

# CABLINE®-CAF

Mechanical lock with shielding and multi-point ground, suitable for high-data-rate transfer (32 Gbps/lane), 0.4 mm pitch, Horizontal mating type FPC plug connector

## Product Specifications:

Mating type	Horizontal	
Board Pitch (mm)	0.4	
Wiping Length (mm)	0.48	
Mated size (mm)	Height	1.10 Max
	Width	Formula: $5.75 + (0.4 \times ? p)$
	Depth	6.06
Pin Counts	Range	Up to 60
	Available	40, 60

## Applicable FPC

FPC Type	Shielded/Non-shielded FPC
FPC Pitch (mm)	0.4
FPC Contact Point	Top
FPC Thickness (mm)	Contact Area: $0.26 \pm 0.02$
	Ground Area: $0.40 \pm 0.05$

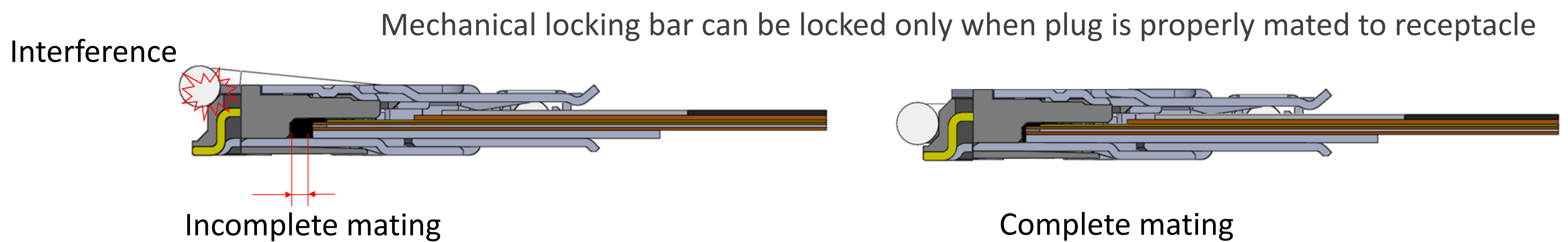
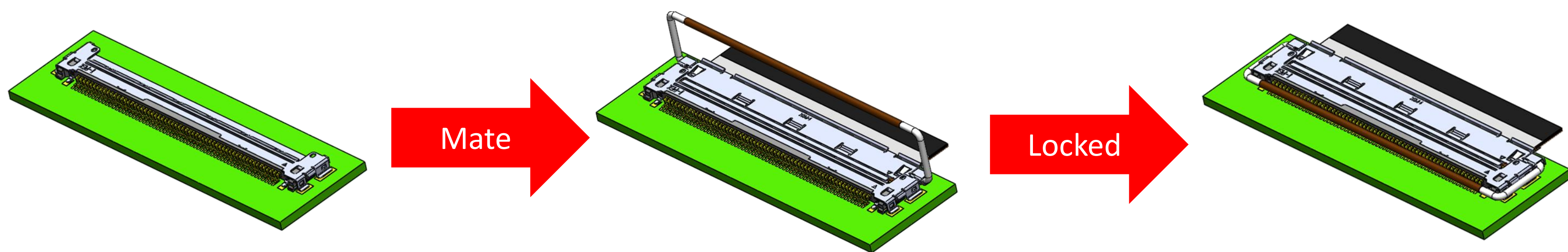
## Applicable Standards (Reference Only):

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

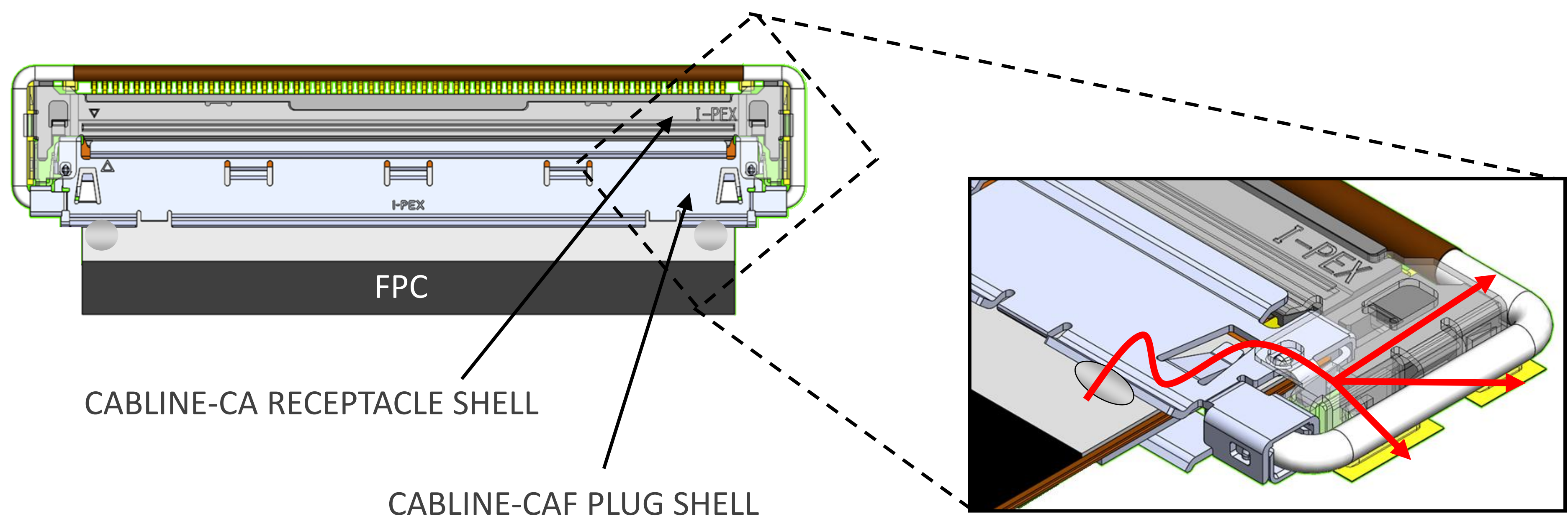
\* Please inquire for pin counts not listed or outside of the pin count range.



## ► Mechanical locking bar prevents incomplete mating and back-out/unmating



## ► EMI shielding and multi-point ground design



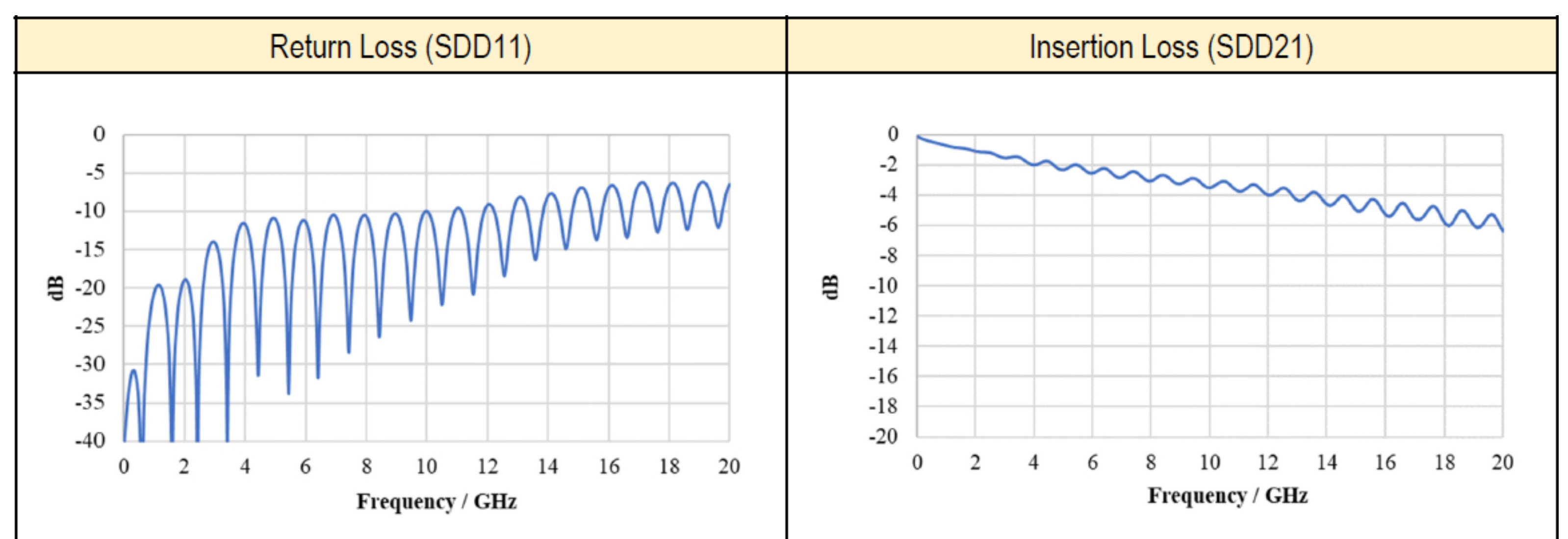
## ► High-data-rate transfer, ideal for 32 Gbps/lane applications

### Measurement results

Connector: CABLINE-CAF 40P

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

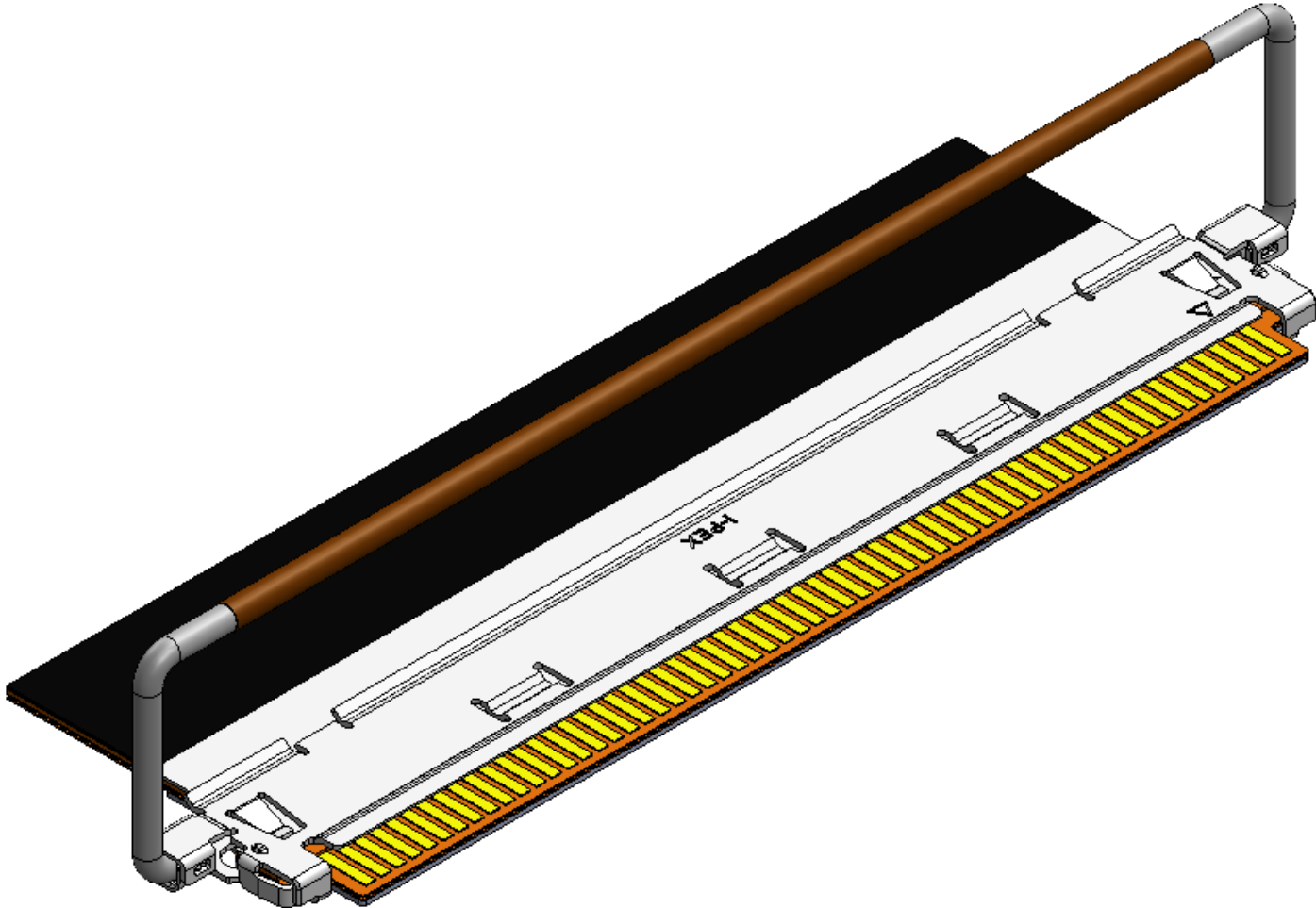
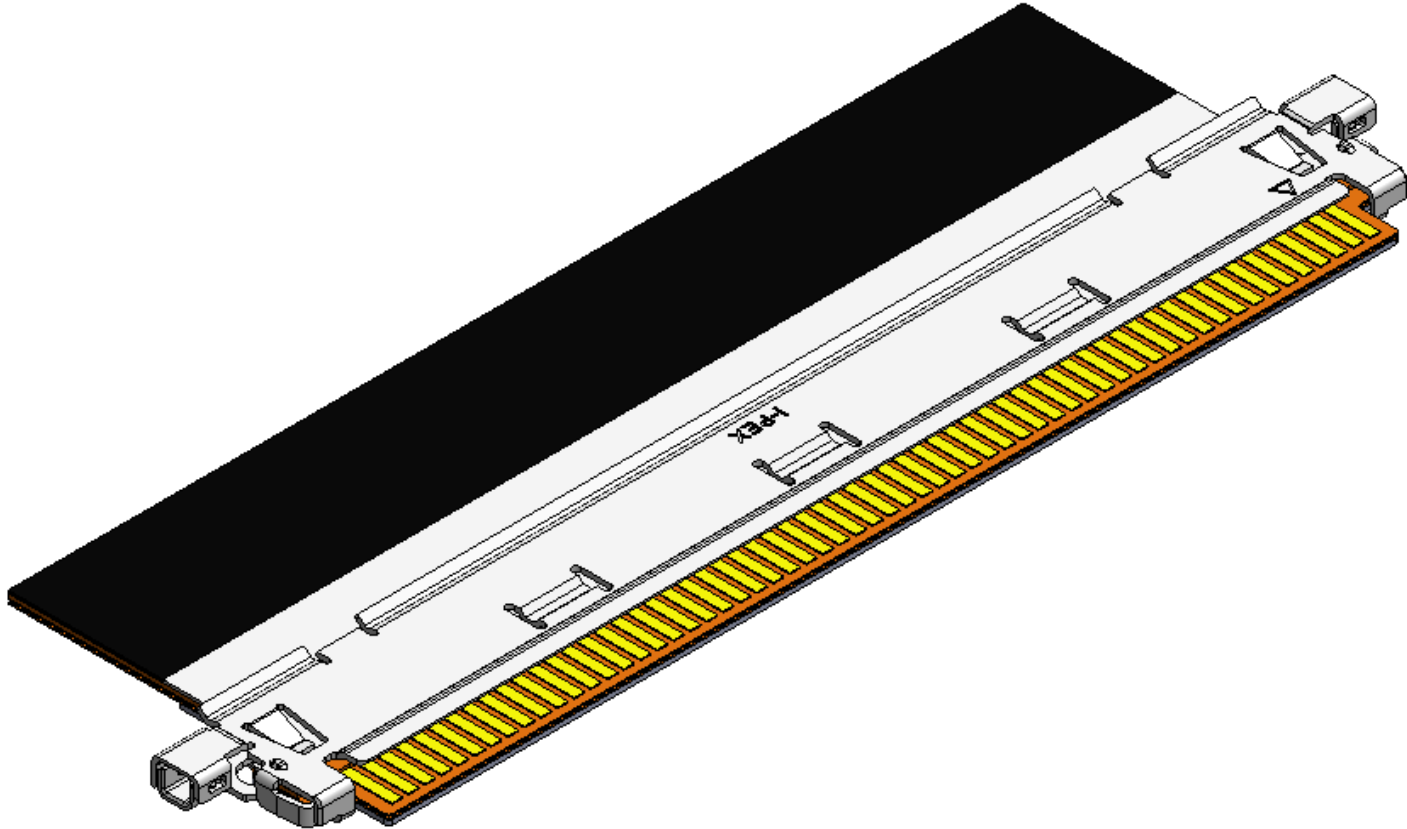
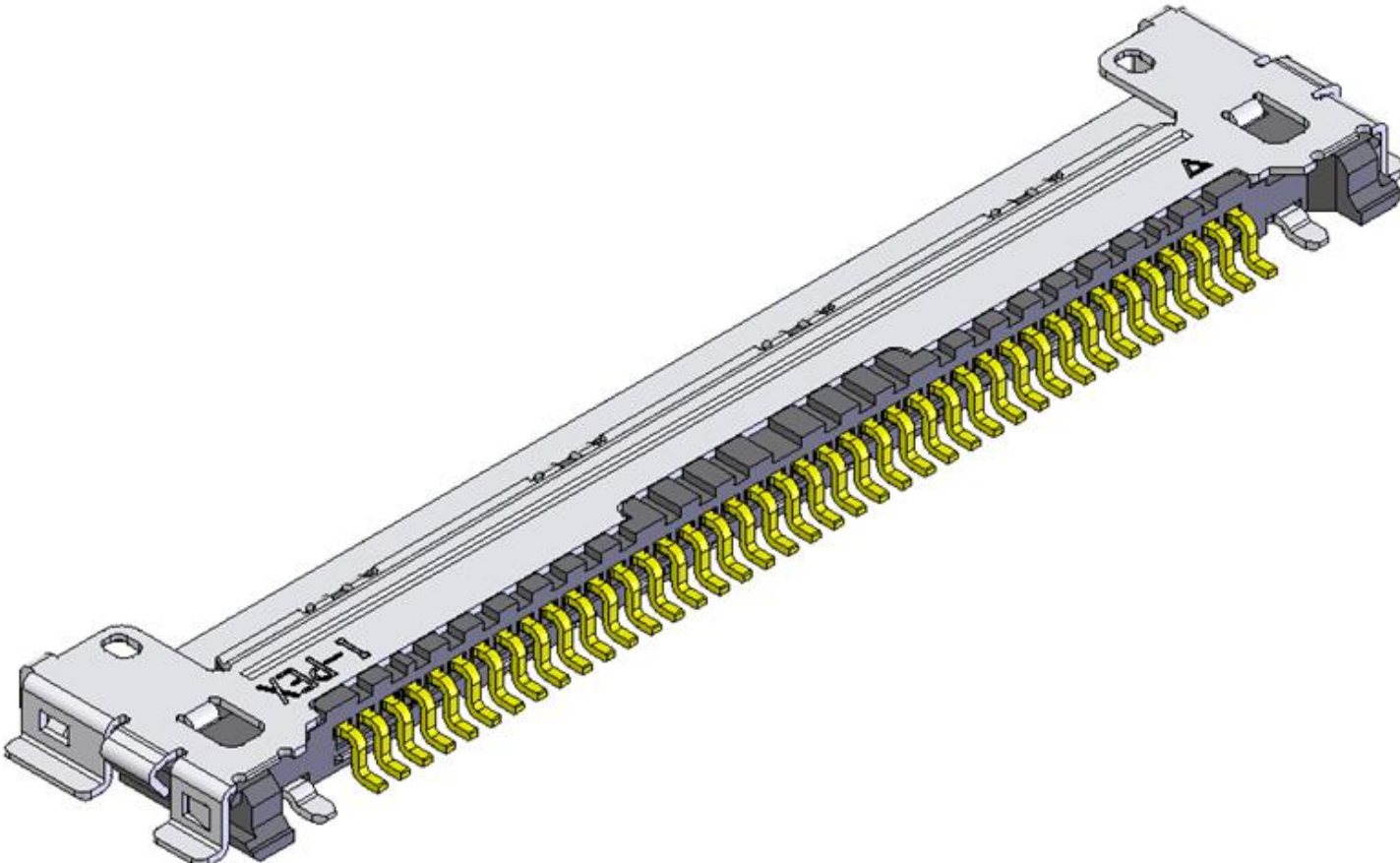
Pin Assignment: GSSGSSG





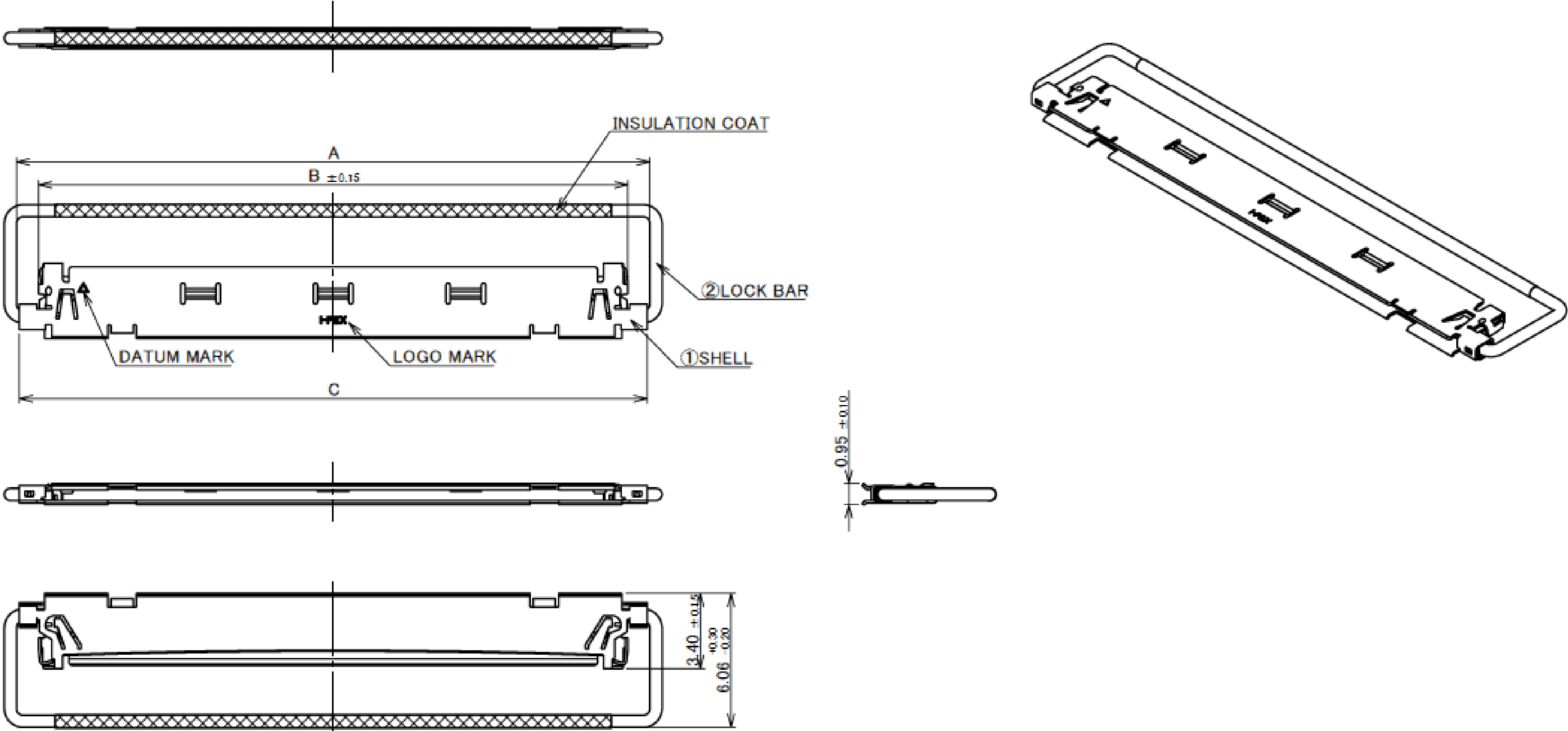
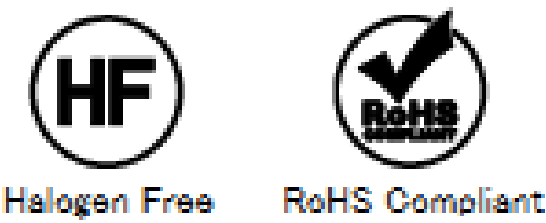
# Component Parts Details

## Component Parts

WITH LOCK BAR TYPE	OR	WITHOUT LOCK BAR TYPE
		
		
CABLINE-CA RECEPTACLE		

Shell Assembly

Recommended P/N		20858-0**T-01			
PART NO.	Pos.	A	B	C	
20858-040T-01	40	20.65	18.66	20.40	
20858-060T-01	60	28.65	26.66	28.40	

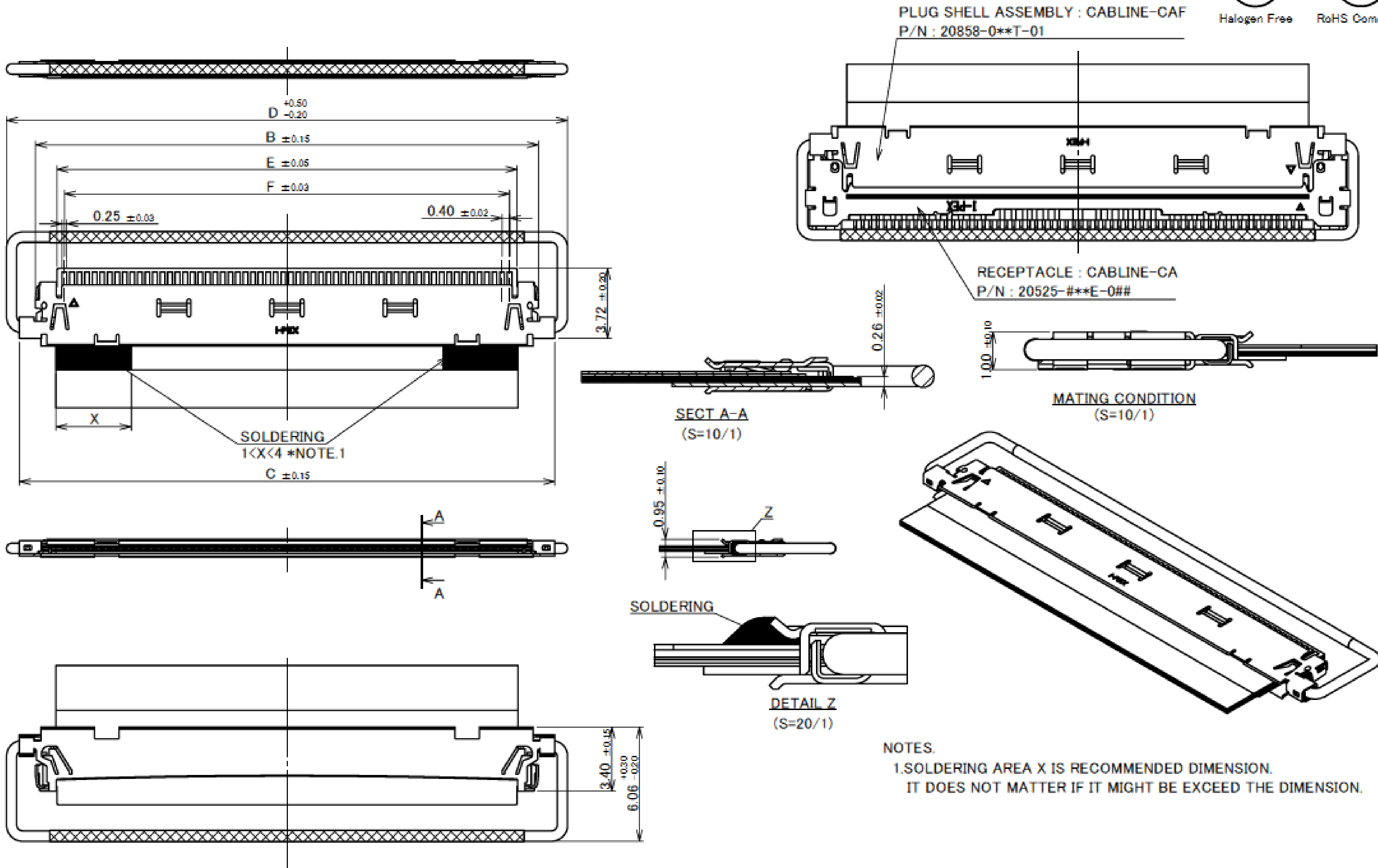
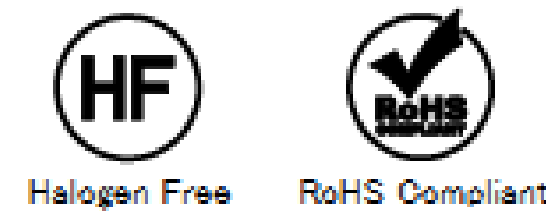


2	LOCK BAR	SUS	-
1	SHELL	PHOSPHOR BRONZE	PARTIAL Au 0.003 μm MIN. OVER Ni 1.00 μm MIN.
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

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PART NO.	Pos.	B	C	D	E	F
20858-040T-01	40	18.66	20.40	21.75	16.40	15.60
20858-060T-01	60	26.66	28.40	29.75	24.40	23.60

FPC ASSEMBLY STATE



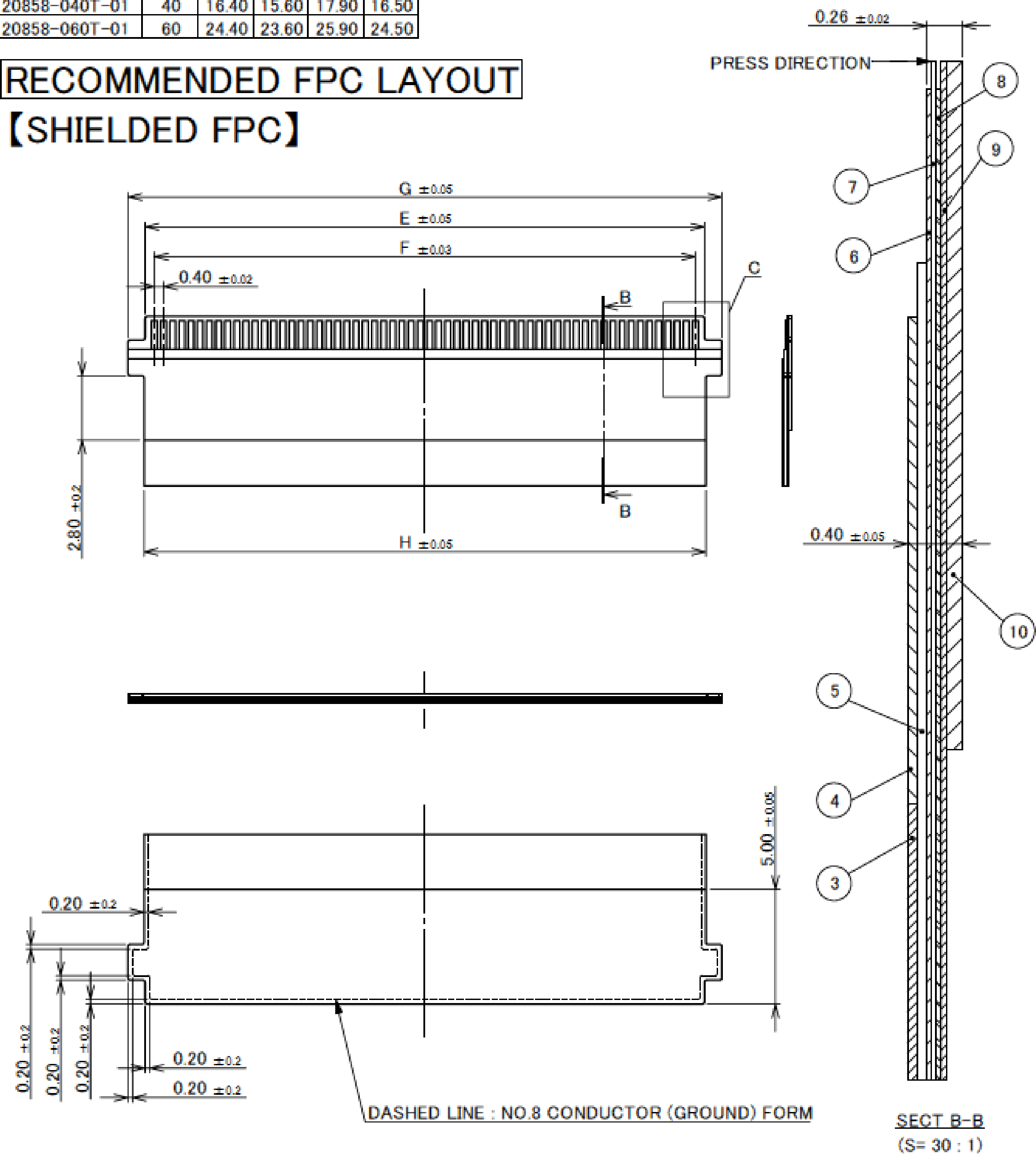
NOTES.  
1.SOLDERING AREA X IS RECOMMENDED DIMENSION.  
IT DOES NOT MATTER IF IT MIGHT BE EXCEED THE DIMENSION.

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Shell Assembly

PART NO.	Pos.	E	F	G	H
20858-040T-01	40	16.40	15.60	17.90	16.50
20858-060T-01	60	24.40	23.60	25.90	24.50

RECOMMENDED FPC LAYOUT  
【SHIELDED FPC】



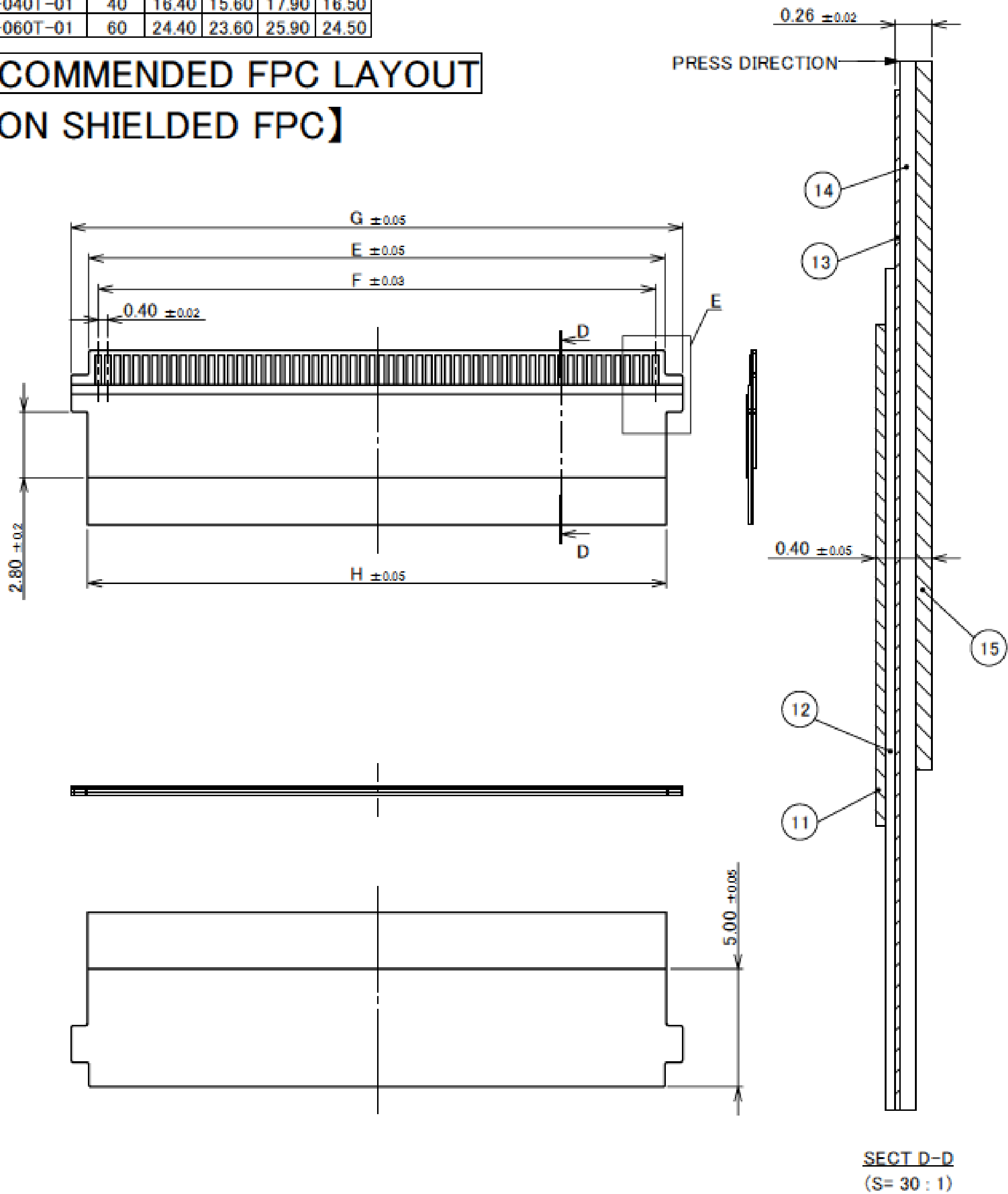
- NOTES.
- 1. ADHESIVE SHOULD USE THERMOSETTING.
  - 2. NO.3 : SHIELD FILM AND NO.4, NO.8 : CONDUCTOR (GROUND) ARE CARRYING OUT THE ELECTRICAL CONNECTION.
  - 3. NO.4 : CONDUCTOR (GROUND) AND NO.8 : CONDUCTOR (GROUND) ARE CARRYING OUT THE ELECTRICAL CONNECTION.
  - 4. NO.3 : SHIELD FILM AND NO.6 : CONDUCTOR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

3	SHIELD FILM	-	-
4	CONDUCTOR (GROUND)	Cu	Ni, Au
5	INSULATOR	-	-
6	CONDUCTOR (SIGNAL)	Cu	Ni, Au
7	INSULATOR	-	-
8	CONDUCTOR (GROUND)	Cu	Ni
9	INSULATOR	-	-
10	REINFORCING TAPE	-	-
No.	DESCRIPTION	MATERIAL	PLATING

Rev.9

PART NO.	Pos.	E	F	G	H
20858-040T-01	40	16.40	15.60	17.90	16.50
20858-060T-01	60	24.40	23.60	25.90	24.50

RECOMMENDED FPC LAYOUT  
【NON SHIELDED FPC】



- NOTES.
- 1. ADHESIVE SHOULD USE THERMOSETTING.
  - 2. NO.11 : CONDUCTOR (GROUND) AND NO.1 : SHELL ARE CARRYING OUT THE ELECTRICAL CONNECTION BY SOLDERING.
  - 3. NO.11 : CONDUCTOR (GROUND) AND NO.13 : CONDUCTOR (SIGNAL) ARE NOT CONTACTING.

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

Rev.9

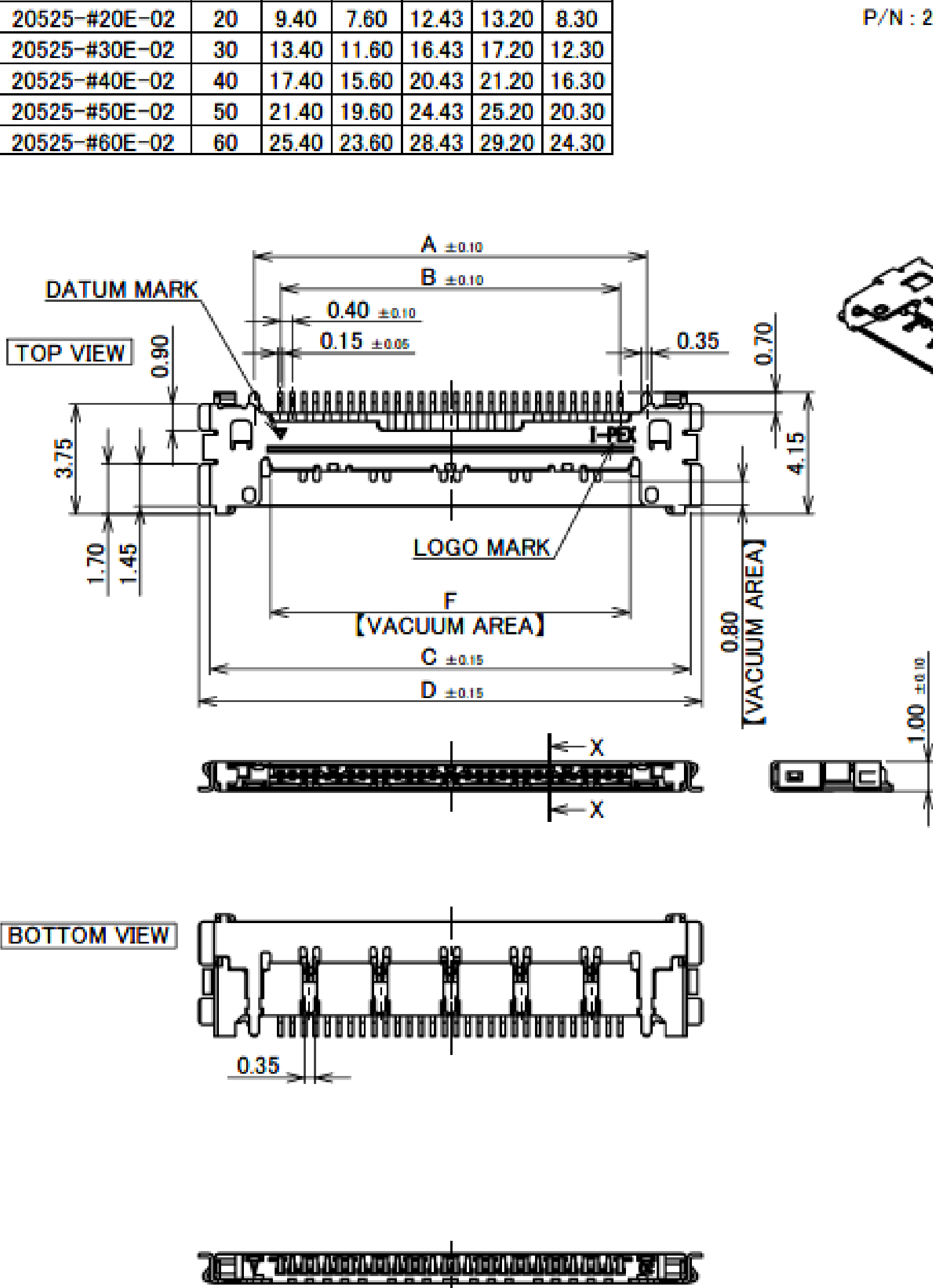
Shell Assembly

ITEMS	SPECIFICATION
RATING VOLTAGE	100V AC (PER CONTACT)
RATING AMPERAGE (FOR SIGNAL CONTACT)	0.5A AC/DC (PER CONTACT) ※AVAILABLE UP TO 14PIN 0.3A AC/DC (PER CONTACT) ※AVAILABLE UP TO ALL PIN
OPERATING TEMPERATURE	233~358K(−40℃~+85℃)
OPERATING HUMIDITY	85% MAX.(NON-CONDENSING)
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)	40P : 11.07N MAX. 60P : 16.61N MAX.
UNMATING FORCE (INITIAL / AFTER TEST)	40P : 1.44N MIN. 60P : 2.16N MIN.
PRODUCT SPECIFICATION	PRS-2465
TEST REPORT	TR-18016
PACKING STANDARD	PST-17138
INSTRUCTION MANUAL	HIM-18016
ASSEMBLY MANUAL	ASM-18005
APPEARANCE CRITERIA No.	QLS-A***

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Receptacle Assembly

Recommended P/N		20525-0**E-02(12~60P)					20525-210E-02(10P)				
PART NO.	POS.	A	B	C	D	F					
20525-#10E-02	10	5.40	3.60	8.43	9.20	4.30					
20525-#12E-02	12	6.20	4.40	9.23	10.00	5.10					
20525-#20E-02	20	9.40	7.60	12.43	13.20	8.30					
20525-#30E-02	30	13.40	11.60	16.43	17.20	12.30					
20525-#40E-02	40	17.40	15.60	20.43	21.20	16.30					
20525-#50E-02	50	21.40	19.60	24.43	25.20	20.30					
20525-#60E-02	60	25.40	23.60	28.43	29.20	24.30					



P/N : 20525-#\*\*E-02  
POS. SEE TABLE 1

PATENT REGISTERED

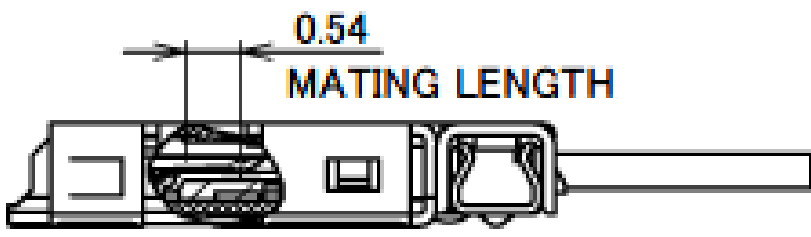


Halogen Free

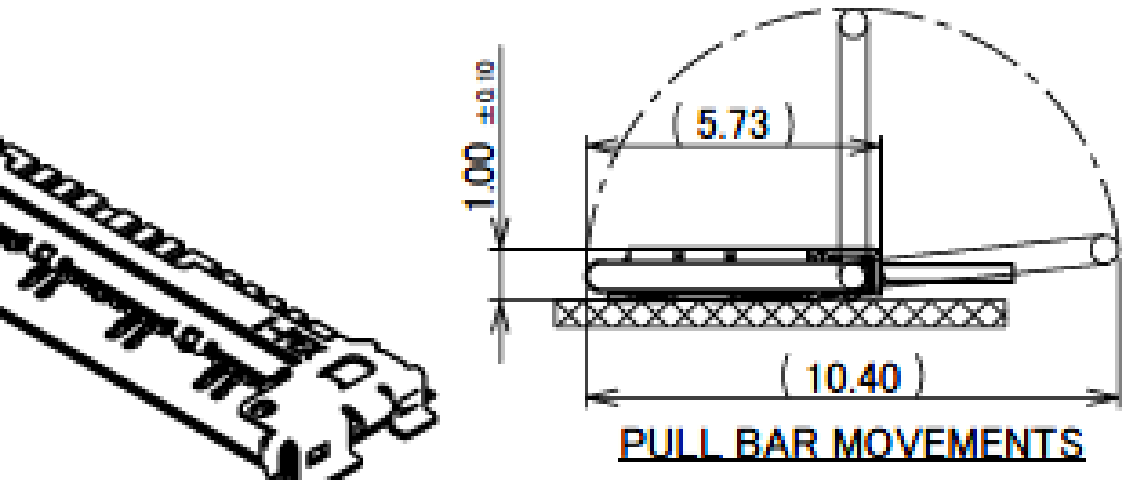


RoHS Compliant

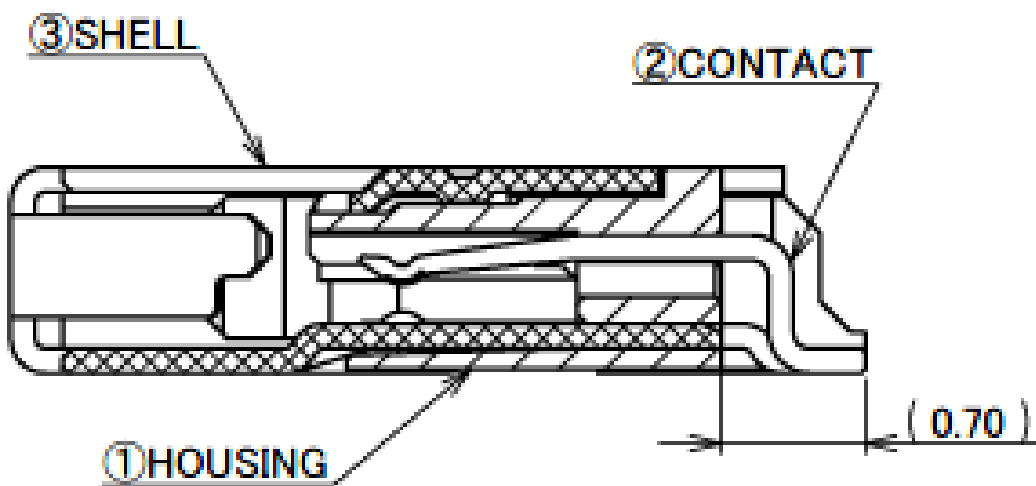
POS. SEE TABLE 1



MATING CONDITION



PULL BAR MOVEMENTS



SECT. X-X  
(S=20/1)

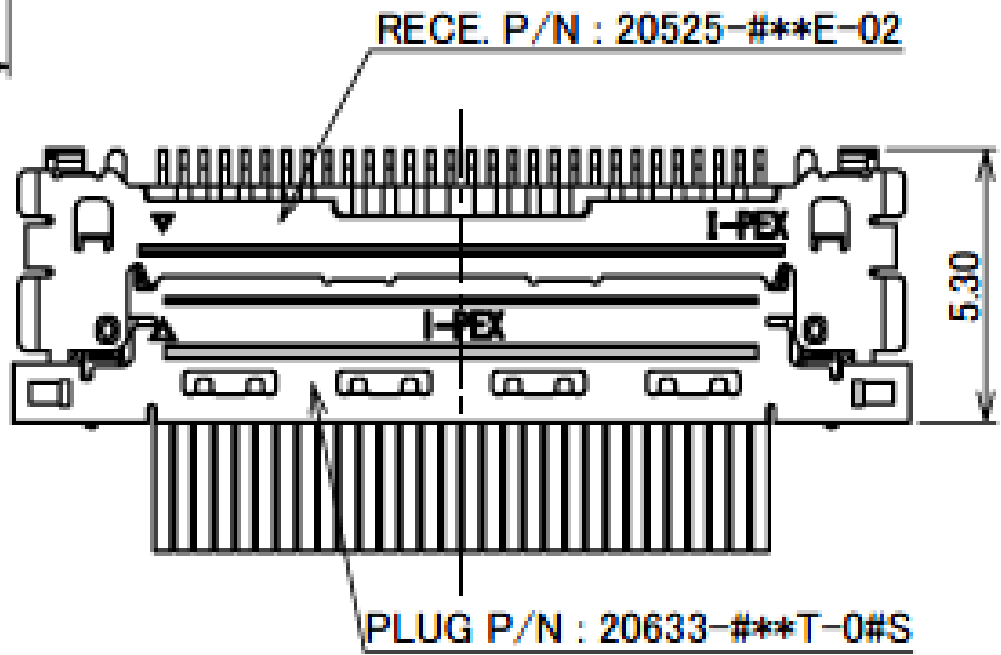


TABLE 1

PART NO.	CONTACT FINISH	SHELL FINISH
20525-0**E-02	CONTACT AREA : Au 0.1 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.	ALL OVER Au 0.02 μm MIN. OVER Ni 1.00 μm MIN. CONTACT AREA : Au 0.02 μm MIN. OVER Ni 0.80 μm MIN.
20525-2**E-02	CONTACT AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.	ALL OVER Ni 1.00 μm MIN. SOLDERING AREA : Au 0.02 μm MIN.

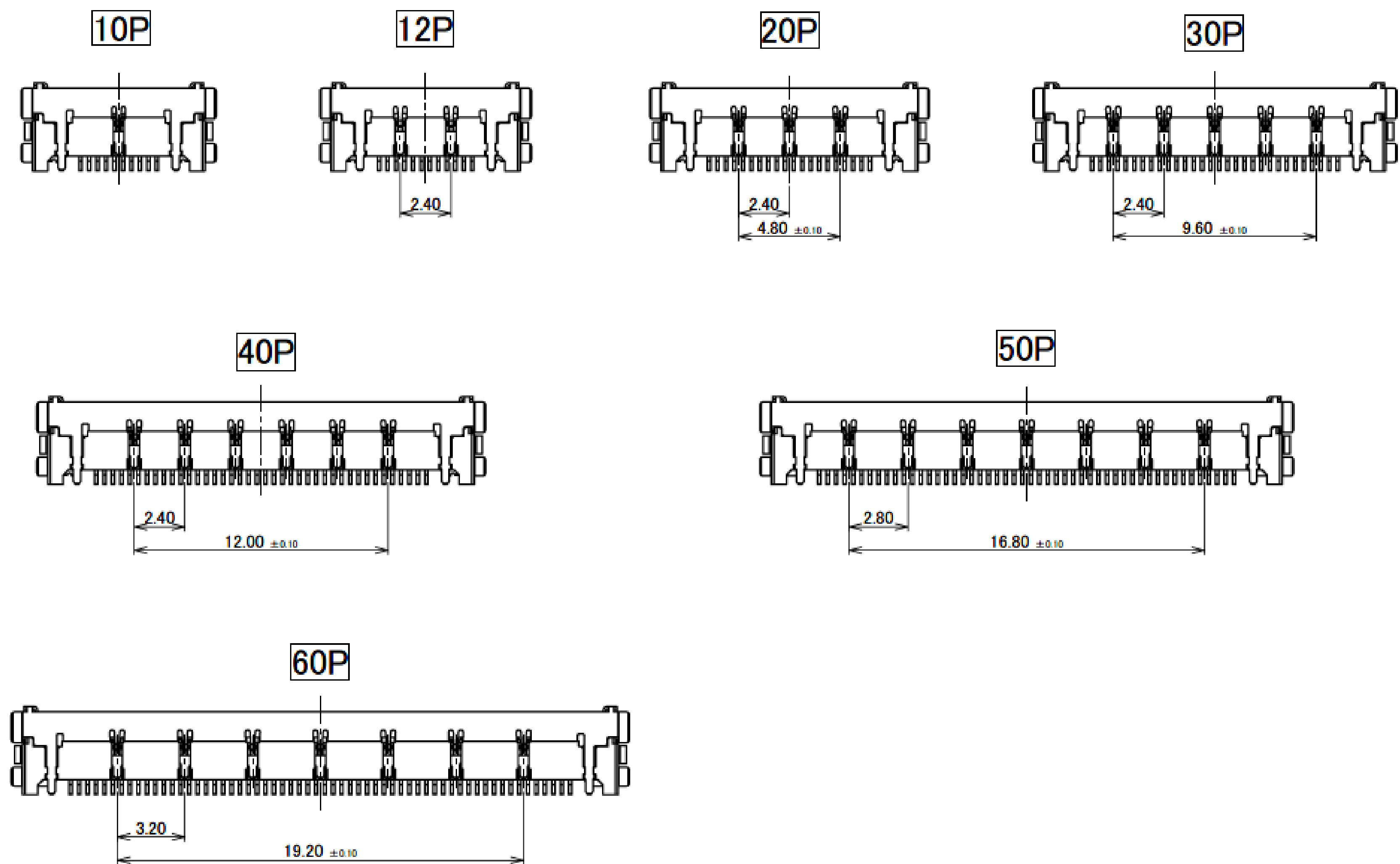
3	SHELL	PHOSPHOR BRONZE	SEE TABLE 1
2	CONTACT	PHOSPHOR BRONZE	SEE TABLE 1
1	HOUSING	LCP	UL94V-0, BLACK
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

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Receptacle Assembly

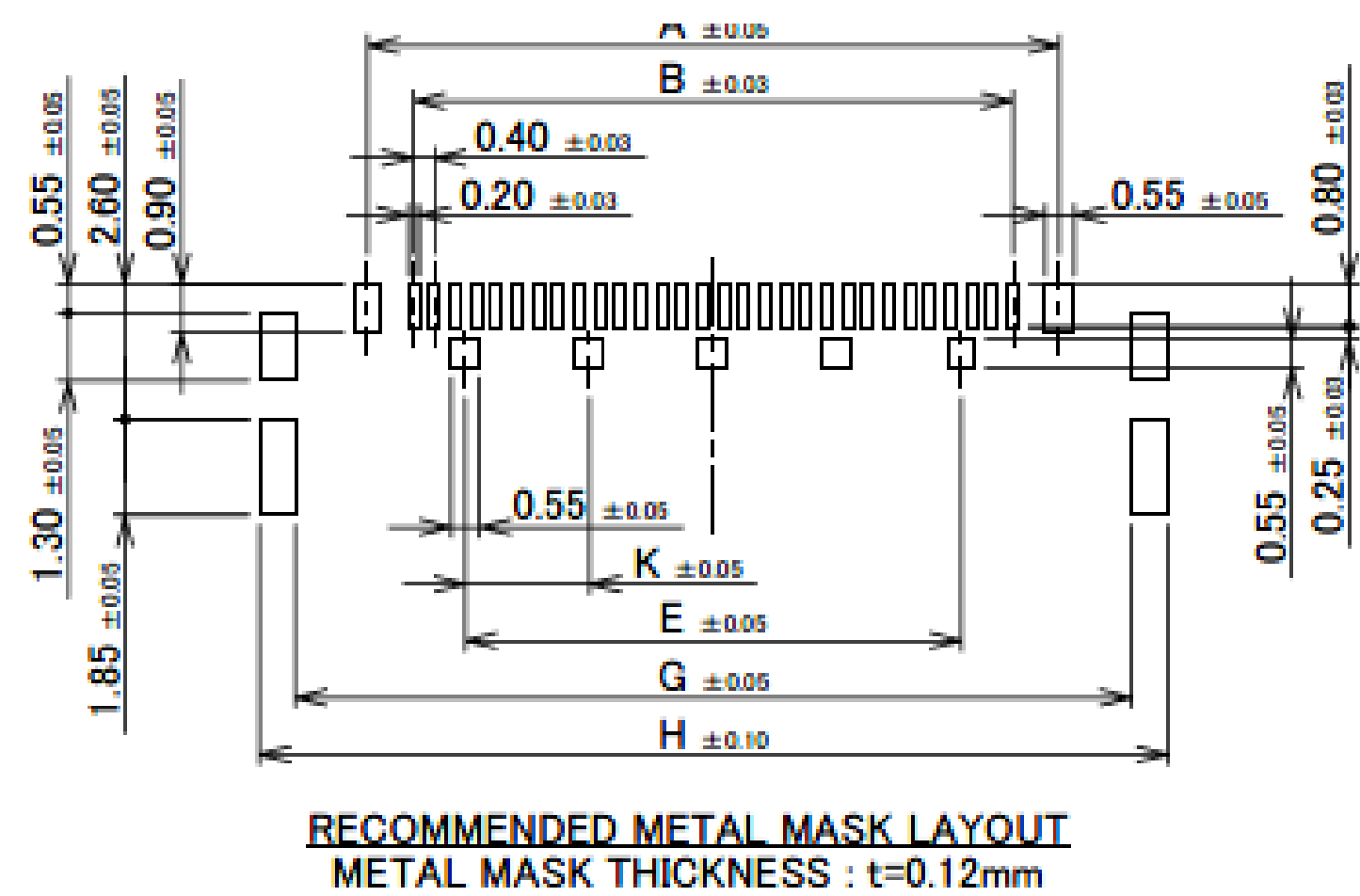
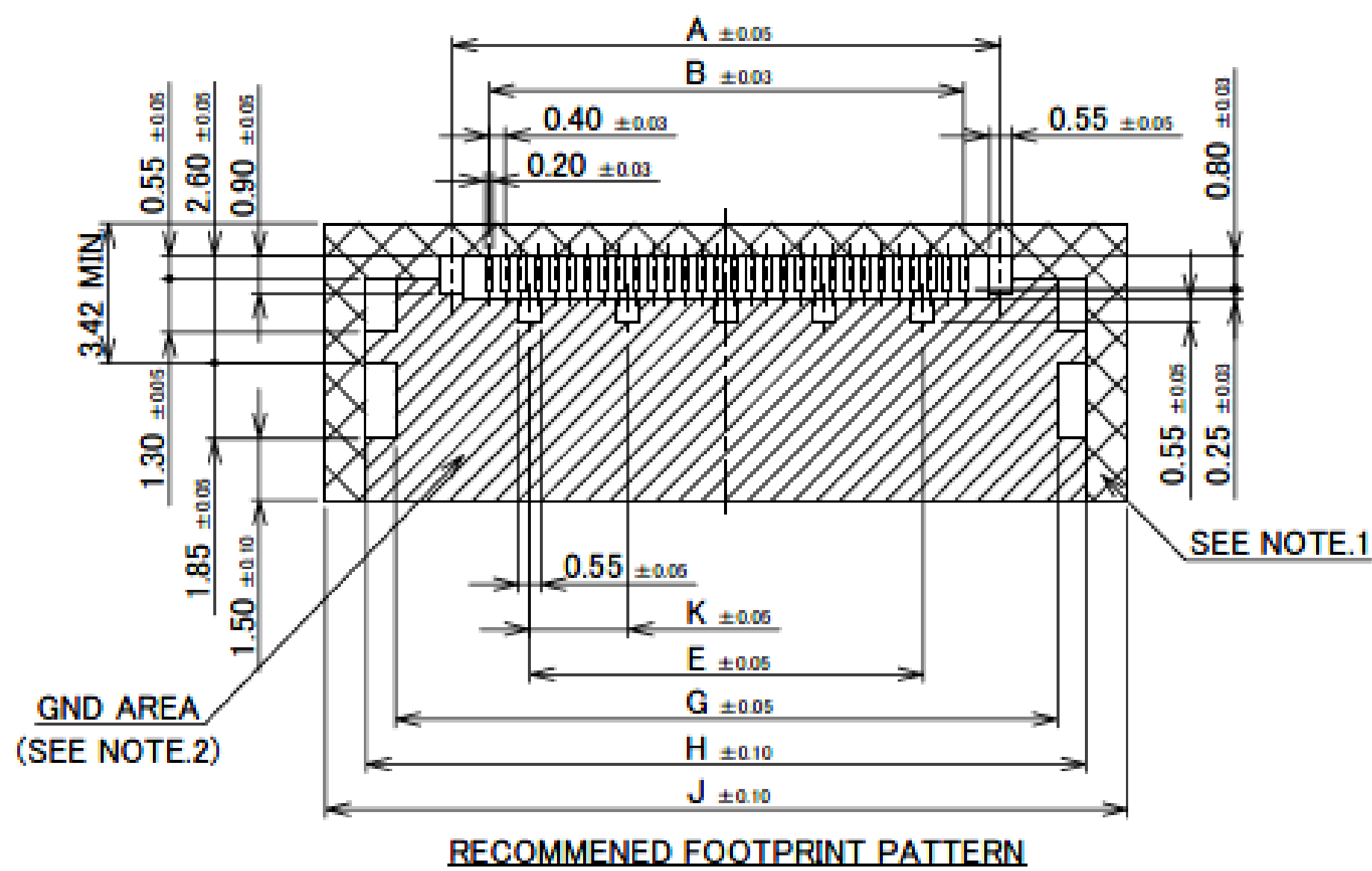
PART NO.
20525-***E-02

BOTTOM VIEW



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PART NO.	POS.	A	B	E	G	H	J	K
20525-#10E-02	10	5.40	3.60	-	8.18	9.60	11.60	-
20525-#12E-02	12	6.20	4.40	2.40	8.98	10.40	12.40	-
20525-#20E-02	20	9.40	7.60	4.80	12.18	13.60	15.60	2.40
20525-#30E-02	30	13.40	11.60	9.60	16.18	17.60	19.60	2.40
20525-#40E-02	40	17.40	15.60	12.00	20.18	21.60	23.60	2.40
20525-#50E-02	50	21.40	19.60	16.80	24.18	25.60	27.60	2.80
20525-#60E-02	60	25.40	23.60	19.20	28.18	29.60	31.60	3.20

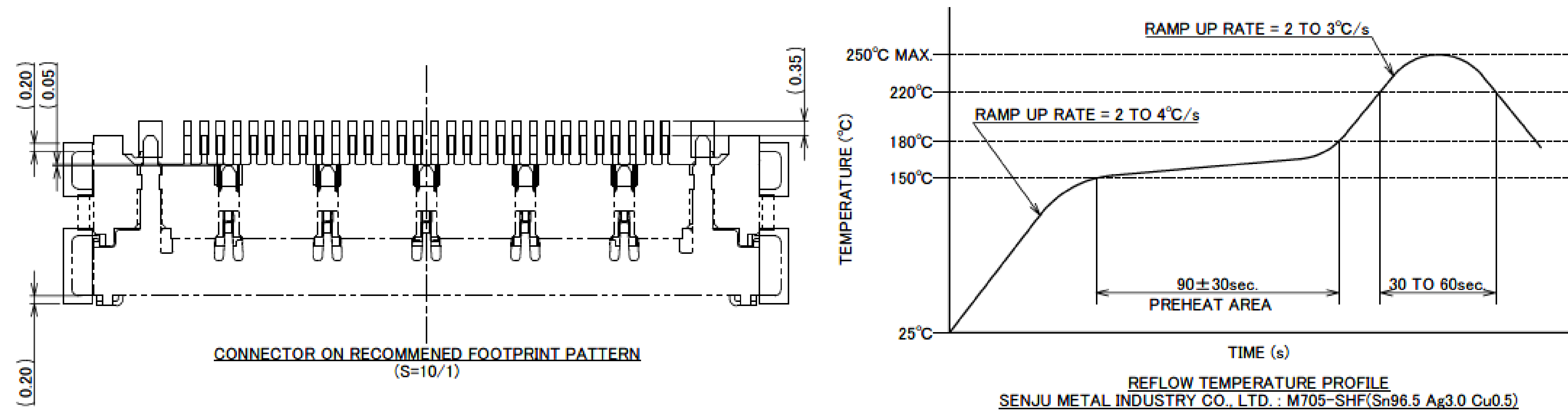


NOTES.  
1. IN CASE OF PLUG WITH PULL BAR(20633-##T-01S), DO NOT MOUNT ANOTHER COMPONENT IN THIS AREA.  
2. SOLDER RESIST MUST BE APPLIED TO THIS AREA.

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Receptacle Assembly



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FOR CABLINE-CAF PLUG SHELL ASSEMBLY (DWG NO. 20858)

ITEMS	SPECIFICATION
RATED VOLTAGE	100V AC (PER CONTACT PIN)
RATED AMPERAGE (FOR CONTACT)	0.5A AC/DC (PER CONTACT PIN) ※AVAILABLE UP TO 14PIN 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 TO 358K (−40°C TO +85°C)
OPERATING HUMIDITY	85% 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)	40P : 11.07N MAX. 40P : 16.61N MAX.
UNMATING FORCE (INITIAL / AFTER TEST)	30P : 1.44N MIN. 40P : 2.16N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-2465
TEST REPORT	TR-18016
PACKING STANDARD	300-824
INSTRUCTION MANUAL	HIM-18016
APPEARANCE CRITERIA NO.	QLS-A***

Rev.33



# Custom Connectors Available

 RF  
Connectors

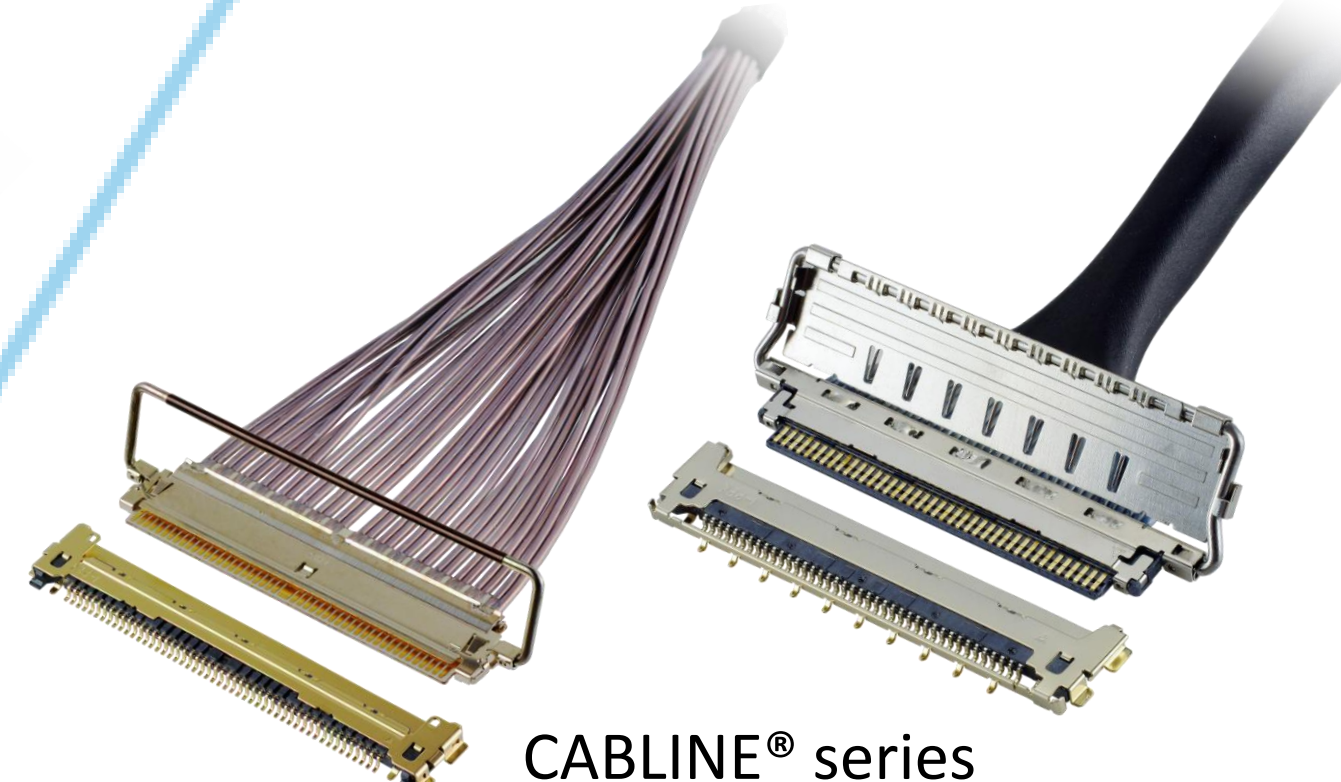
MHF® series



CABLINE® series



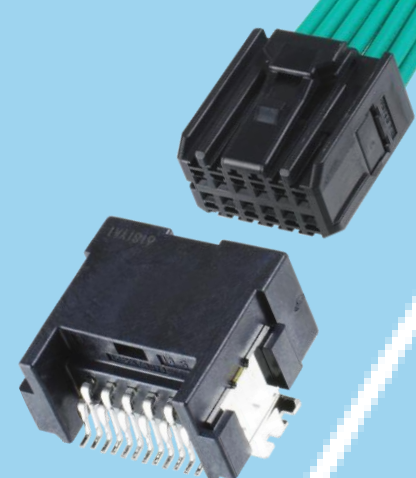
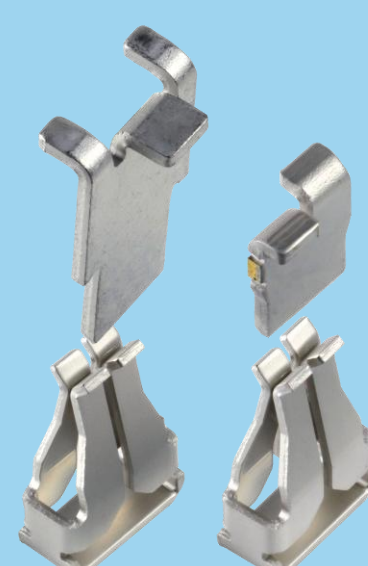
Micro-Coaxial/Twinaxial  
Connectors



Wire-to-Board  
Connectors/  
Terminals

AP series

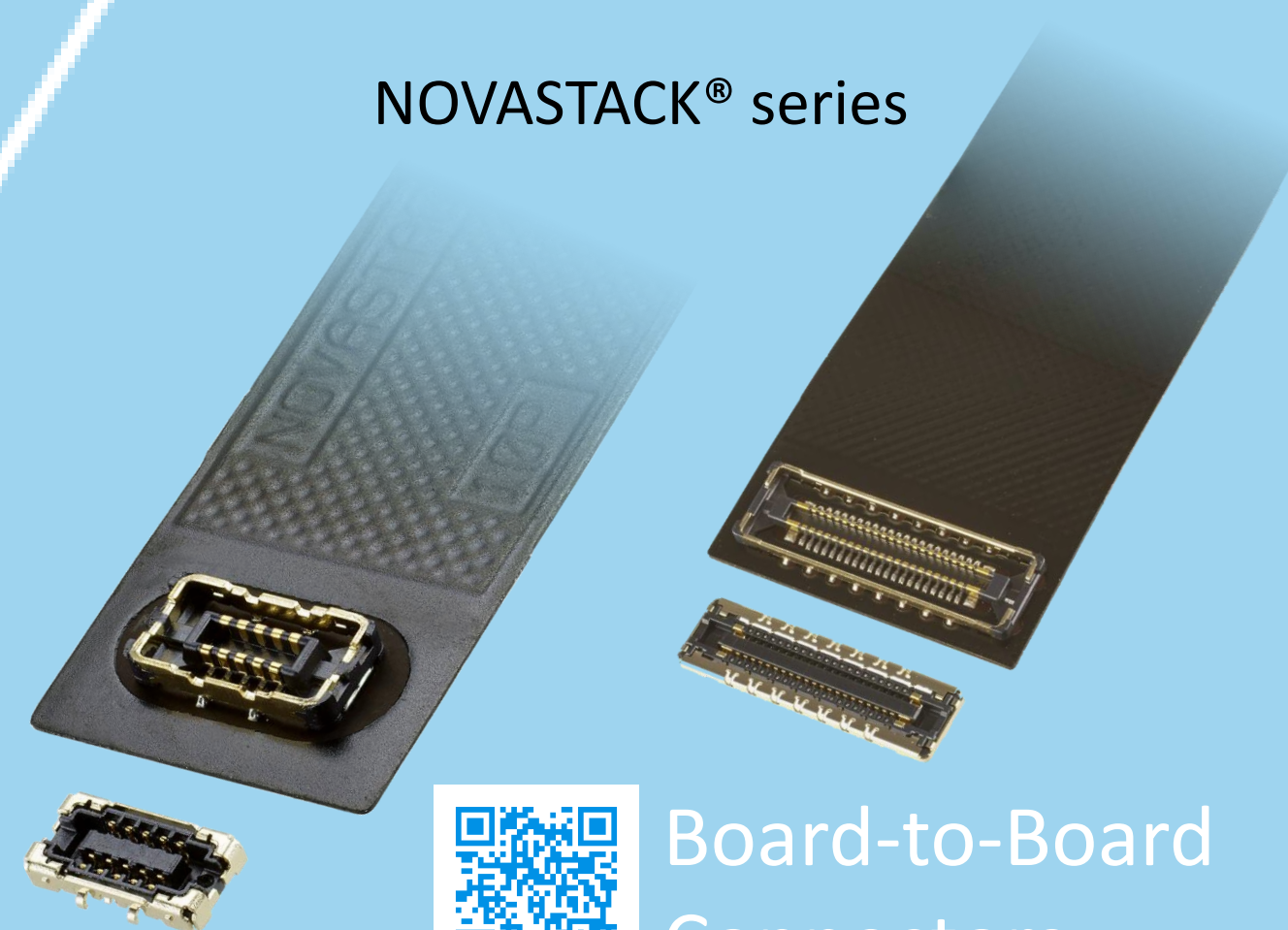
ISH® series



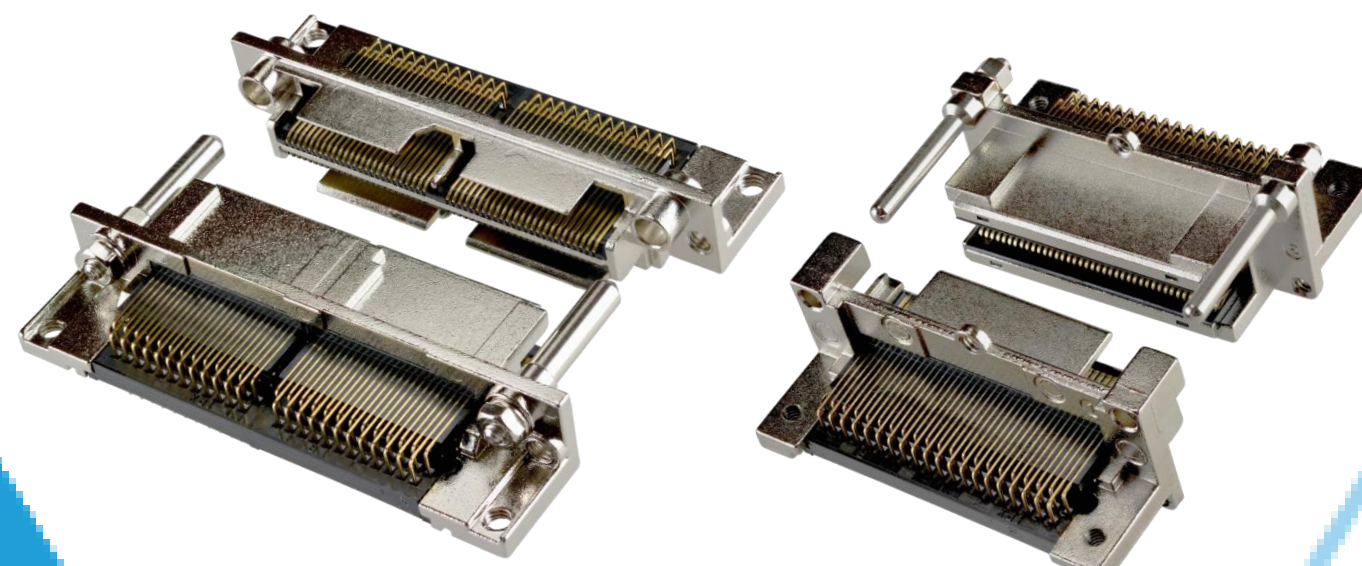
NOVASTACK® series



Board-to-Board  
Connectors



I/O  
Connectors



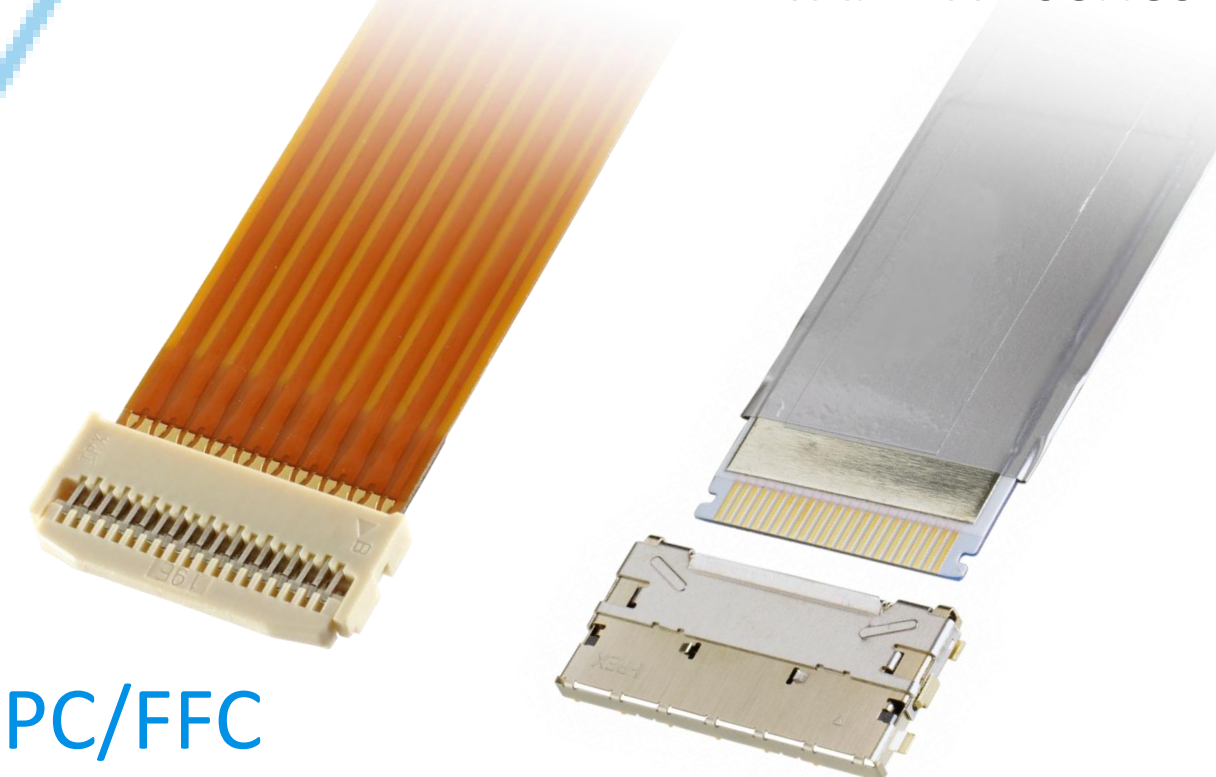
MINIDOCK™ series

MINIFLEX® series

EVAFLEX® series



FPC/FFC  
Connectors



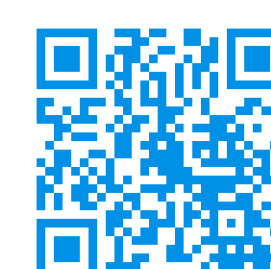
Inquiry



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