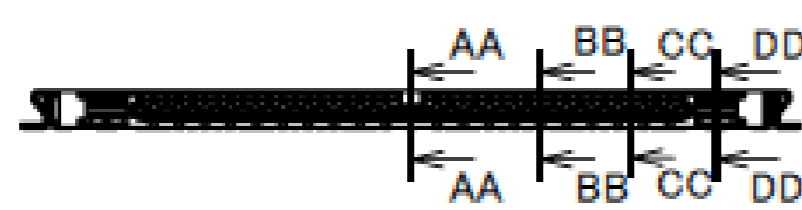
SECT BB-BB (S=20:1)



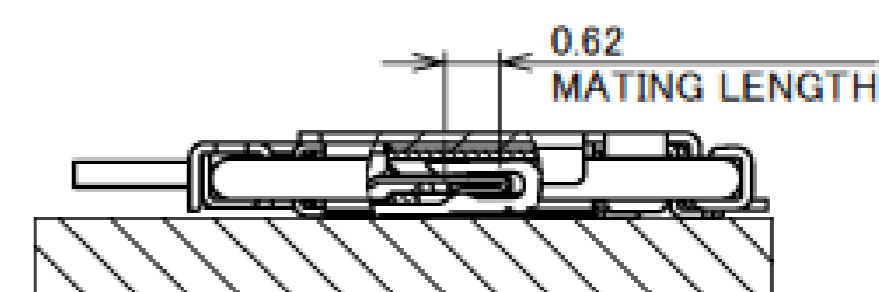
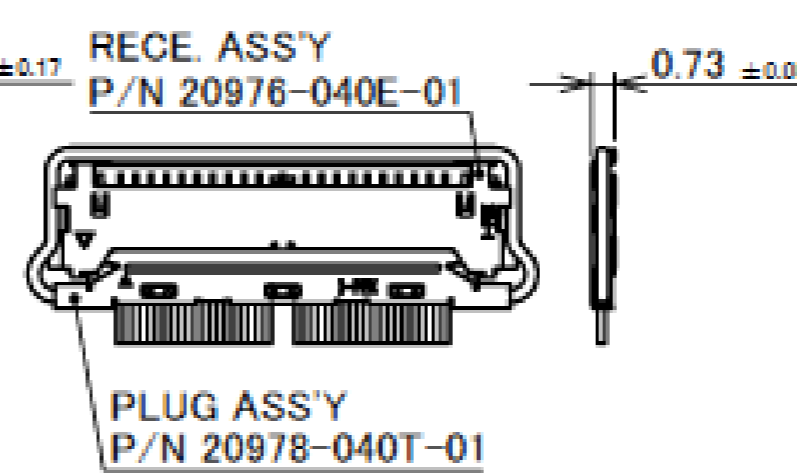
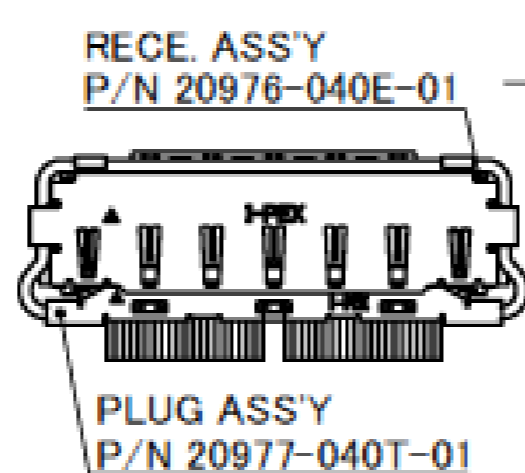
SECT CC-CC (S=20:1)



SECT DD-DD (S=20:1)

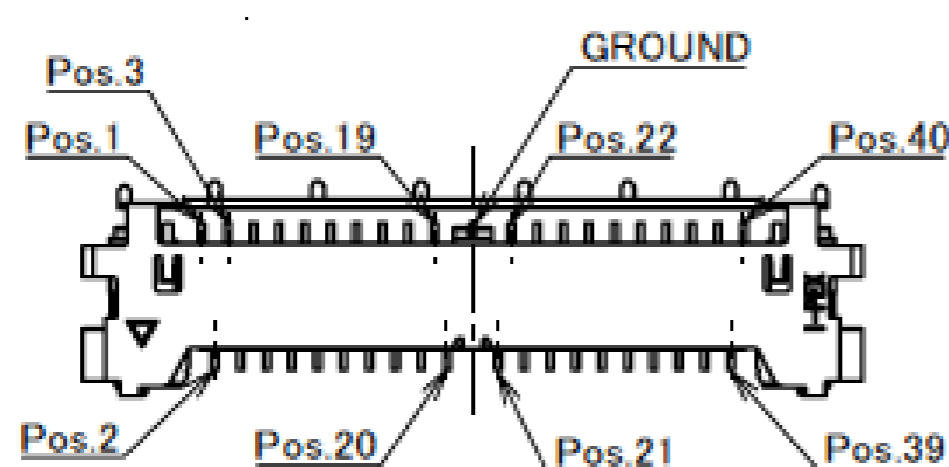


GROUND PITCH

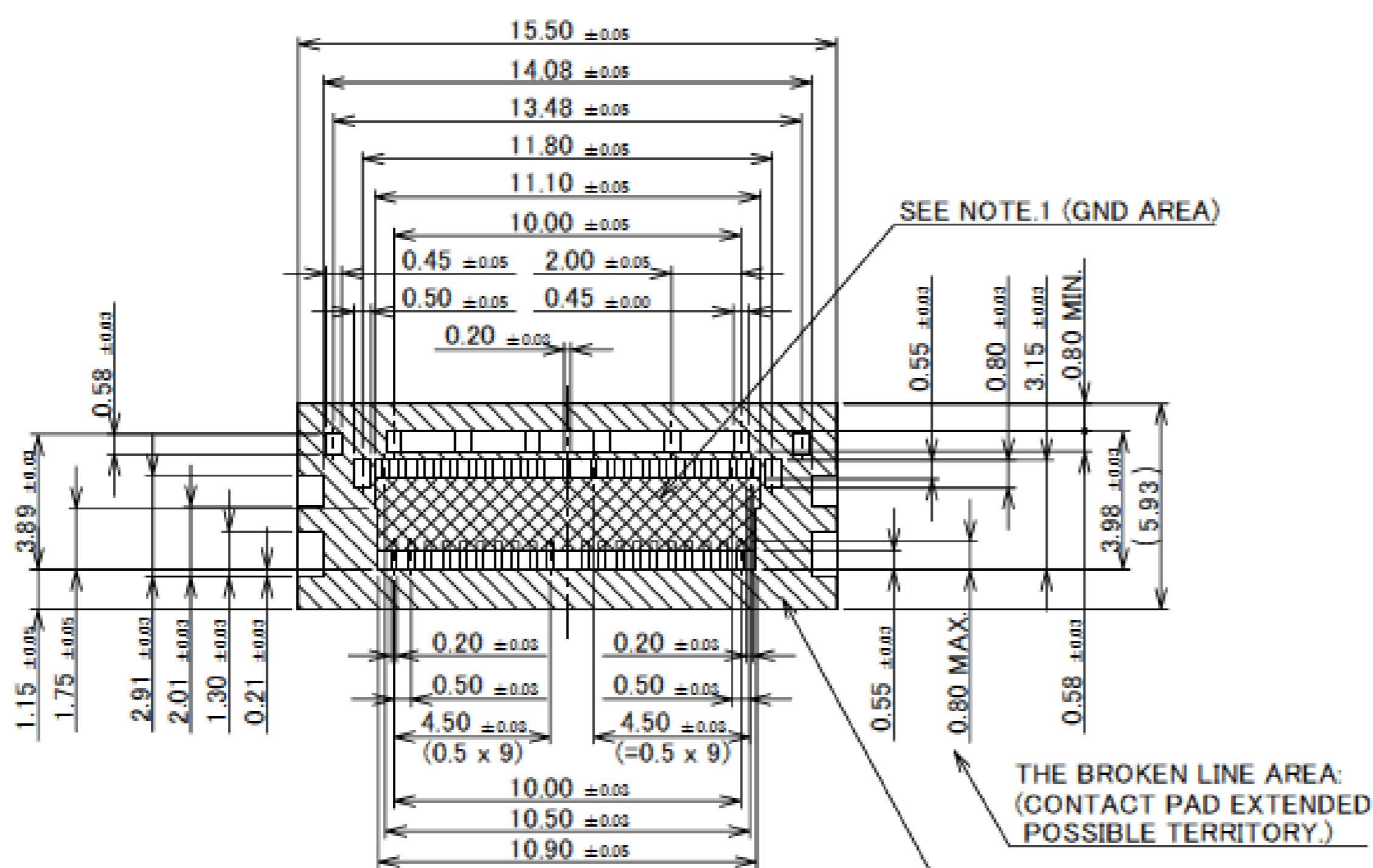


MATING CONDITION

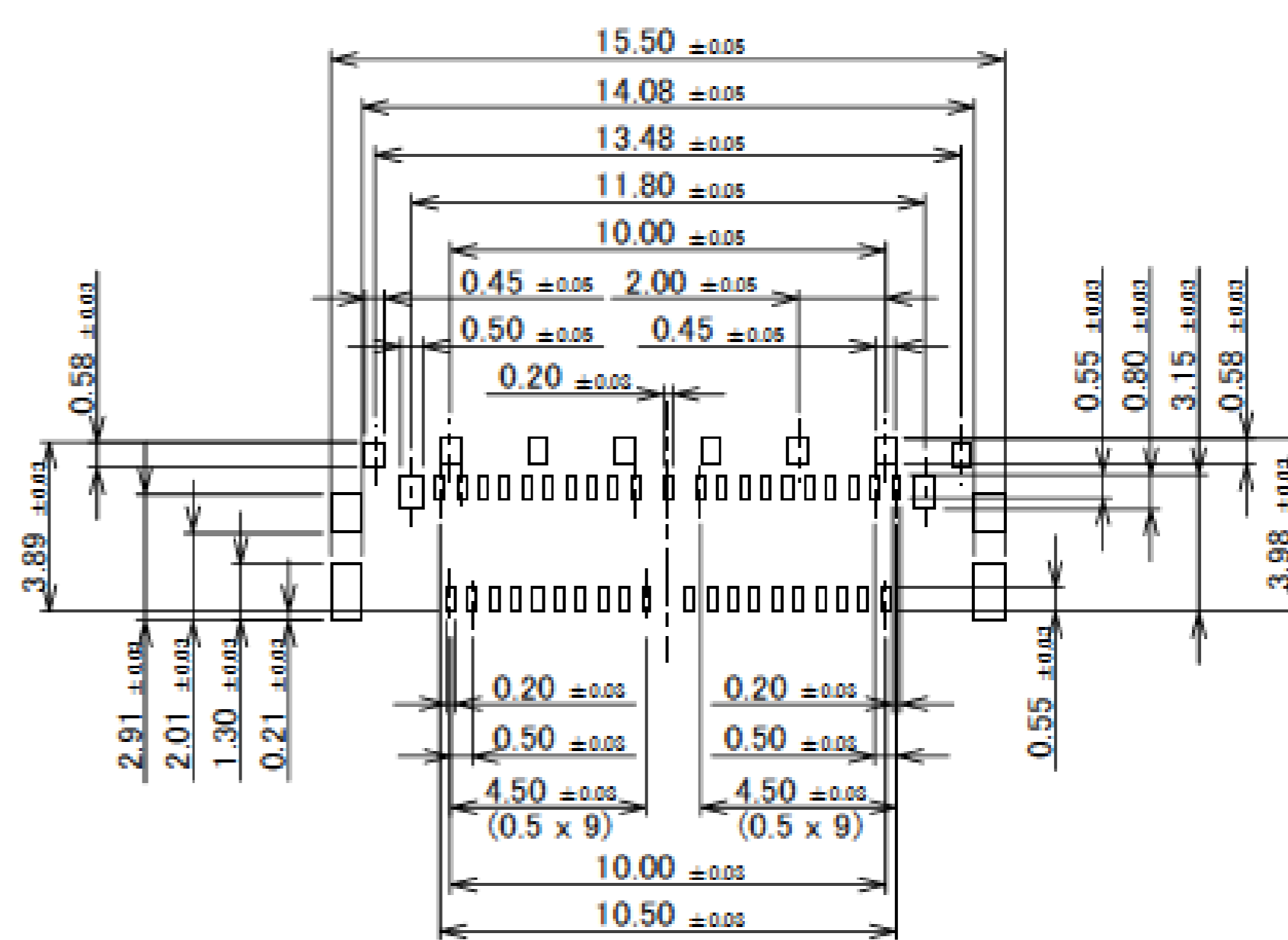
NO	DISCRIPTION	MATERIAL	FINISH, REMARKS
4	SHELL	PHOSHOR BRONZE	PARTIAL Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.
3	CONTACT B	CORSON ALLOY	CONTACT AREA : Au 0.10 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.
2	CONTACT A	CORSON ALLOY	CONTACT AREA : Au 0.10 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.
1	HOUSING	LCP	UL94V-0, BLACK



CONTACT ARRANGEMENT



RECOMMENDED FOOTPRINT PATTERN LAYOUT



RECOMMENDED METAL MASK LAYOUT  
METAL MASK THICKNESS : t=0.12 mm

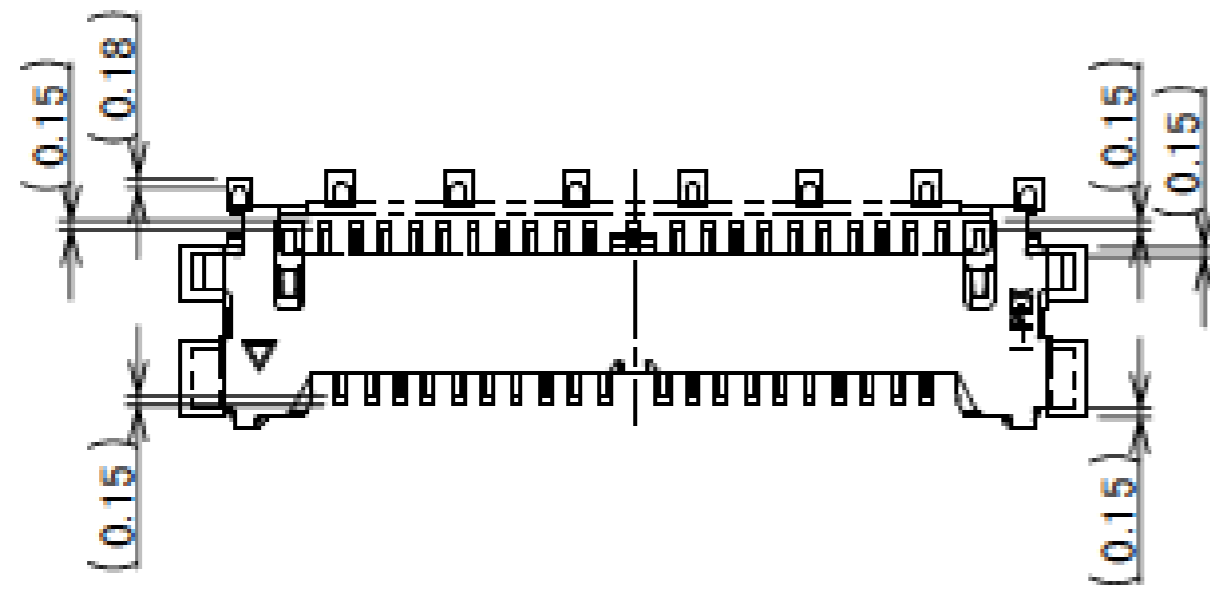
NOTES.

1. SOLDER RESIST MUST BE APPLIED TO THIS AREA
2. DO NOT MOUNT ANOTHER COMPONENTS IN THIS AREA.

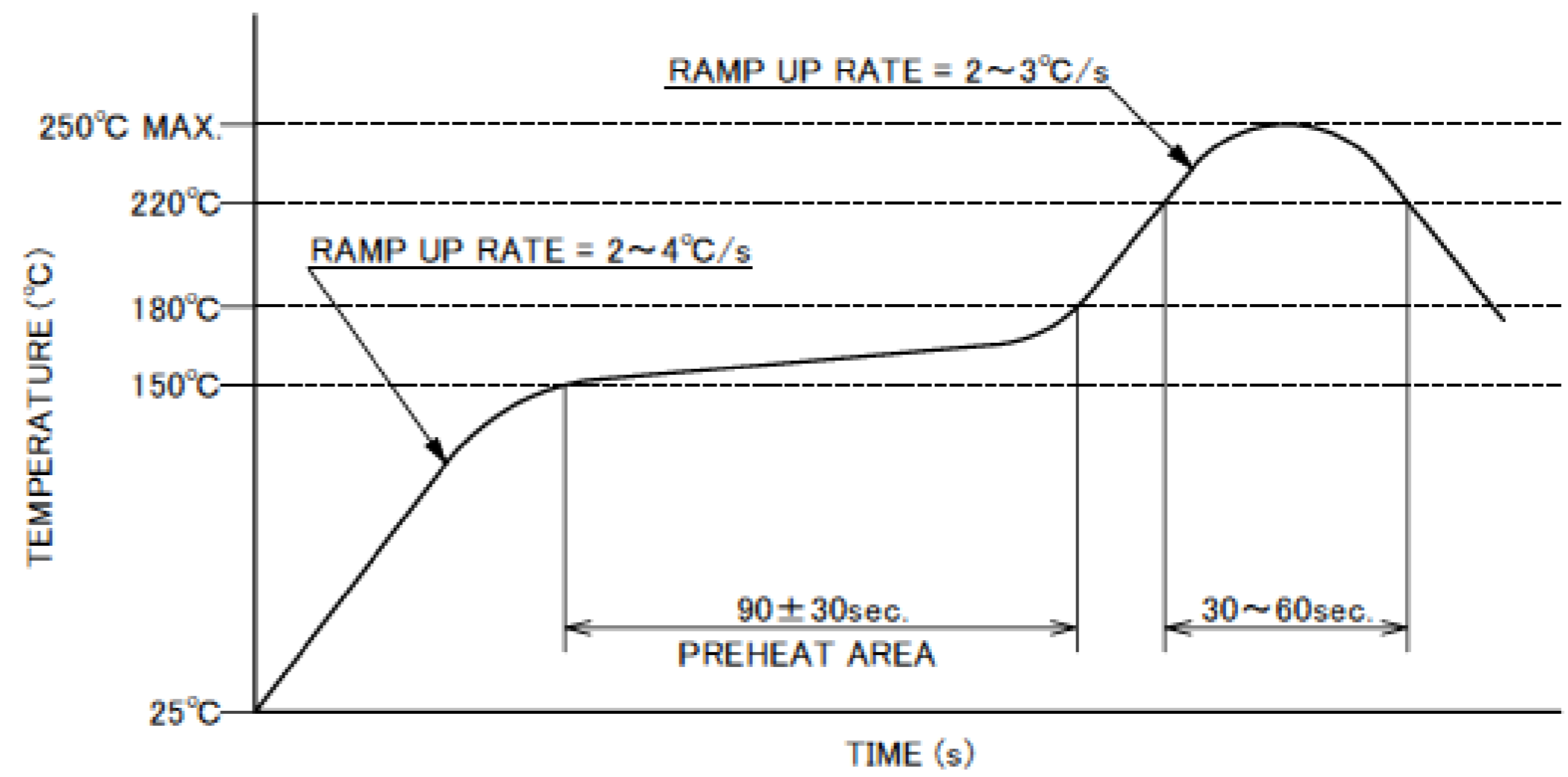
Rev.3

Rev.3

# Receptacle Assembly



CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN



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

Rev.3

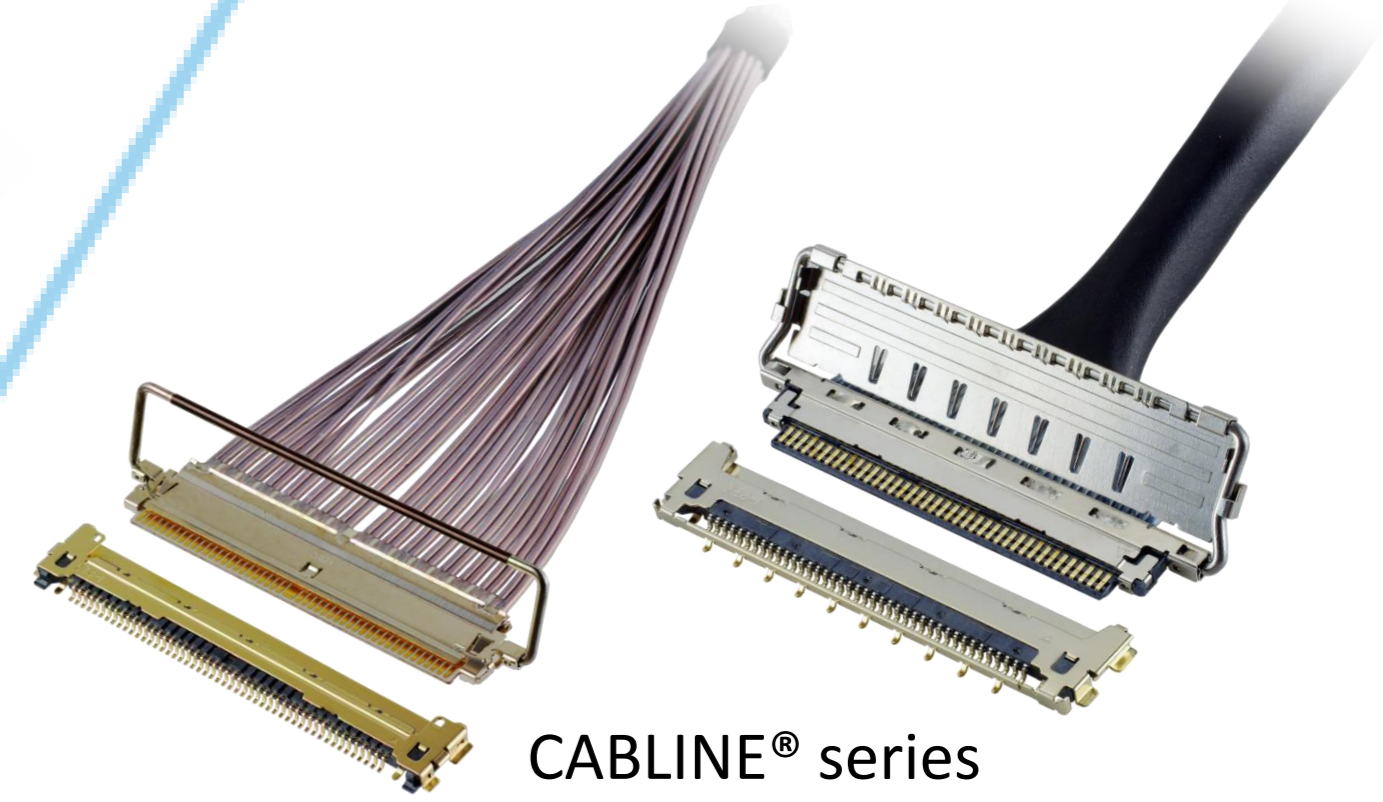
ITEMS	SPECIFICATION
APPLICABLE CABLE	MICRO-COAXIAL CABLE : AWG# 46,44 DISCRETE WIRE : AWG# 39
RATING VOLTAGE	100V AC (PER CONTACT PIN)
RATING AMPERAGE (FOR CONTACT)	0.10A AC/DC [AWG#46] PER CONTACT PIN/UP TO 40 CONTACTS 0.15A AC/DC [AWG#44] PER CONTACT PIN/UP TO 40 CONTACTS 0.50A AC/DC [AWG#39] PLUG WITH COVER CABLE ASS'Y (P/N : 20977-040T-01) PER CONTACT PIN/UP TO 8 CONTACTS PLUG WITHOUT COVER CABLE ASS'Y (P/N : 20978-040T-01) PER CONTACT PIN/UP TO 7 CONTACTS ※TESTING BY A REAL MACHINE IS RECOMMENDED BECAUSE TEMPERATURE RISE MAY AFFECTED BY ACTUAL SITUATION
OPERATING TEMPERATURE	233~358K(-40°C~+85°C) (CONTAINING TEMPERATURE RISE BY CURRENT)
OPERATING HUMIDITY	85% MAX.(NON-CONDENSING)
CONTACT RESISTANCE	INITIAL : 388mohm MAX.(AWG#39) / AFTER TEST : <math>\triangleleft</math>40mohm MAX. INITIAL : 1,080mohm MAX.(AWG#44) INITIAL : 1,830mohm MAX.(AWG#46)
GROUND SHELL RESISTANCE	INITIAL : 50mohm MAX. / AFTER TEST : <math>\triangleleft</math>40mohm MAX.
INSULATION RESISTANCE	INITIAL : 1,000Mohm MIN. / AFTER TEST : 500Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	20 CYCLES
MATING FORCE (INITIAL / 20 CYCLES)	40P : 30.0N MAX.
UNMATING FORCE (INITIAL / 20 CYCLES)	40P : 4.0N MIN.
CABLE RETENTION FORCE	40P : 19.60N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-2403
TEST REPORT	TR-17063
PACKING STANDARD	PST-17126
INSTRUCTION MANUAL	HIM-17035 (WHEN PLUG WITH COVER CABLE ASS'Y IS USED) HIM-17040 (WHEN PLUG WITHOUT COVER CABLE ASS'Y IS USED)
APPEARANCE CRITERIA No.	QLS-A***

Rev.3

# Custom Connectors Available

 RF Connectors

MHF® series



CABLINA® series



Micro-Coaxial/Twinax Connectors

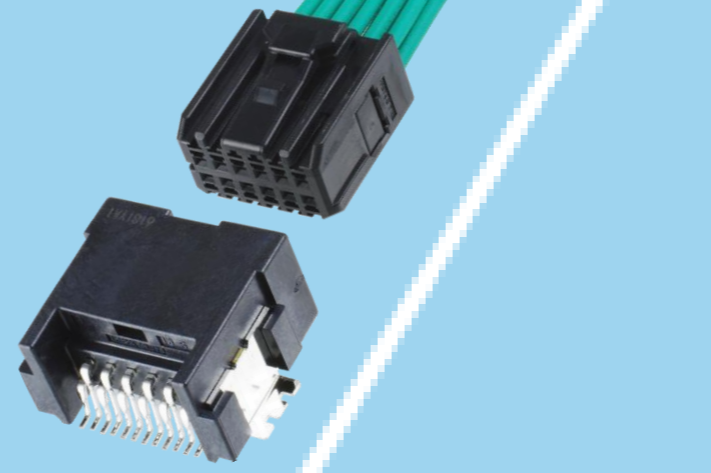


Wire-to-Board Connectors/Terminals

AP series



ISH® series



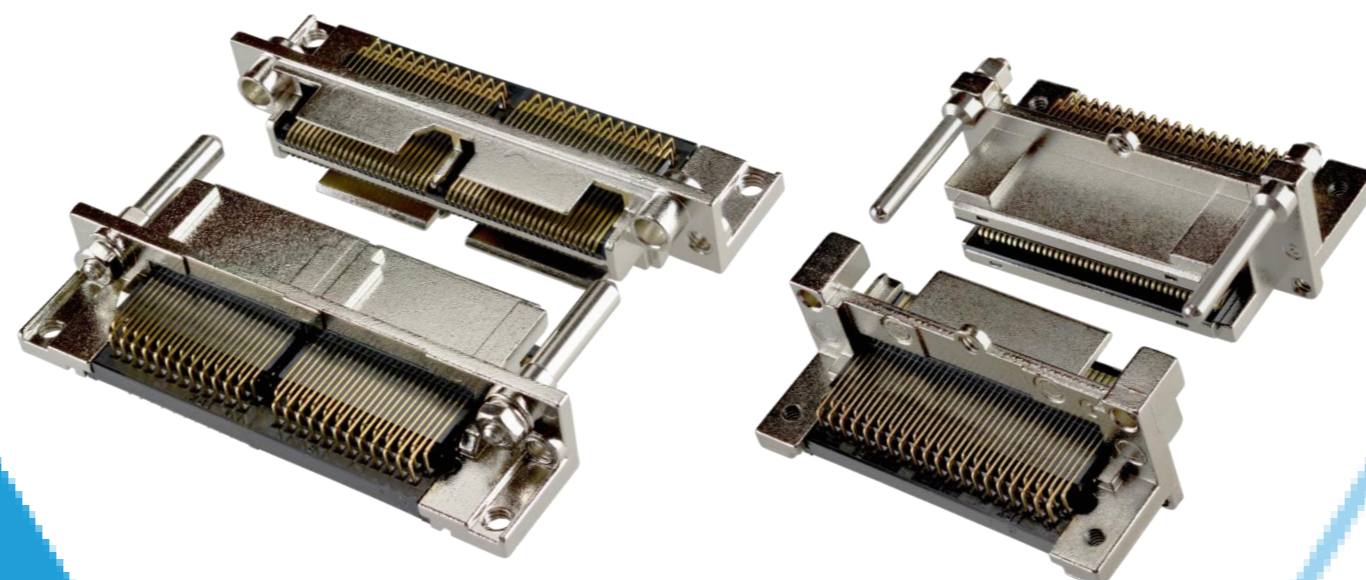
NOVASTACK® series



Board-to-Board Connectors



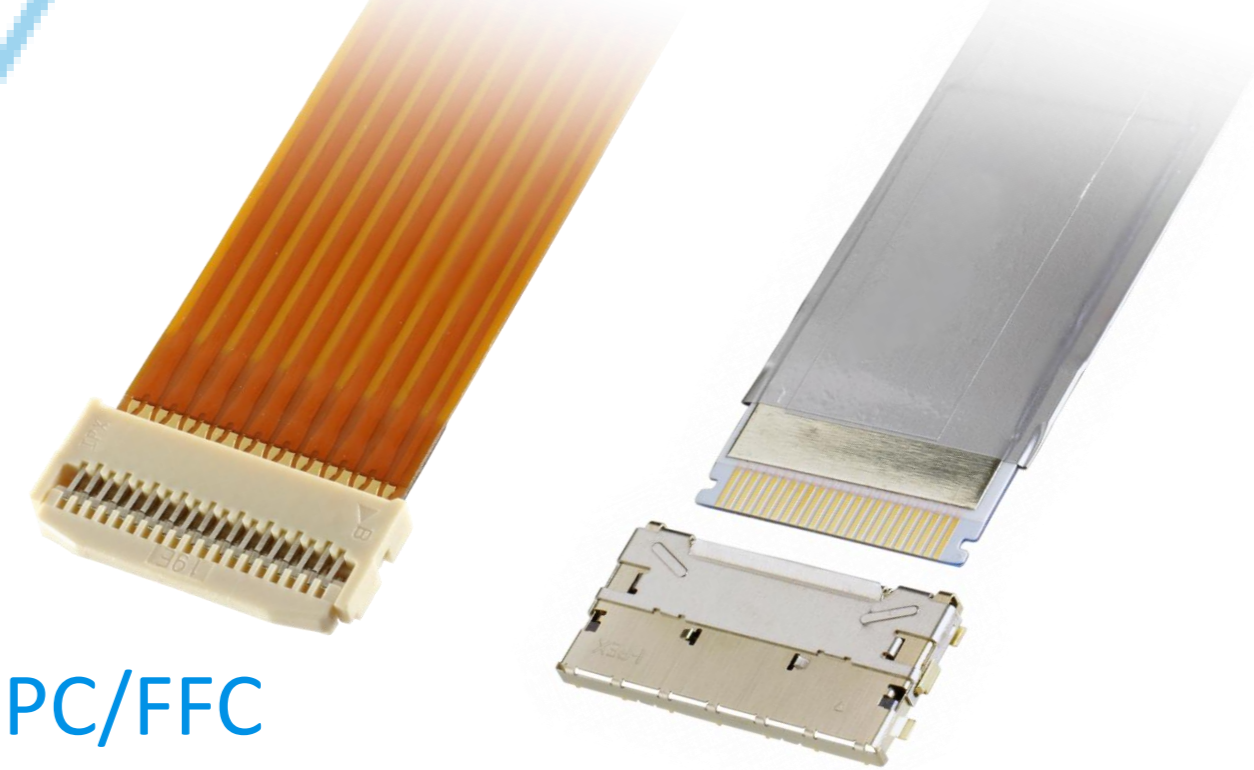
I/O Connectors



MINIDOCK™ series

MINIFLEX® series

EVAFLEX® series



FPC/FFC Connectors



Inquiry



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Contact your sales representative or more detailed information.

[www.i-pex.com](http://www.i-pex.com)



# I-PEX

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