

CABLINE®-CAF

Mechanical lock with shielding and multi-point ground, 0.4 mm pitch,
Horizontal mating type FPC plug connector

Product Specifications:

Mating type		Horizontal
Board Pitch (mm)		0.4
Wiping Length (mm)		-
Mated size (mm)	Height	1.0 +/- 0.1
	Width	Formula: 5.75 + (0.4 x ? 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 ± 0.02
	Ground Area: 0.40 ± 0.05

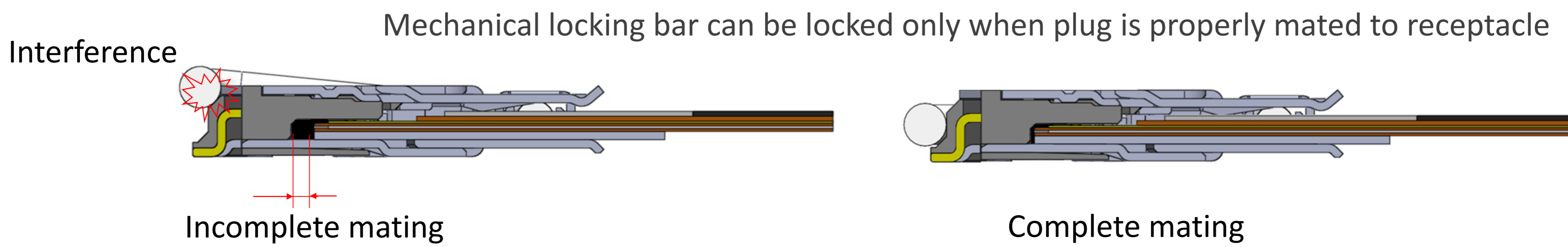
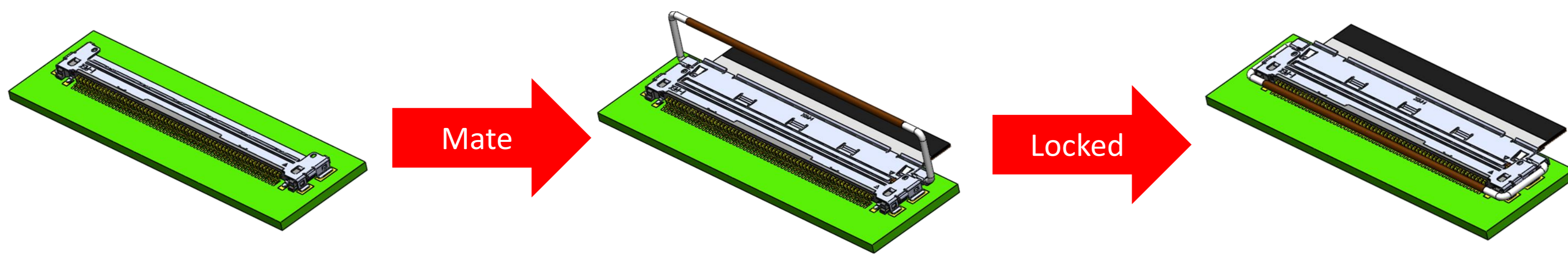
Applicable Standards (Reference Only):

PCIe® Gen 4 (16 GT/s/Lane), USB3.2 Gen2 (10 Gbps/Lane)
eDP HBR 3 (8.1 Gbps/Lane), USB3.2 Gen1(5 Gbps/Lane)

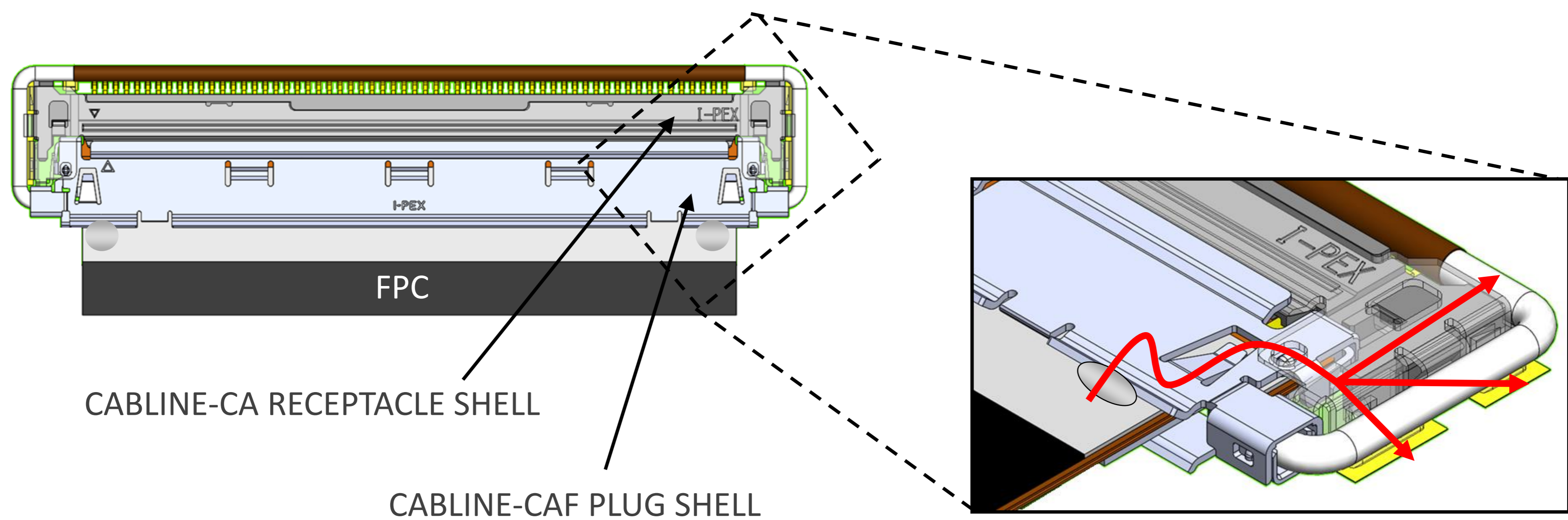


* Please inquire for pin counts not listed or outside of the pin count range.

▶ Mechanical Locking Bar Prevents Incomplete Mating and Back-out/Unmating



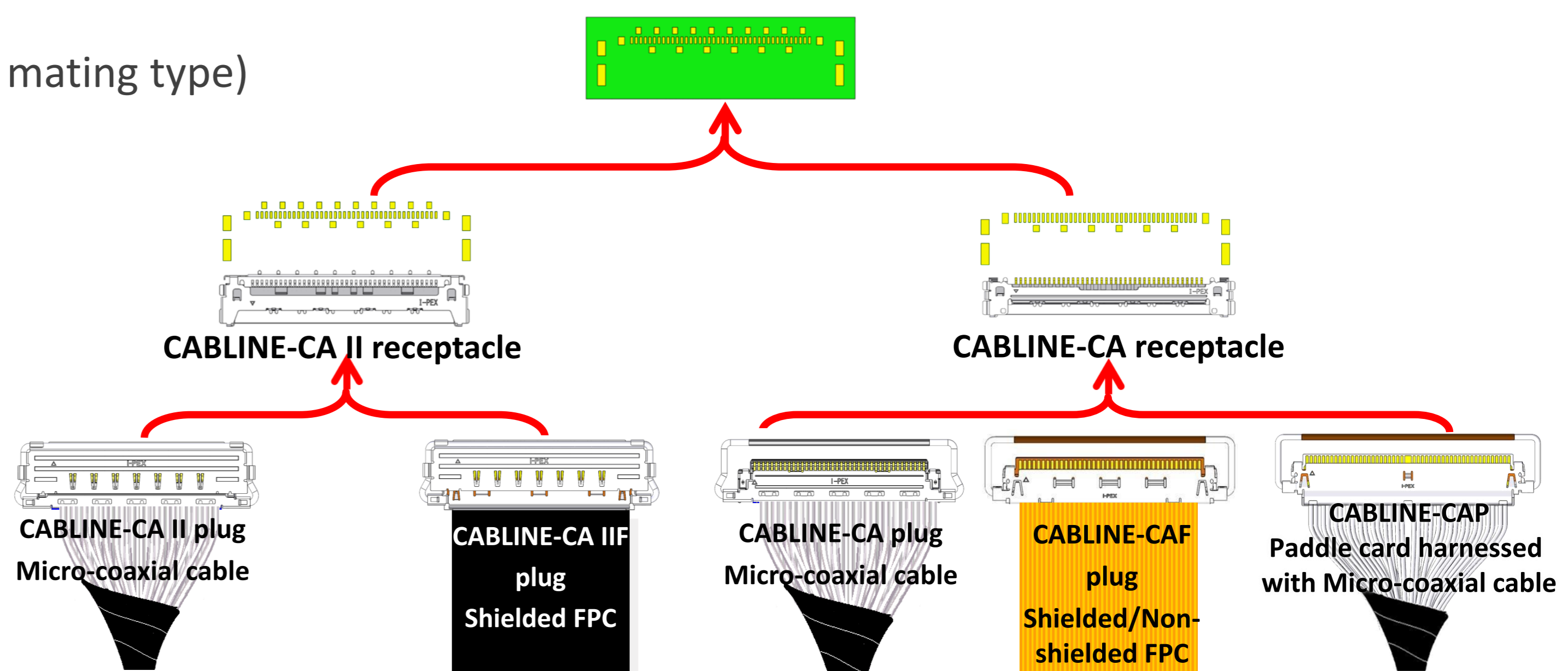
▶ EMI Shielding and Multi-point Ground Design



▶ Multiple Connector Options with CABLINE®-CA Series

CABLINA-CA series (0.4 mm pitch, horizontal mating type)

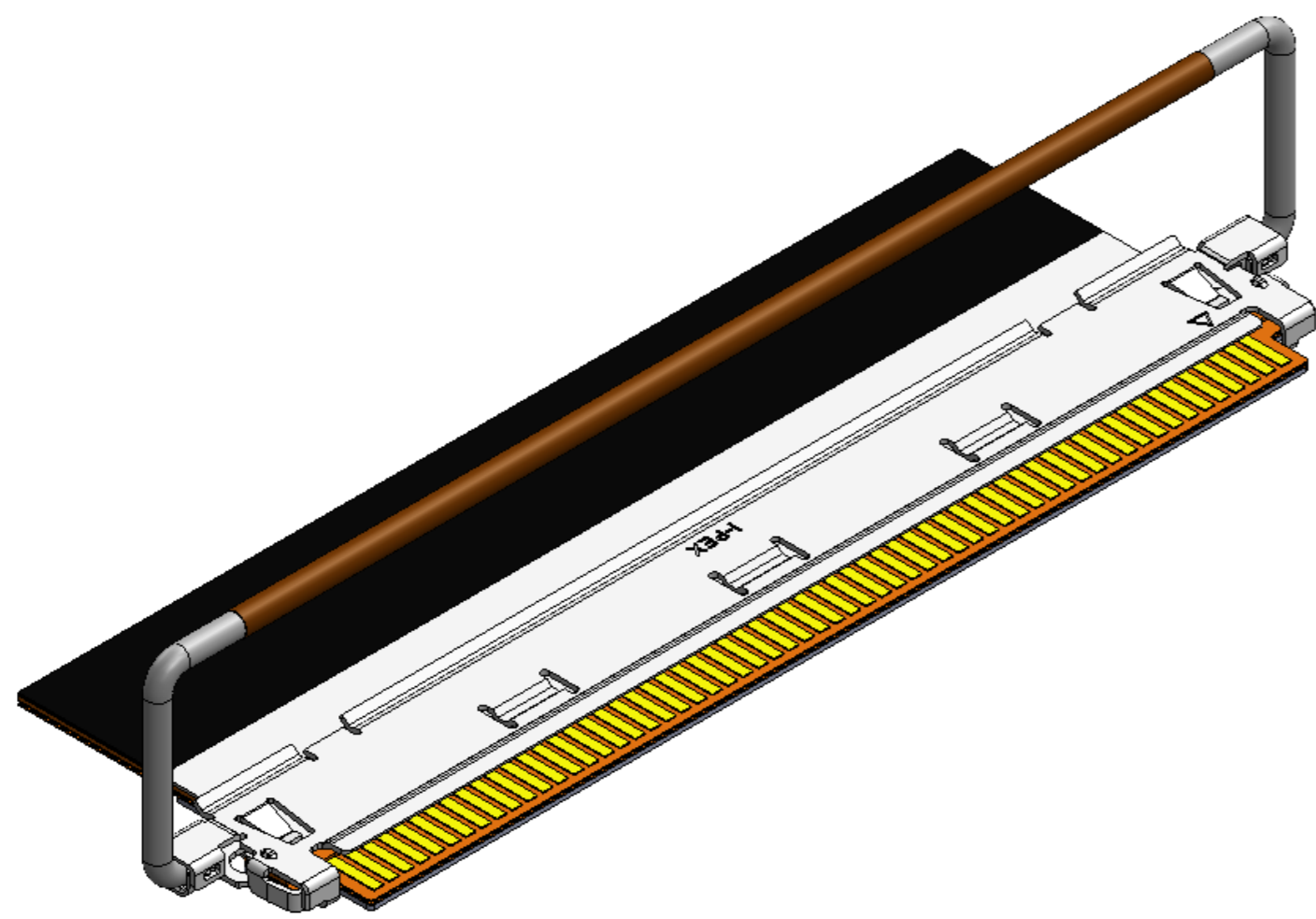
CABLINA-CA and CA II receptacles can be mounted to the same PCB layout



Component Parts Details

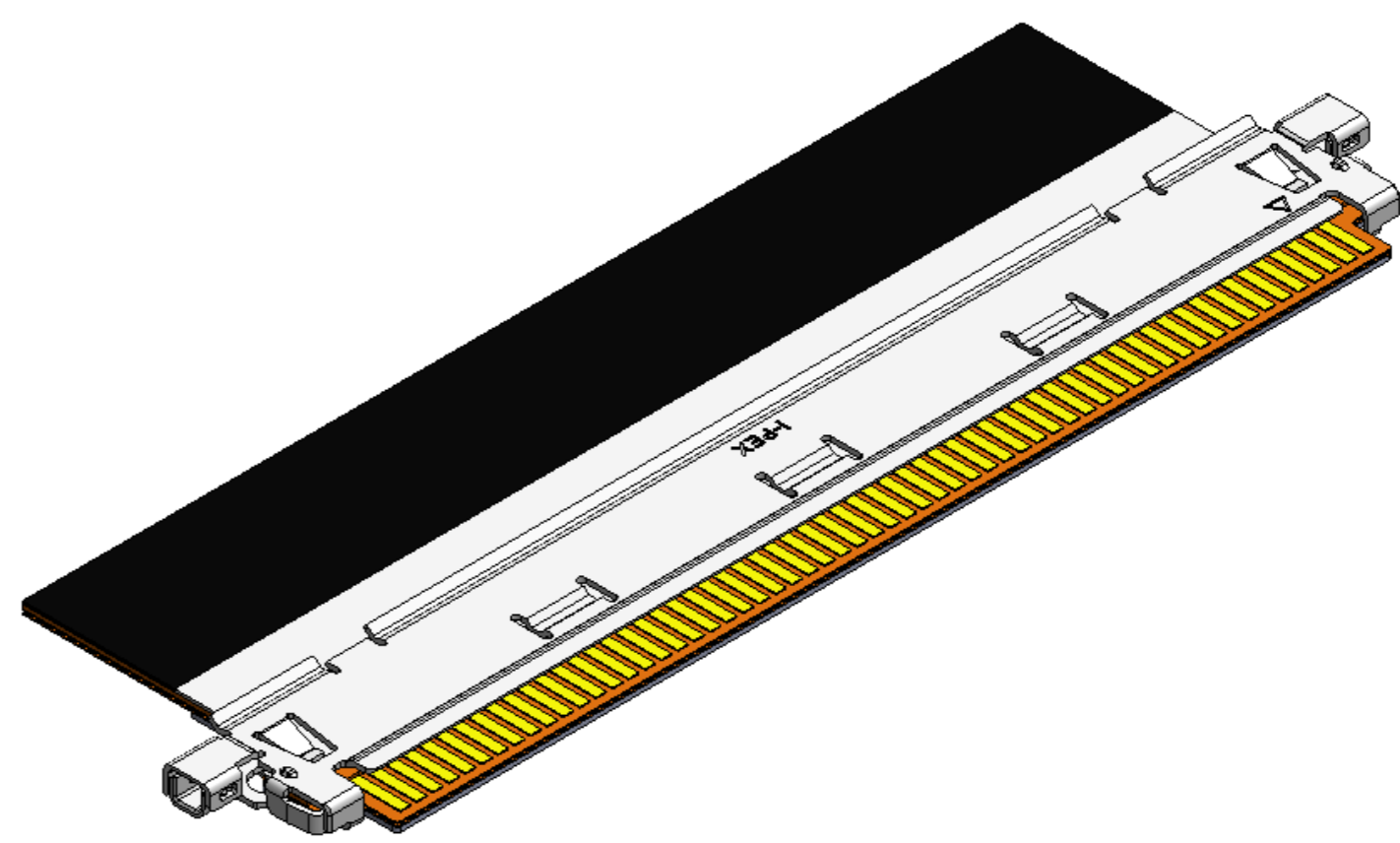
Component Parts

WITH LOCK BAR TYPE



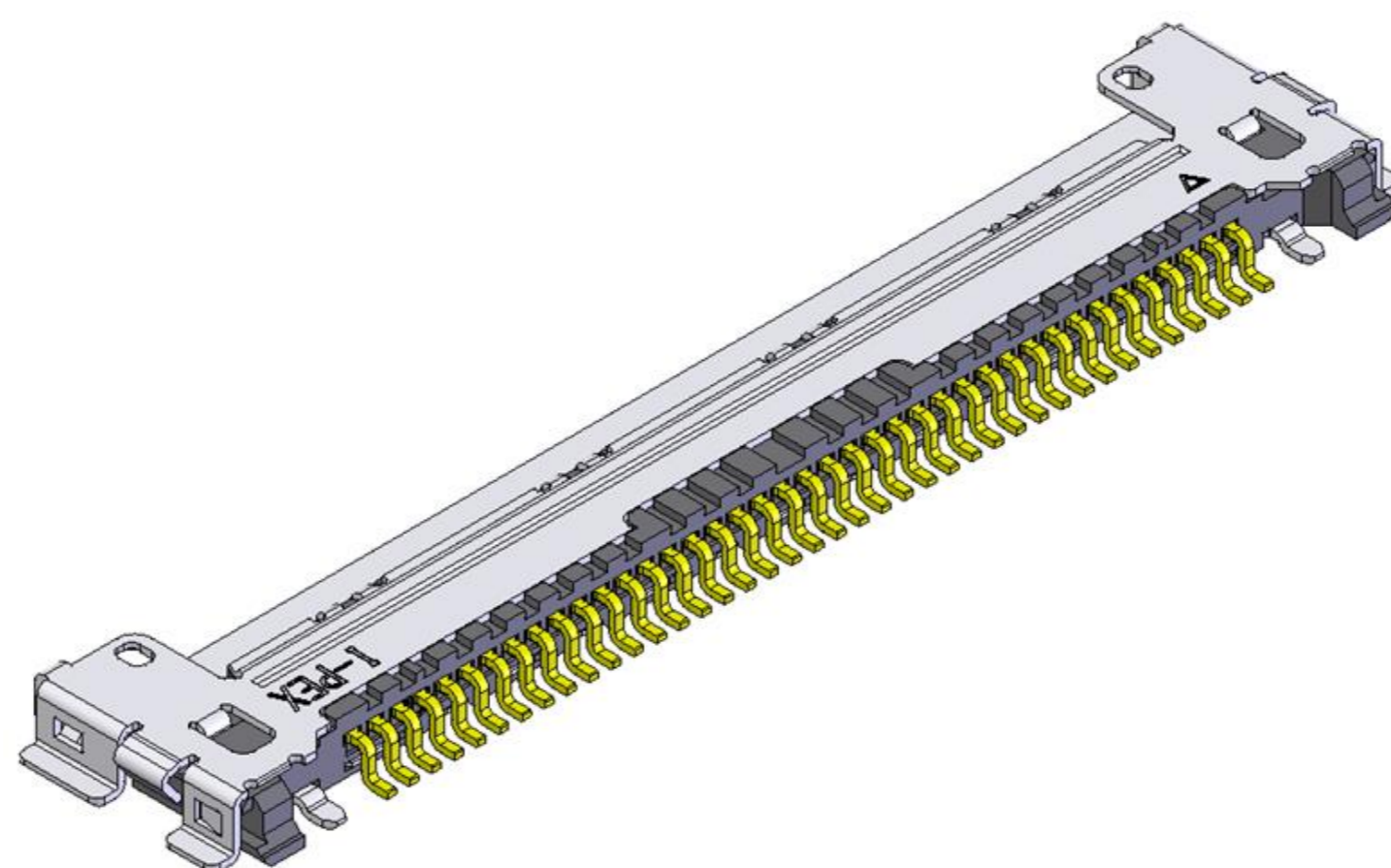
CABLINE-CAF SHELL ASS'Y PLUG with FPC

WITHOUT LOCK BAR TYPE



CABLINE-CAF SHELL PLUG with FPC

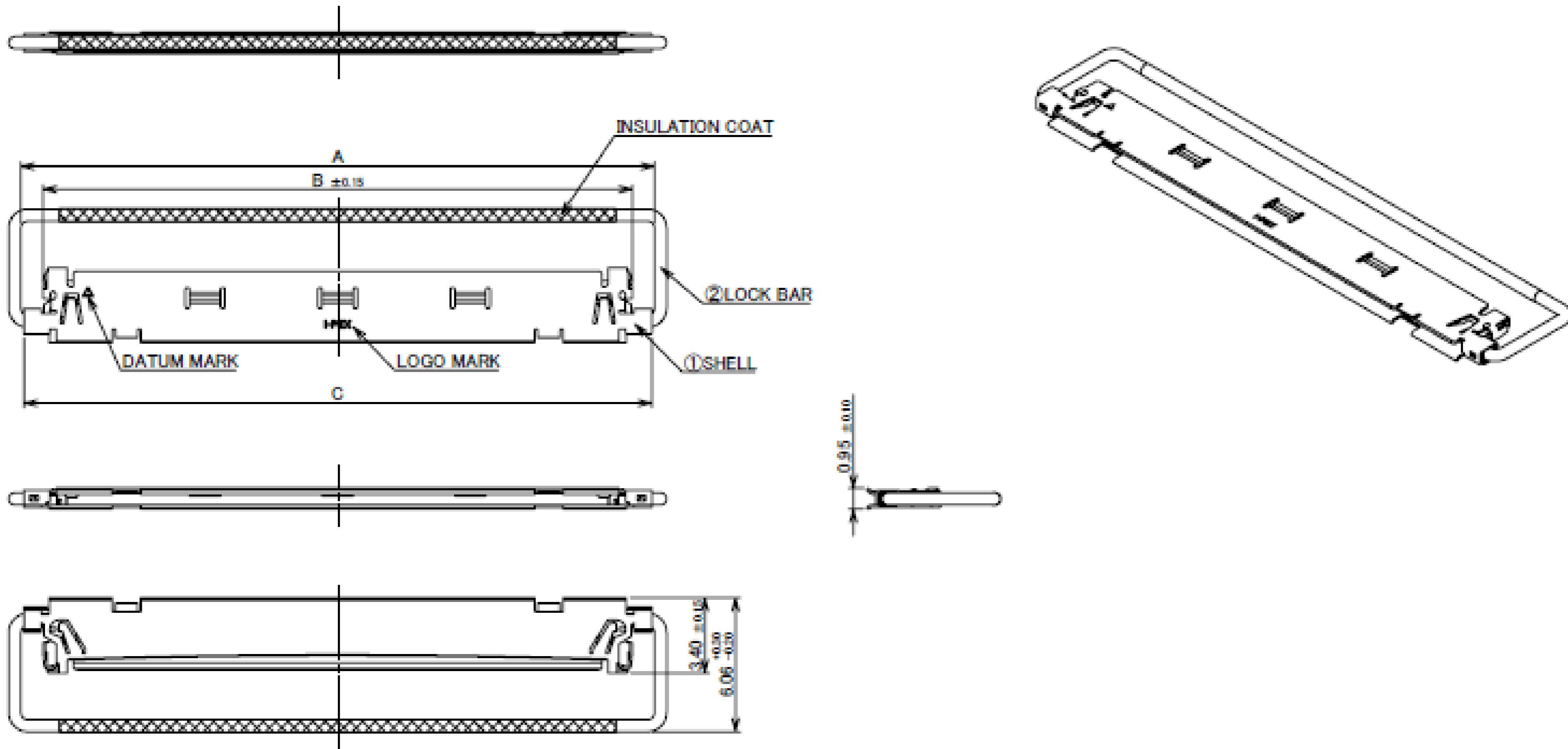
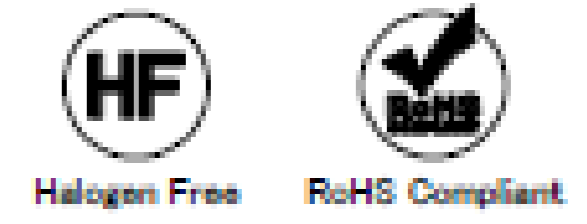
OR



CABLINE-CA RECEPTACLE

Shell Assembly

Recommended P/N		20858-0**T-01		
PART NO.	Pos.	A	B	C
20858-040T-01	40	20.85	18.66	20.40
20858-060T-01	60	28.65	26.66	28.40

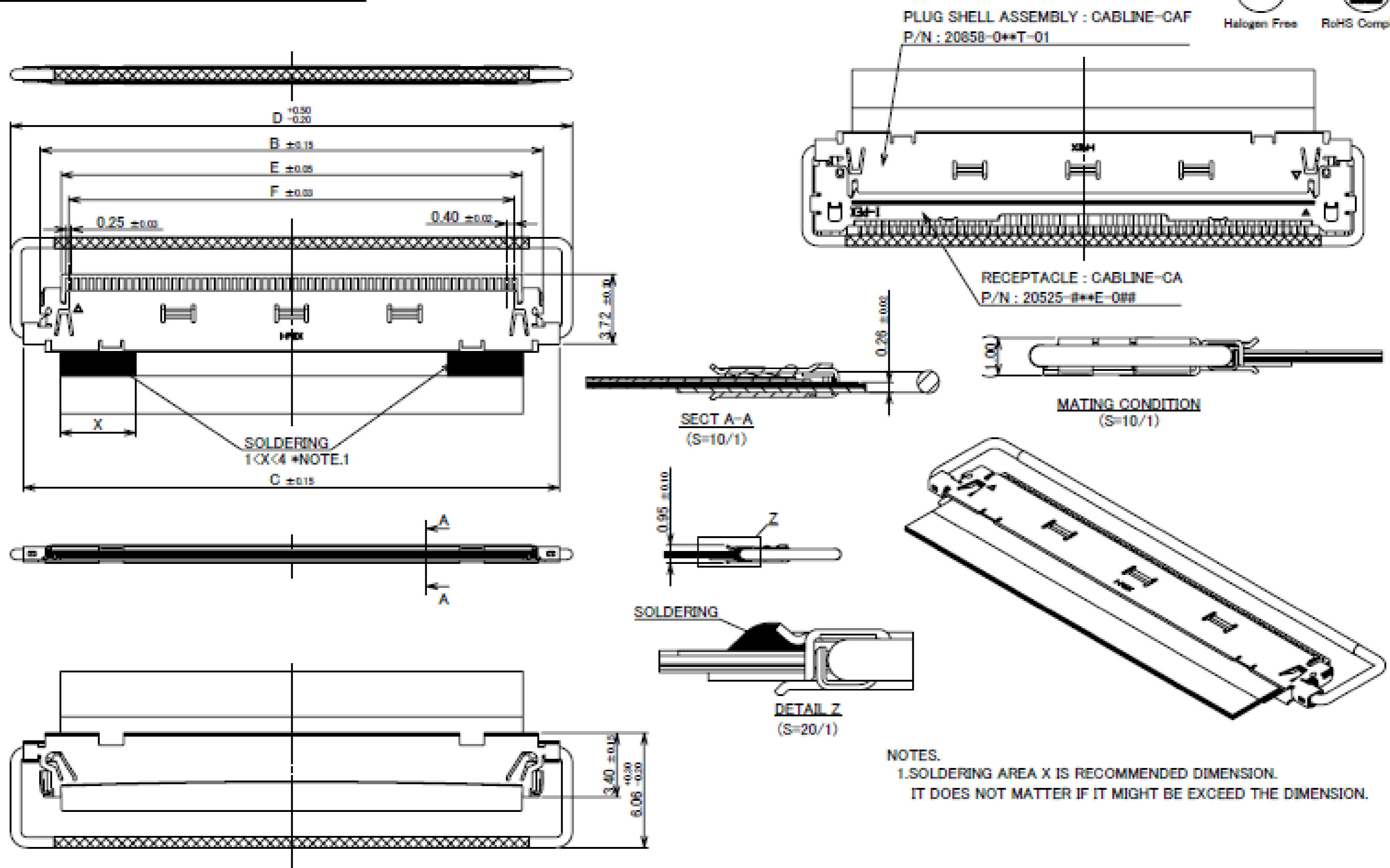
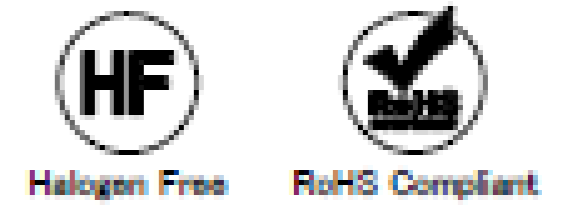


2	LOCK BAR	SUS	-
1	SHELL	PHOSPHOR BRONZE	PARTIAL Au 0.003 μm MIN. OVER Ni 1.00 μm MIN.
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

Rev.8

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

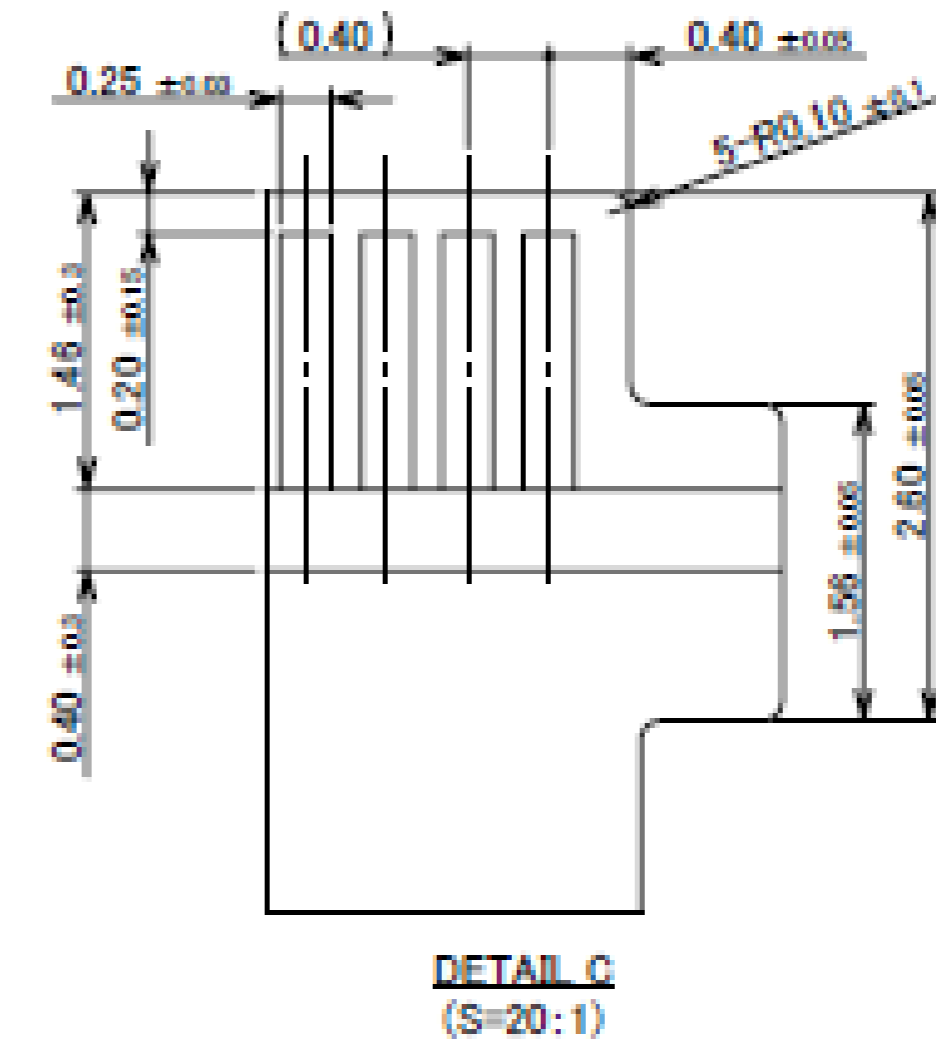
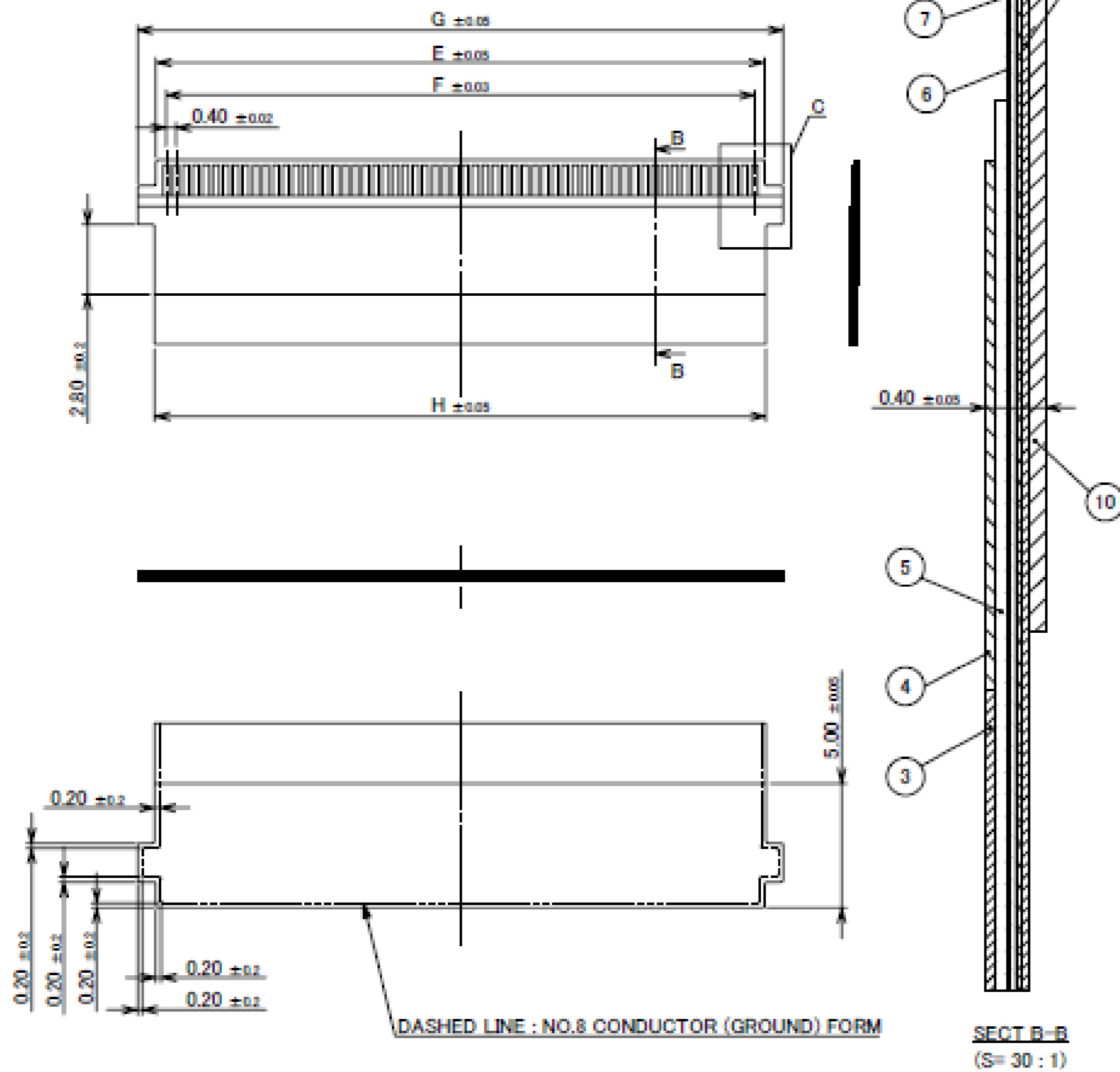


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Shell Assembly

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】



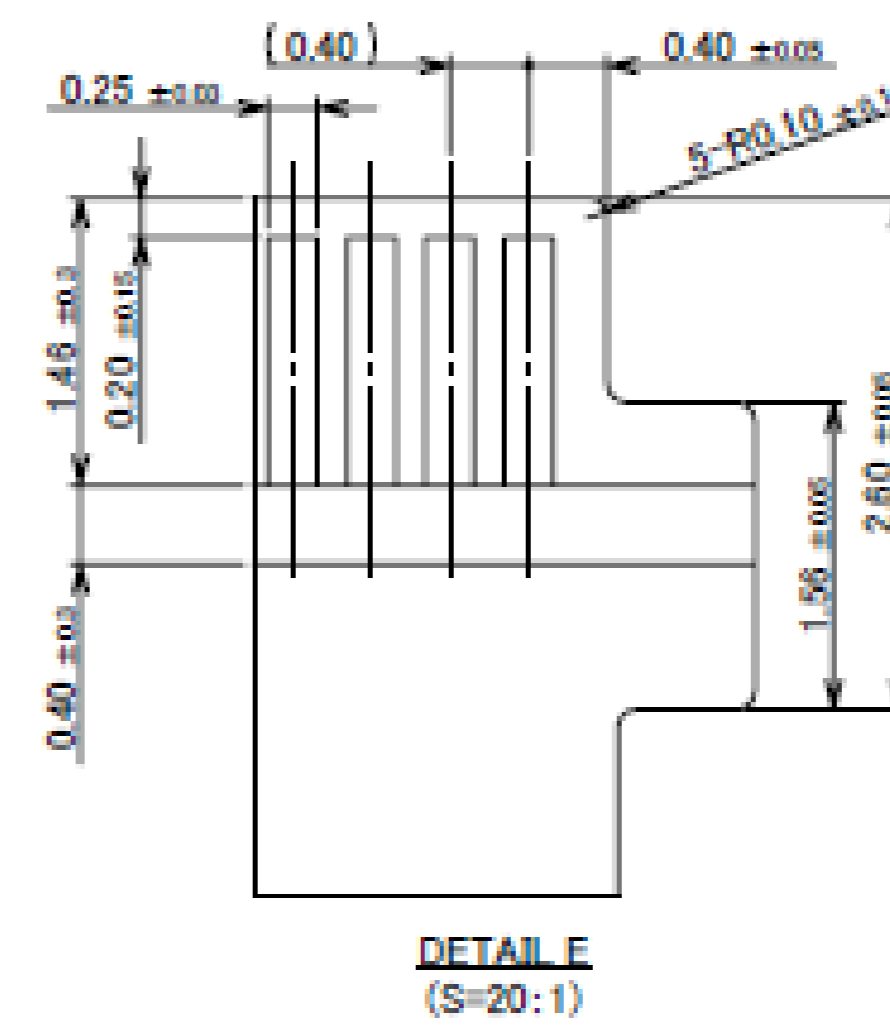
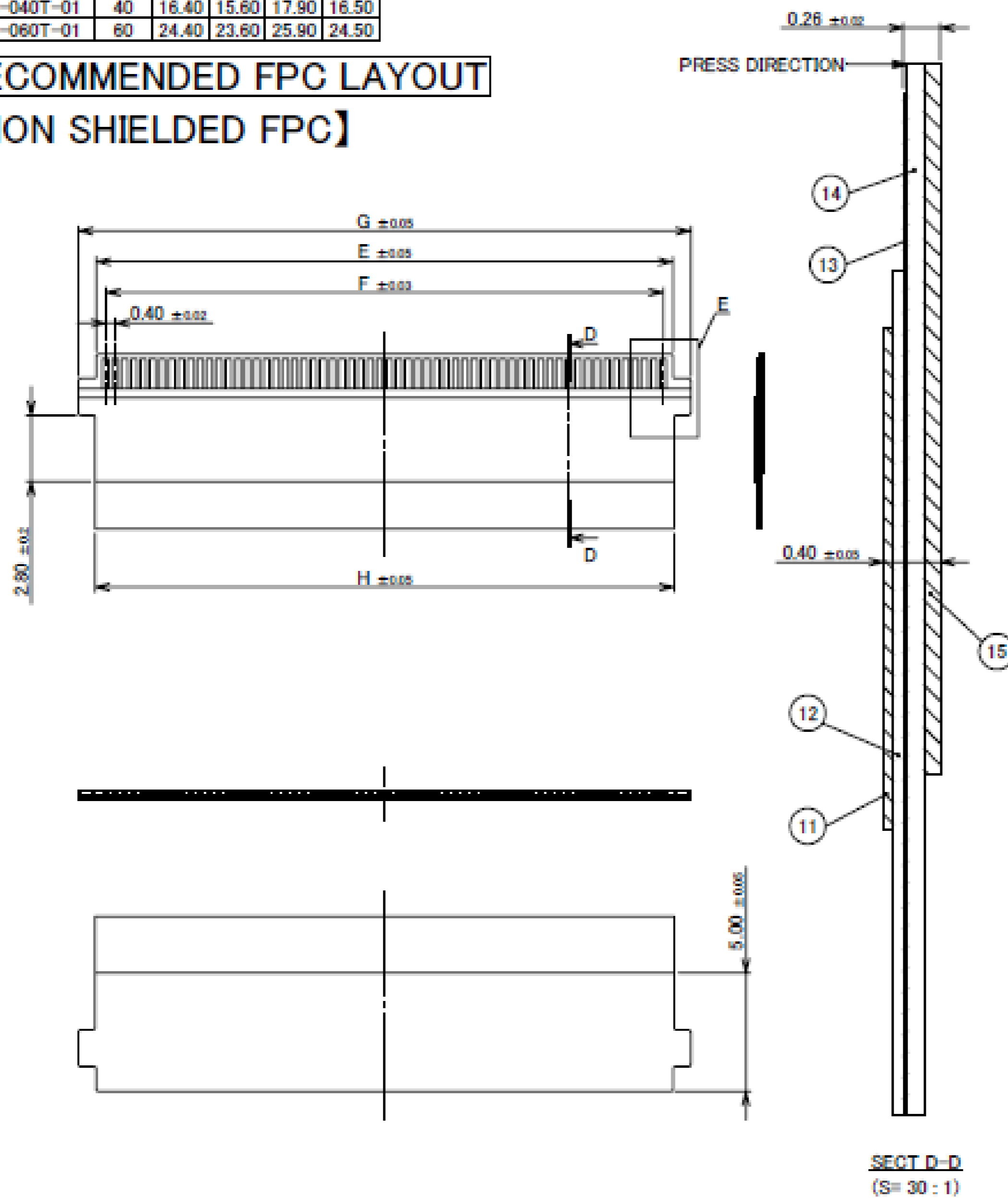
- NOTES.
- ADHESIVE SHOULD USE THERMOSETTING.
 - NO.3 : SHIELD FILM AND NO.4, NO.8 : CONDUCTOR (GROUND) ARE CARRYING OUT THE ELECTRICAL CONNECTION.
 - NO.4 : CONDUCTOR (GROUND) AND NO.8 : CONDUCTOR (GROUND) ARE CARRYING OUT THE ELECTRICAL CONNECTION.
 - NO.3 : SHIELD FILM AND NO.6 : CONDUCTOR (SIGNAL)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

No.	DESCRIPTION	MATERIAL	PLATING
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	-	-

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

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

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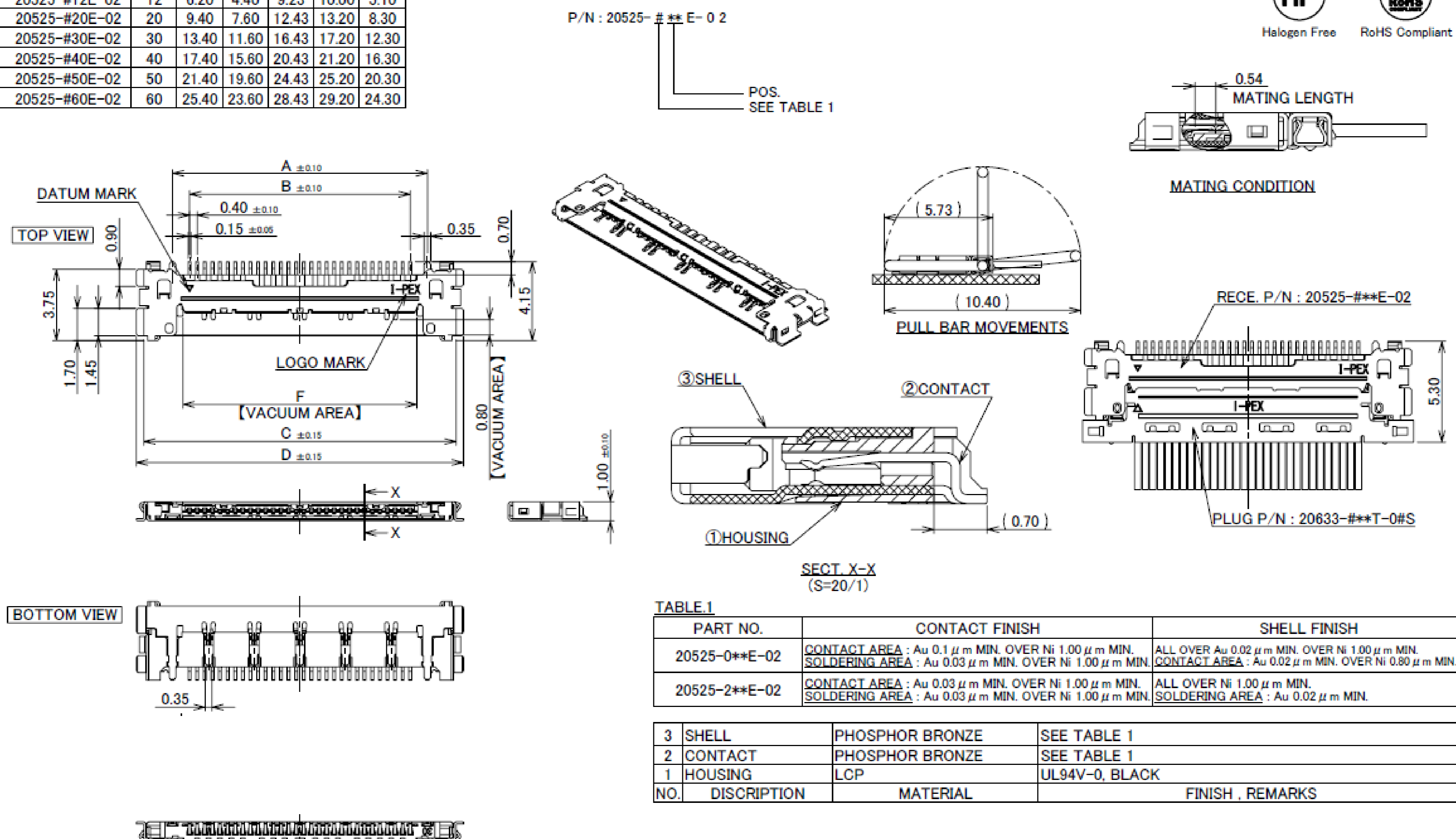
Shell Assembly

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°C~+85°C)
OPERATING HUMIDITY	85% MAX.(NON-CONDENSING)
CONTACT RESISTANCE (FOR SIGNAL CONTACT)	INITIAL : 60mohm MAX. / AFTER TEST : $\triangleleft 40\text{mohm}$ MAX.
GROUND SHELL RESISTANCE	INITIAL : 60mohm MAX. / AFTER TEST : $\triangleleft 40\text{mohm}$ MAX.
INSULATION RESISTANCE	INITIAL : 1000Mohm MIN. / AFTER TEST : 500Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	30 CYCLES
MATING FORCE (INITIAL / AFTER TEST)	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

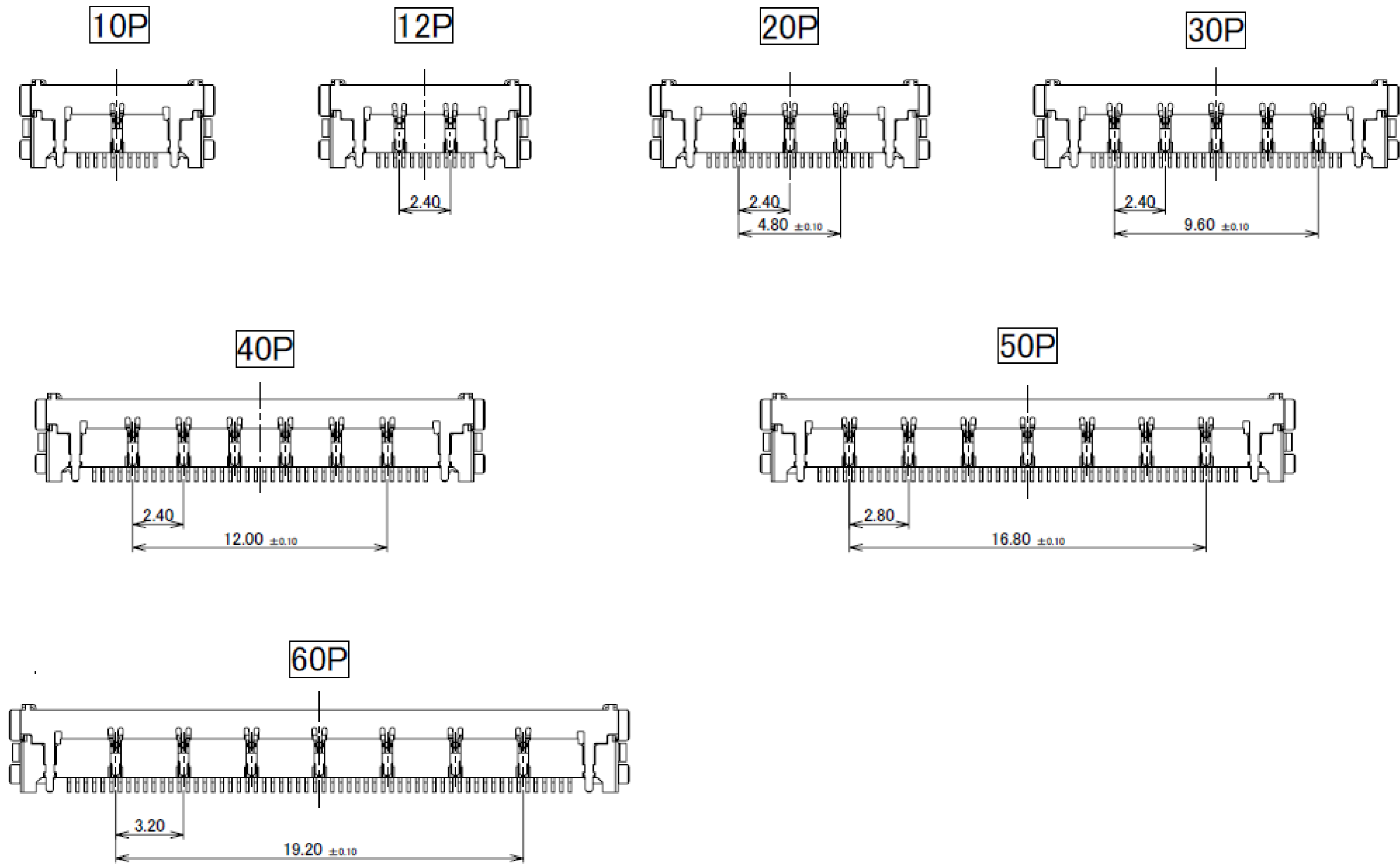


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Receptacle Assembly

PART NO.
20525-##*E-02

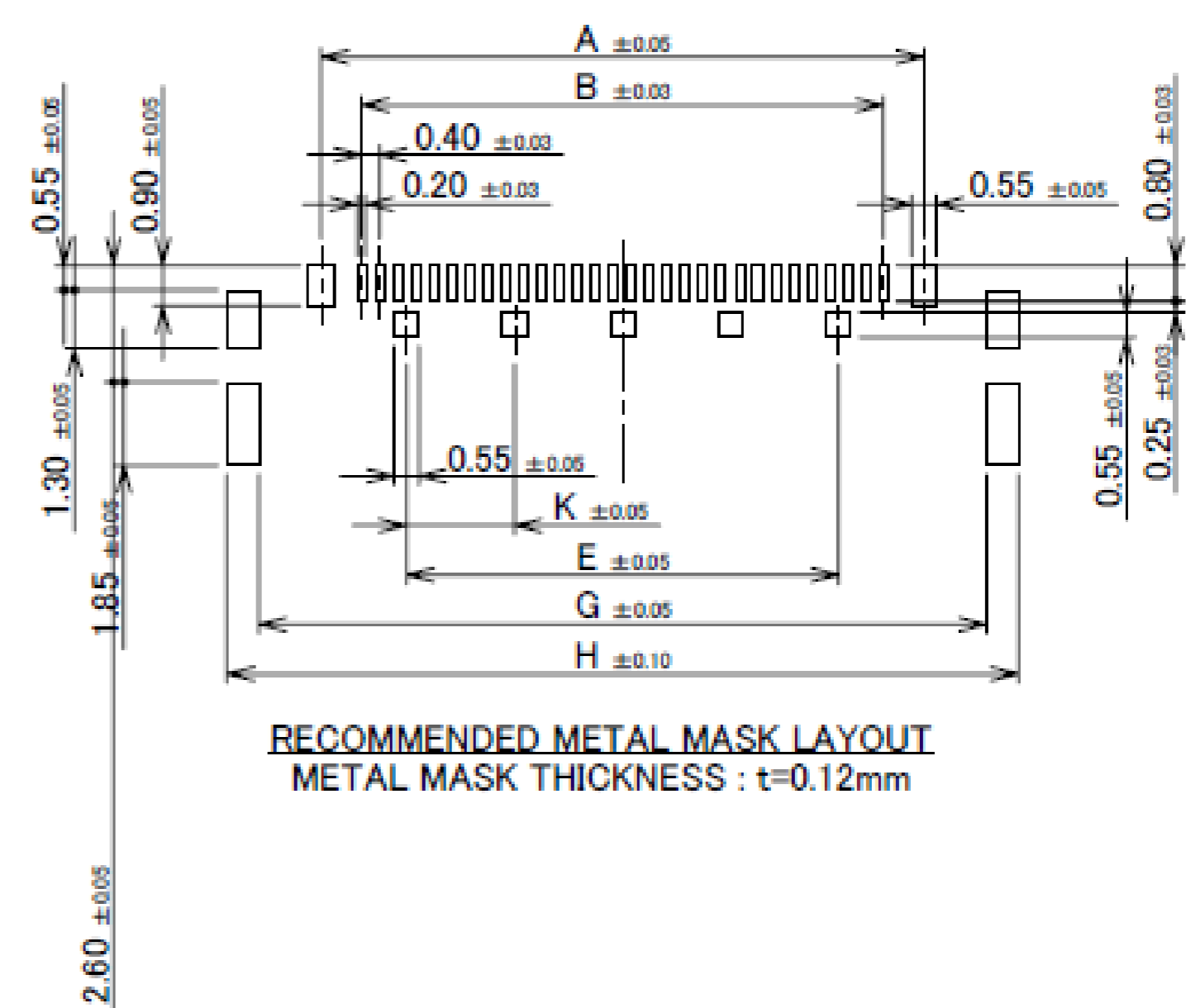
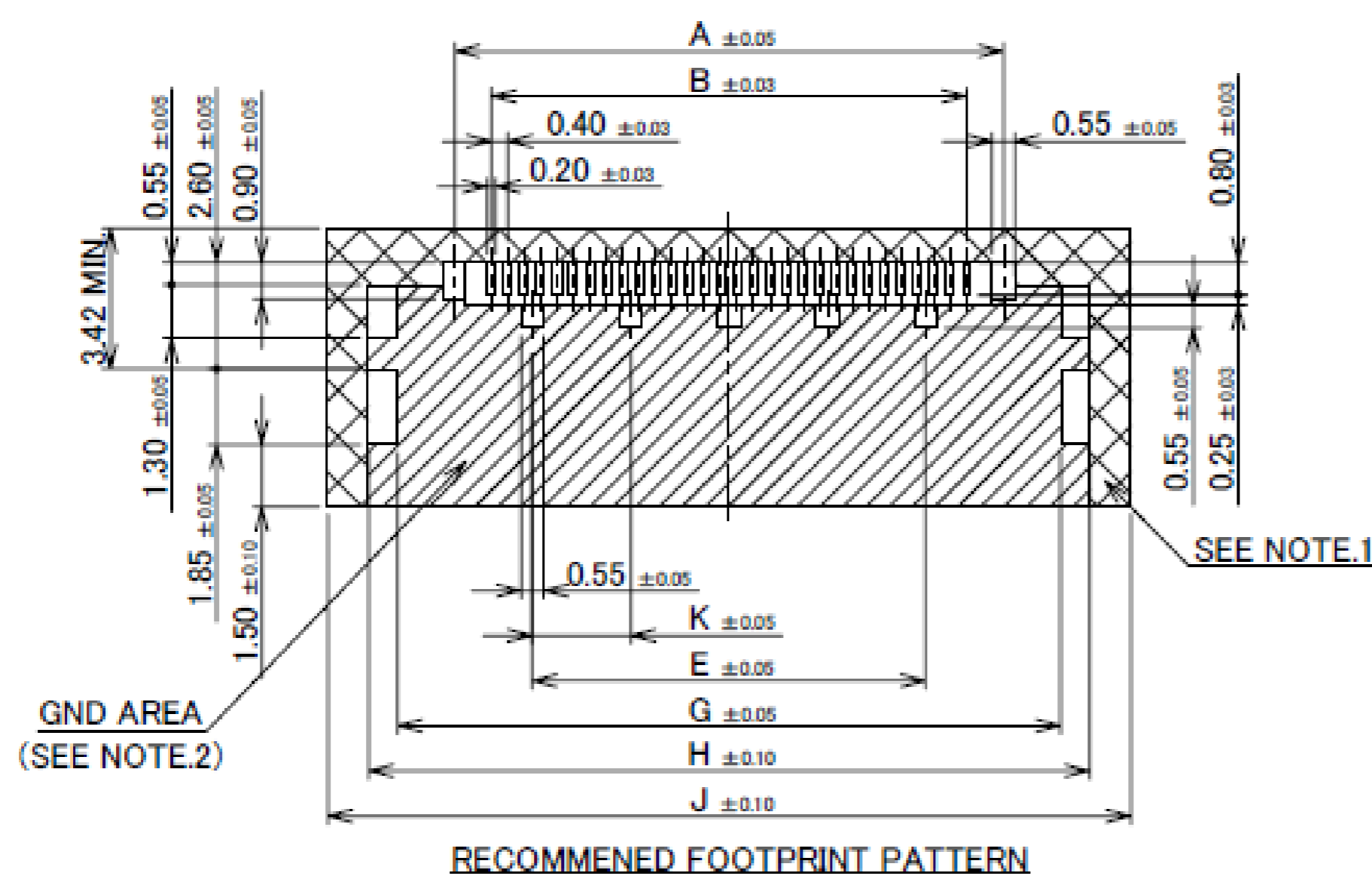
BOTTOM VIEW



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Receptacle Assembly

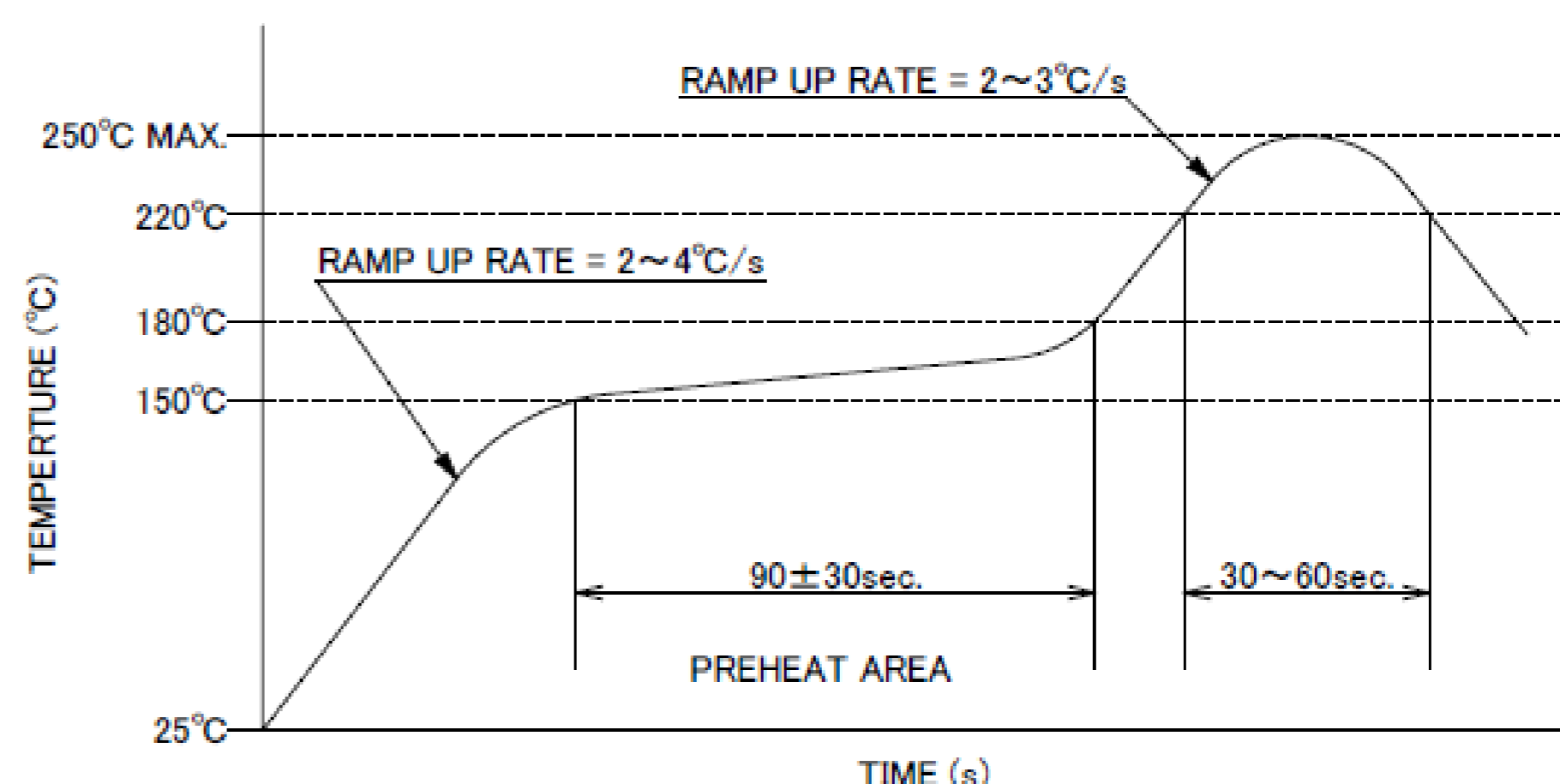
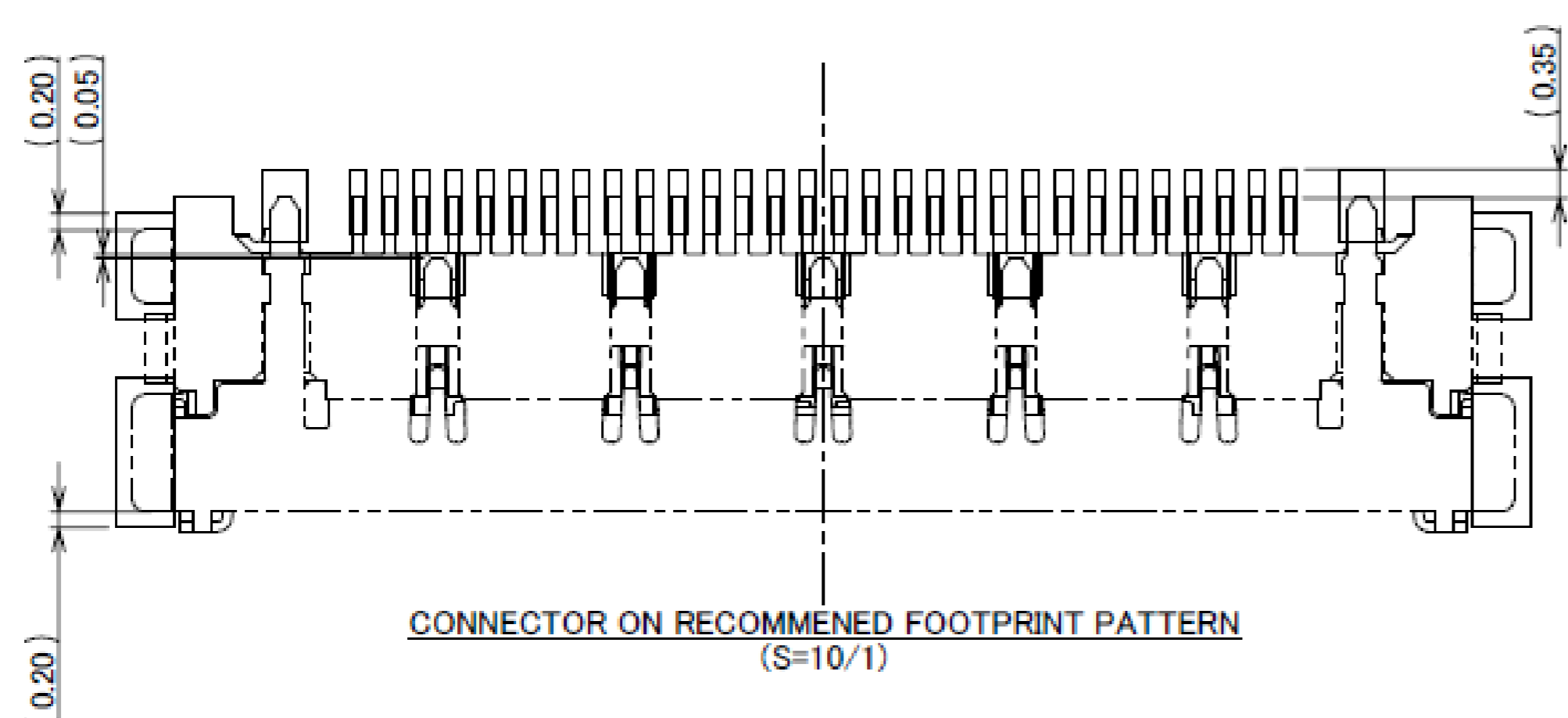
PART NO.	POS.	A	B	E	G	H	J	K
20525-#10E-02	10	5.40	3.60	-	8.18	9.60	11.60	-
20525-#12E-02	12	6.20	4.40	2.40	8.98	10.40	12.40	-
20525-#20E-02	20	9.40	7.60	4.80	12.18	13.60	15.60	2.40
20525-#30E-02	30	13.40	11.60	9.60	16.18	17.60	19.60	2.40
20525-#40E-02	40	17.40	15.60	12.00	20.18	21.60	23.60	2.40
20525-#50E-02	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



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

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ITEMS	SPECIFICATION
APPLICABLE CABLE	MICRO-COAXIAL CABLE : AWG# 44 , 42 , 40 , 38 , 36 DISCRETE WIRE : AWG# 36 , 34 TWINAX CABLE : AWG# 40 , 42
RATING VOLTAGE	100V AC (PER CONTACT PIN)
RATING AMPERAGE (FOR CONTACT)	0.1A AC/DC [AWG#44] PER CONTACT PIN/UP TO 60 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 40 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 6 CONTACTS 1.0A AC/DC [AWG#34] PER CONTACT PIN/UP TO 4 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% MAX. (NON-CONDENSING)
CONTACT RESISTANCE	INITIAL : 180mohm MAX. (AWG#34) / AFTER TEST : \triangleleft40mohm MAX. 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 : \triangleleft40mohm MAX.
INSULATION RESISTANCE	INITIAL : 1000Mohm MIN. / AFTER TEST : 500Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	30 CYCLES
MATING FORCE (INITIAL / AFTER 30 CYCLES)	10P : 7.80N MAX. 40P : 19.40N MAX. 12P : 8.20N MAX. 50P : 24.25N MAX. 20P : 9.70N MAX. 60P : 29.10N MAX. 30P : 14.55N MAX.
UNMATING FORCE (INITIAL / AFTER 30 CYCLES)	10P : 1.00N MIN. 40P : 4.00N MIN. 12P : 1.20N MIN. 50P : 5.00N MIN. 20P : 2.00N MIN. 60P : 6.00N MIN. 30P : 3.00N MIN.
CABLE RETENTION FORCE	10P : 4.90N MIN. 40P : 19.60N MIN. 12P : 5.88N MIN. 50P : 24.50N MIN. 20P : 9.80N MIN. 60P : 29.40N MIN. 30P : 14.70N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-1968
TEST REPORT	TR-14122 (20525-0**E-0#) / TR-16023 (20525-2**E-0#)
PACKING STANDARD	300-824
INSTRUCTION MANUAL	HIM-09008
APPEARANCE CRITERIA No.	QLS-A***

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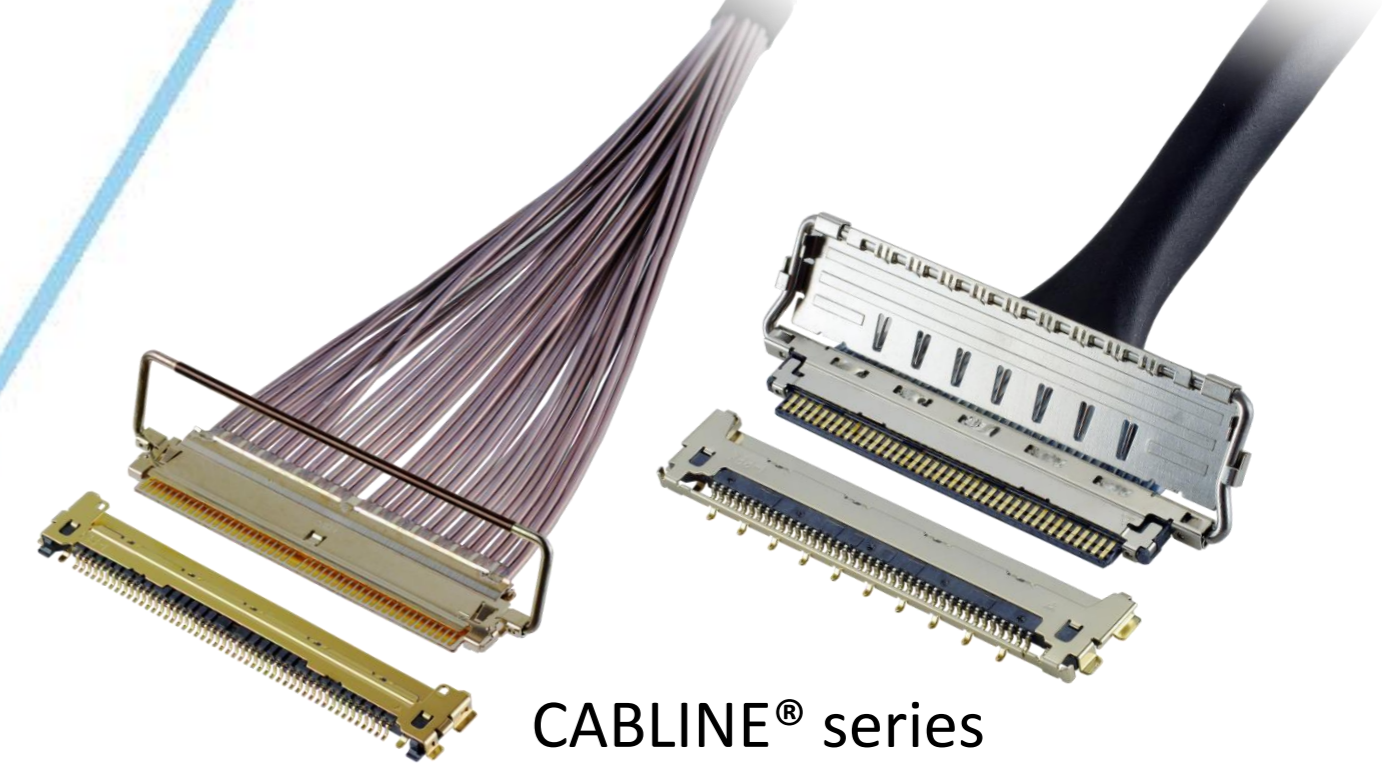
Custom Products Available

RF Connector

MHF® series



Micro-coaxial/Twinax/Discrete Wire Connector



CABLINE® series

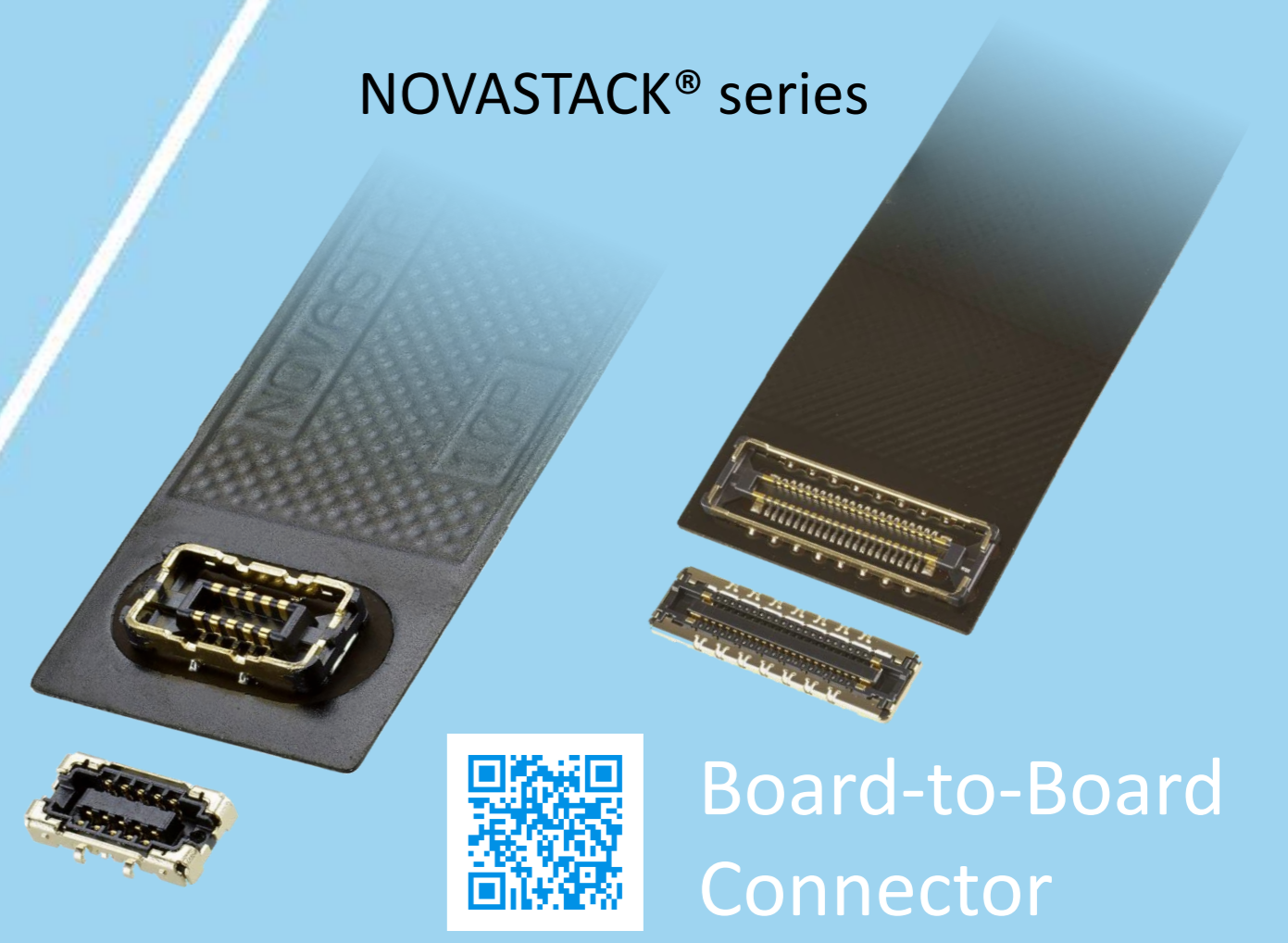


Optical Module

LIGHTPASS® series



NOVASTACK® series



Board-to-Board Connector



Power Connector/Terminal

AP series

ISH® series



MINIFLEX® series

EVAFLEX® series



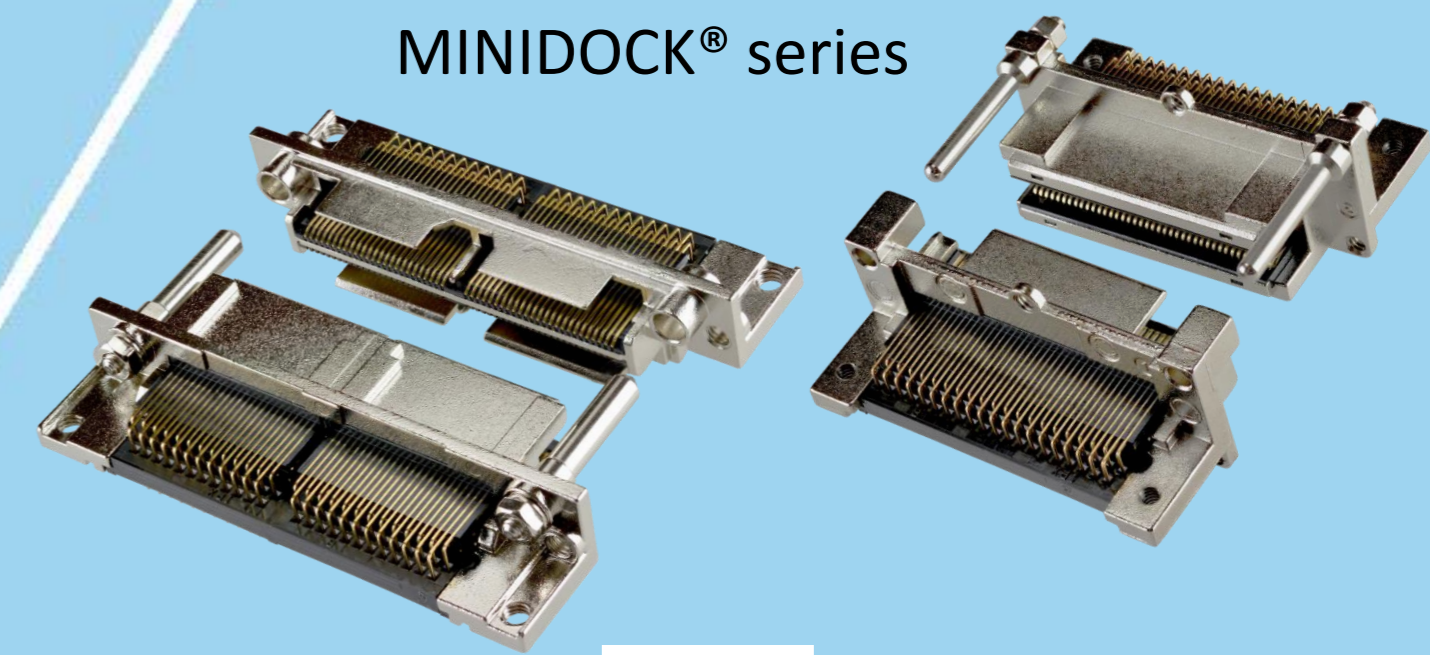
FPC FFC Connector



Inquiry



MINIDOCK® series



I/O Connector

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