

CABLINE®-CA

High-data-rate transfer (32 Gbps/Lane), mechanical lock with shielding and multi-point ground, 0.4 mm pitch, Horizontal mating type micro-coaxial connector

*For higher data rate up to 64 Gbps PAM4, please review [CABLINE-CAP harness solution](#) that mates to current CABLINE-CA receptacle (20525-050E-02).

Product Specifications:

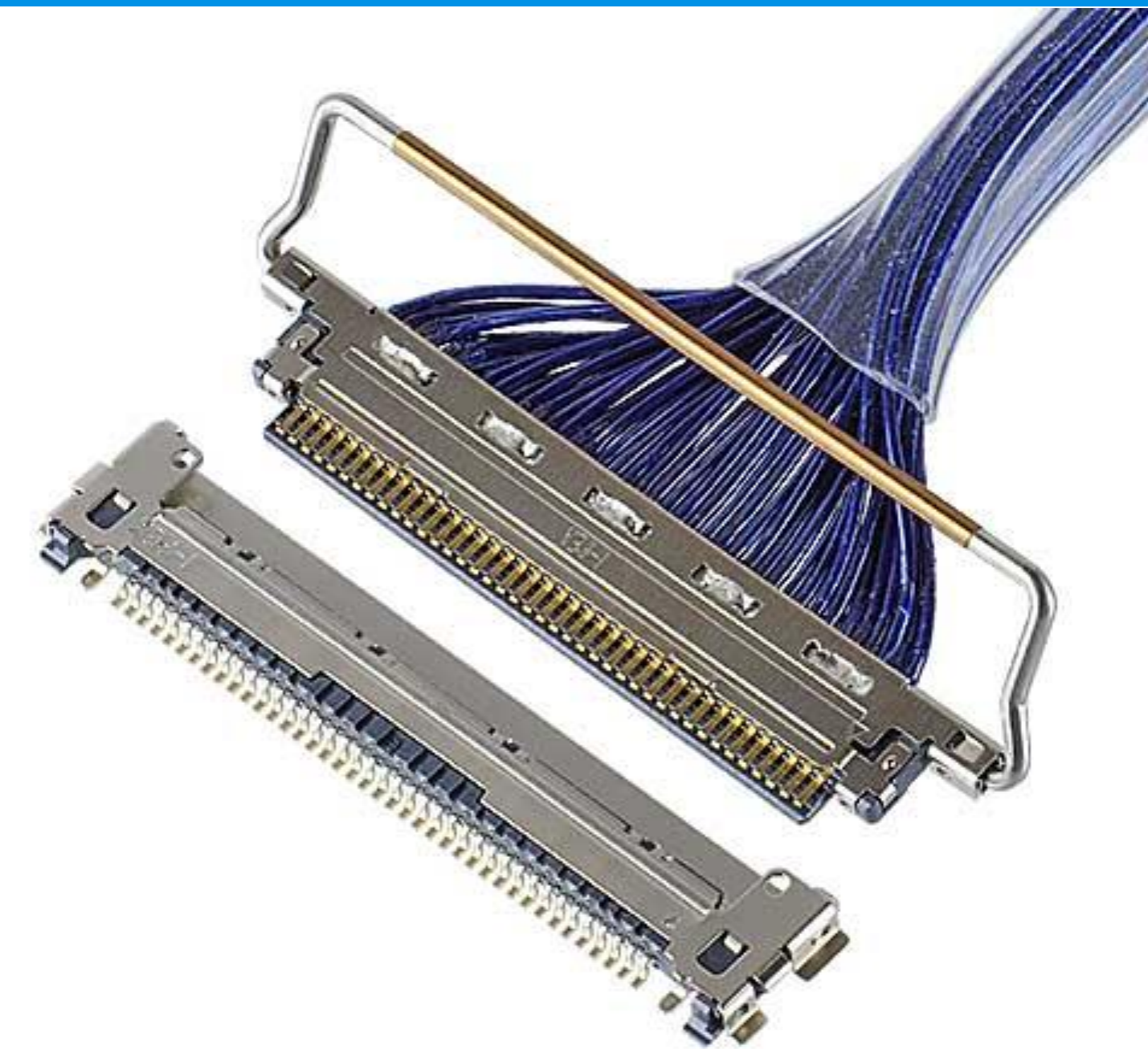
Mating type		Horizontal
Board Pitch (mm)		0.4
Wiping Length (mm)		0.54
Mated size (mm)	Height	1.10 Max
	Width	Formula: 6.95 + (0.4*?p)
	Depth	5.73
Pin Counts	Range	Up to 60
	Available	10, 12, 20, 30, 40, 50, 60

Applicable Cable Size:

Maximum O.D. (mm)	0.4
Micro-Coaxial for Signal (AWG)	45 ohm: #38 or smaller 50 ohm: #40 or smaller
Twinaxial (AWG)	#40
Discrete (AWG)	#34 or smaller

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.

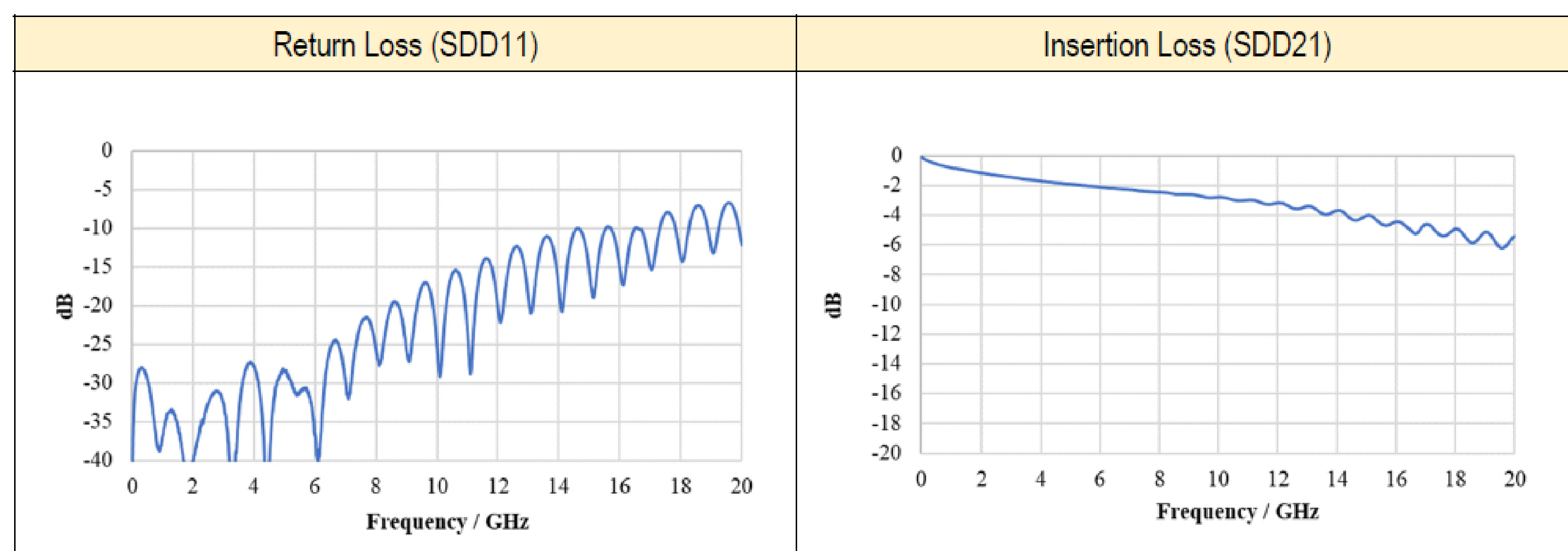
High-data-rate transfer, ideal for 32 Gbps/Lane applications

Measurement results

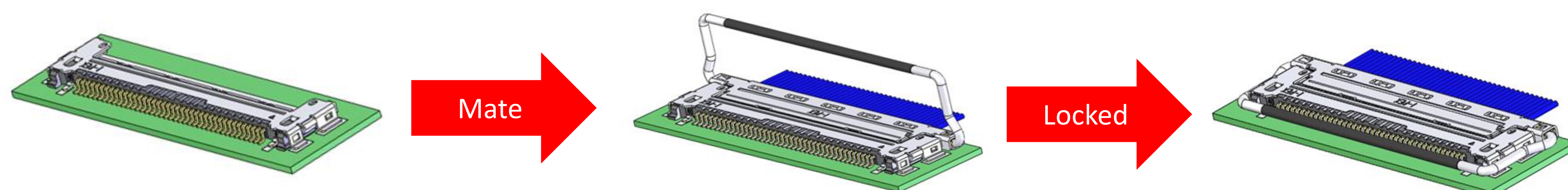
Connector: CABLINE-CA 40P

Cable: Micro-coaxial cable
AWG #40, 45ohm, Length : 100 mm

Pin Assignment: GSSGSSG

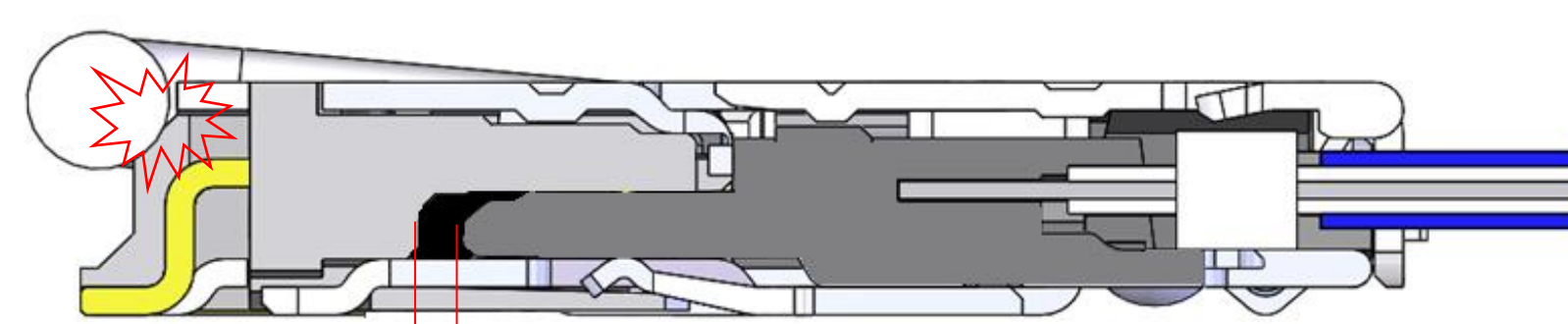


Mechanical locking bar prevents incomplete mating and back-out/unmating



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

Interference



Incomplete mating

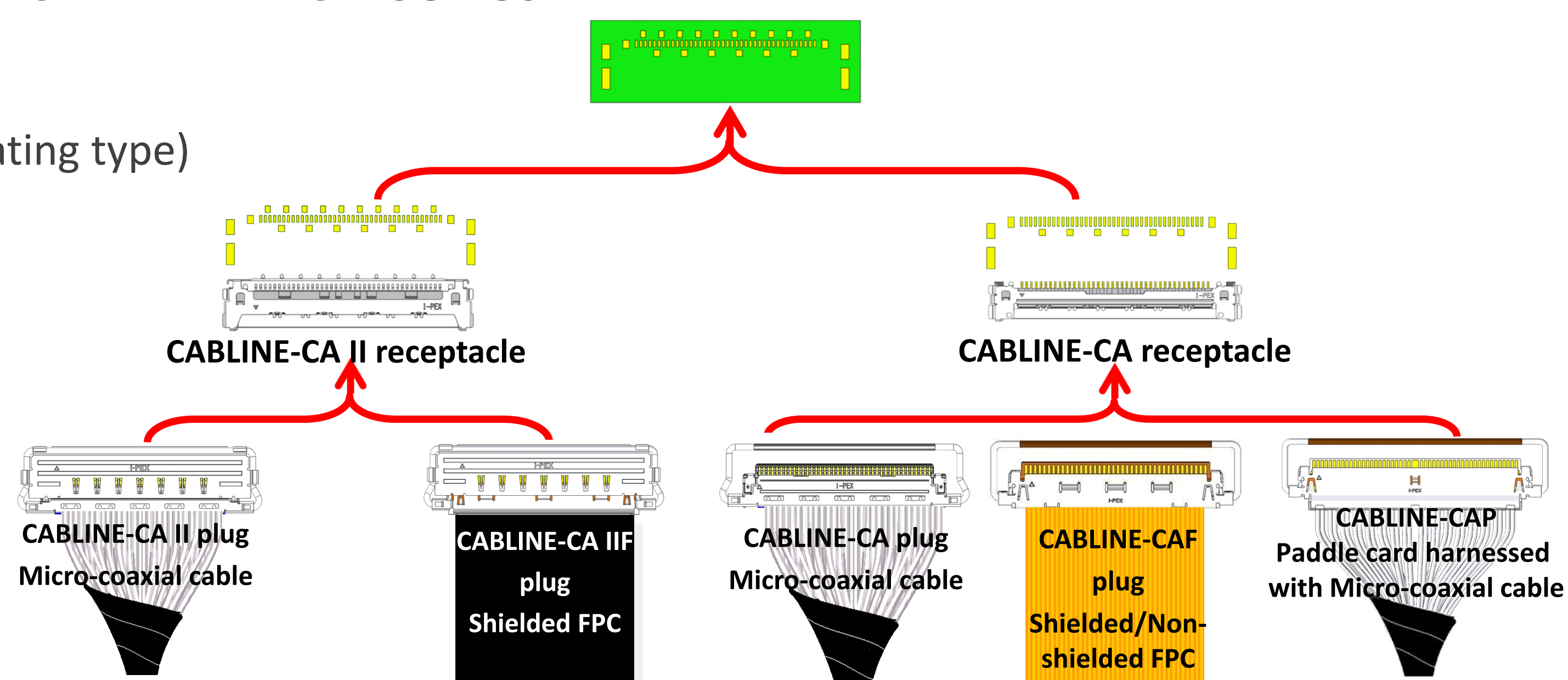


Complete mating

Multiple connector options with CABLINE®-CA series

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

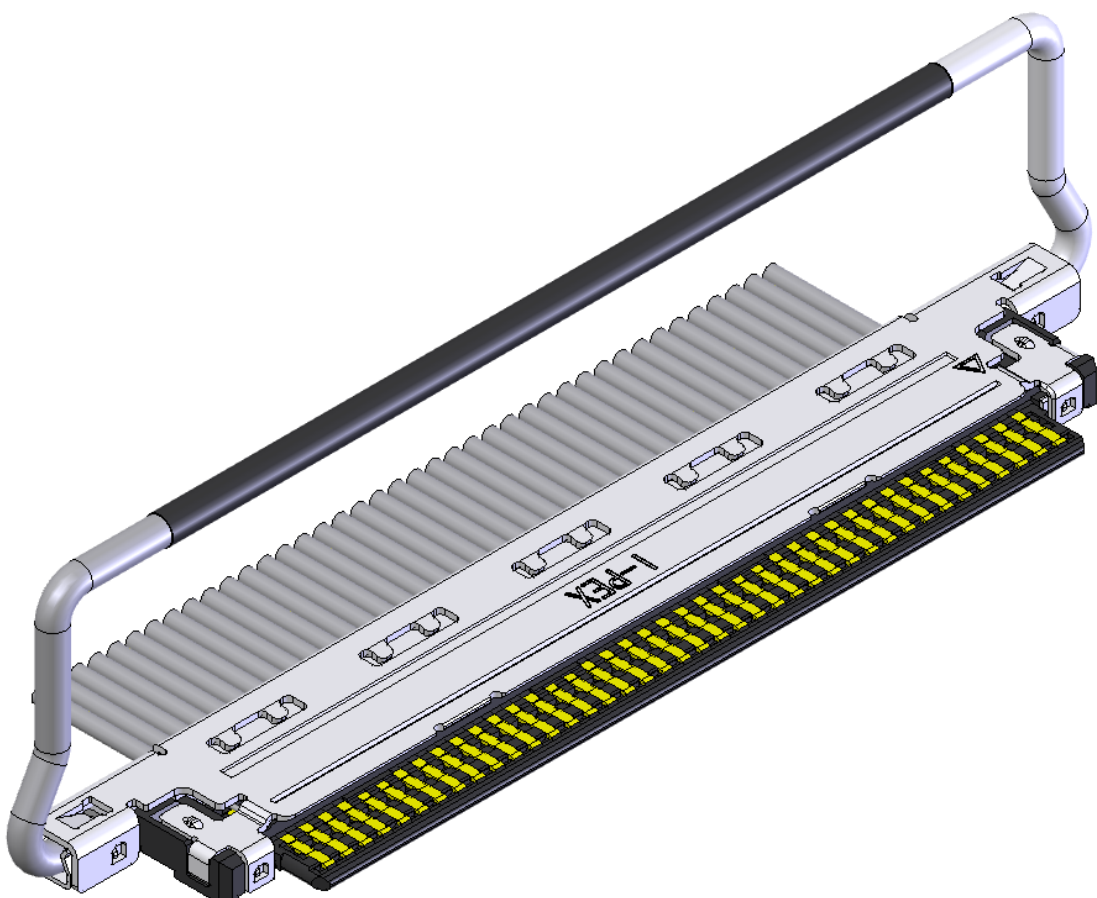
CABLINE-CA and CA II receptacles can be mounted to the same PCB layout.



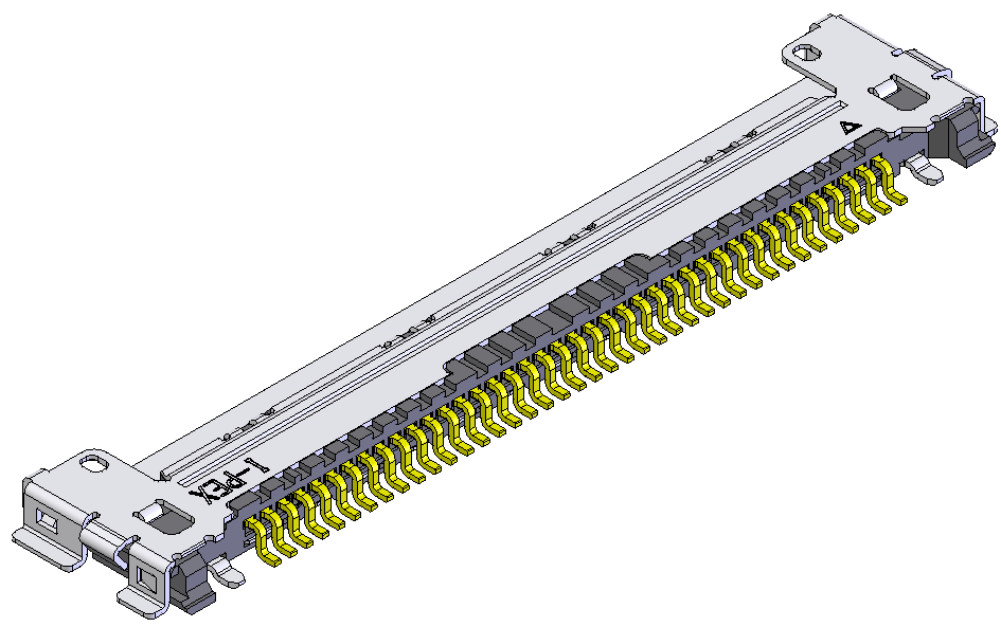
Component Parts Details

Component Parts

Connector parts

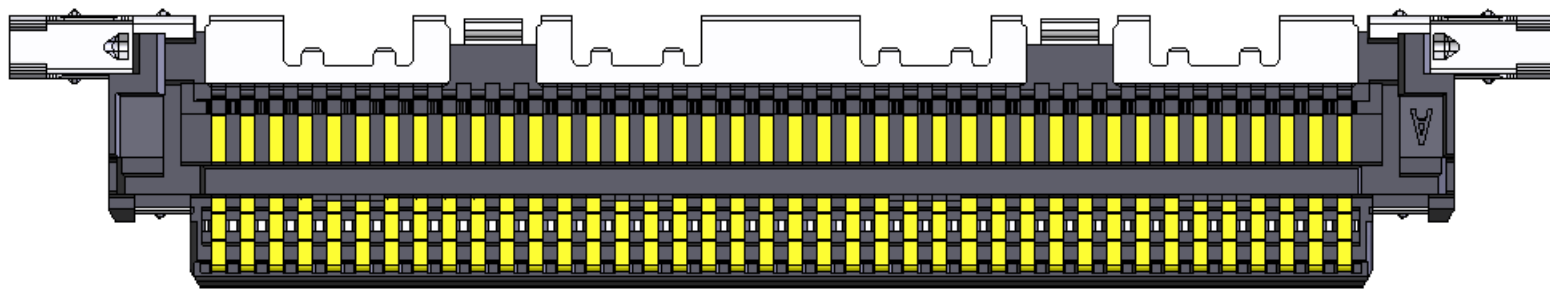


PLUG

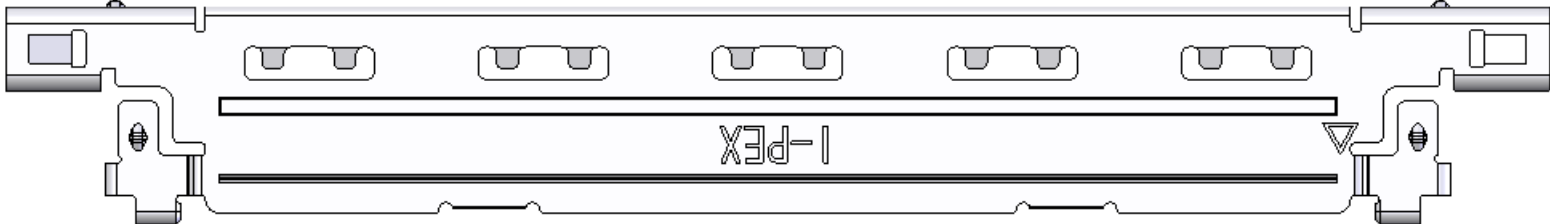


RECEPTACLE

Plug parts



PLUG HOUSING ASSEMBLY



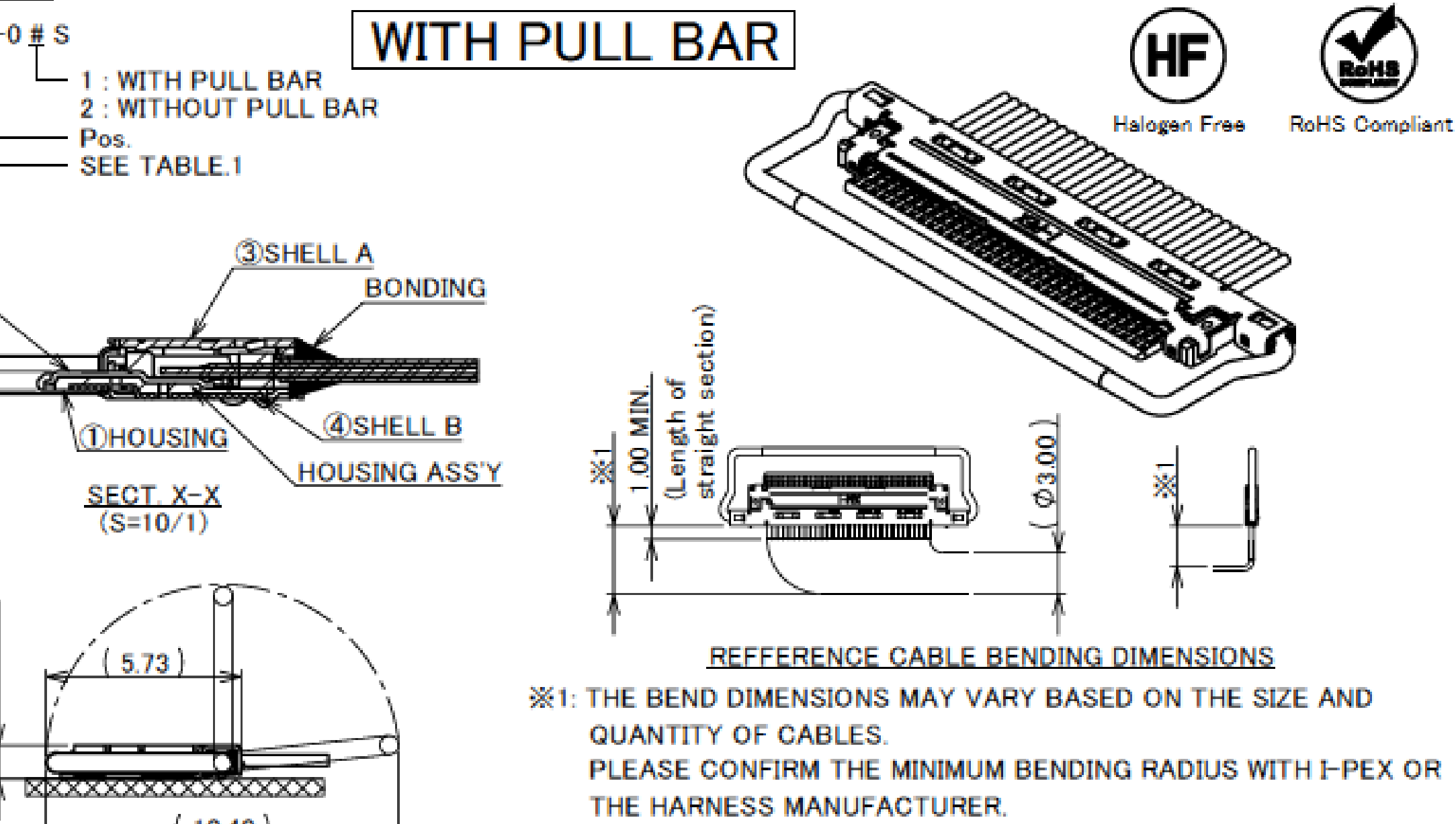
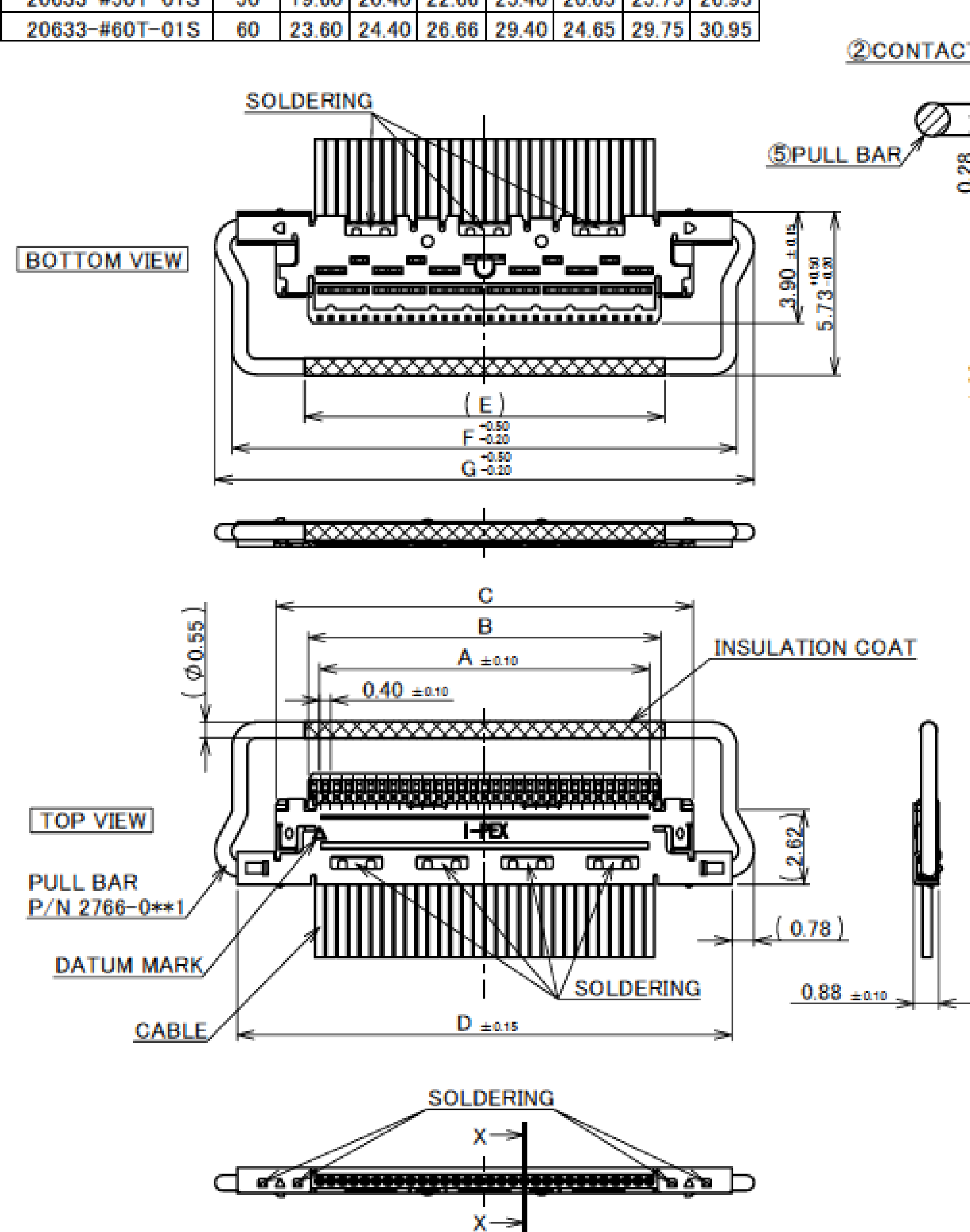
PLUG SHELL-A



PULL BAR

Plug for Cable Assembly

Recommended P/N		20633-2**T-01S(12~60P)							20633-310T-01S(10P)	
PART NO.	POS.	A	B	C	D	E	F	G		
20633-#10T-01S	10	3.60	4.40	6.66	9.40	4.65	9.75	10.95		
20633-#12T-01S	12	4.40	5.20	7.46	10.20	5.45	10.55	11.75		
20633-#20T-01S	20	7.60	8.40	10.66	13.40	8.65	13.75	14.95		
20633-#30T-01S	30	11.60	12.40	14.66	17.40	12.65	17.75	18.95		
20633-#40T-01S	40	15.60	16.40	18.66	21.40	16.65	21.75	22.95		
20633-#50T-01S	50	19.60	20.40	22.66	25.40	20.65	25.75	26.95		
20633-#60T-01S	60	23.60	24.40	26.66	29.40	24.65	29.75	30.95		



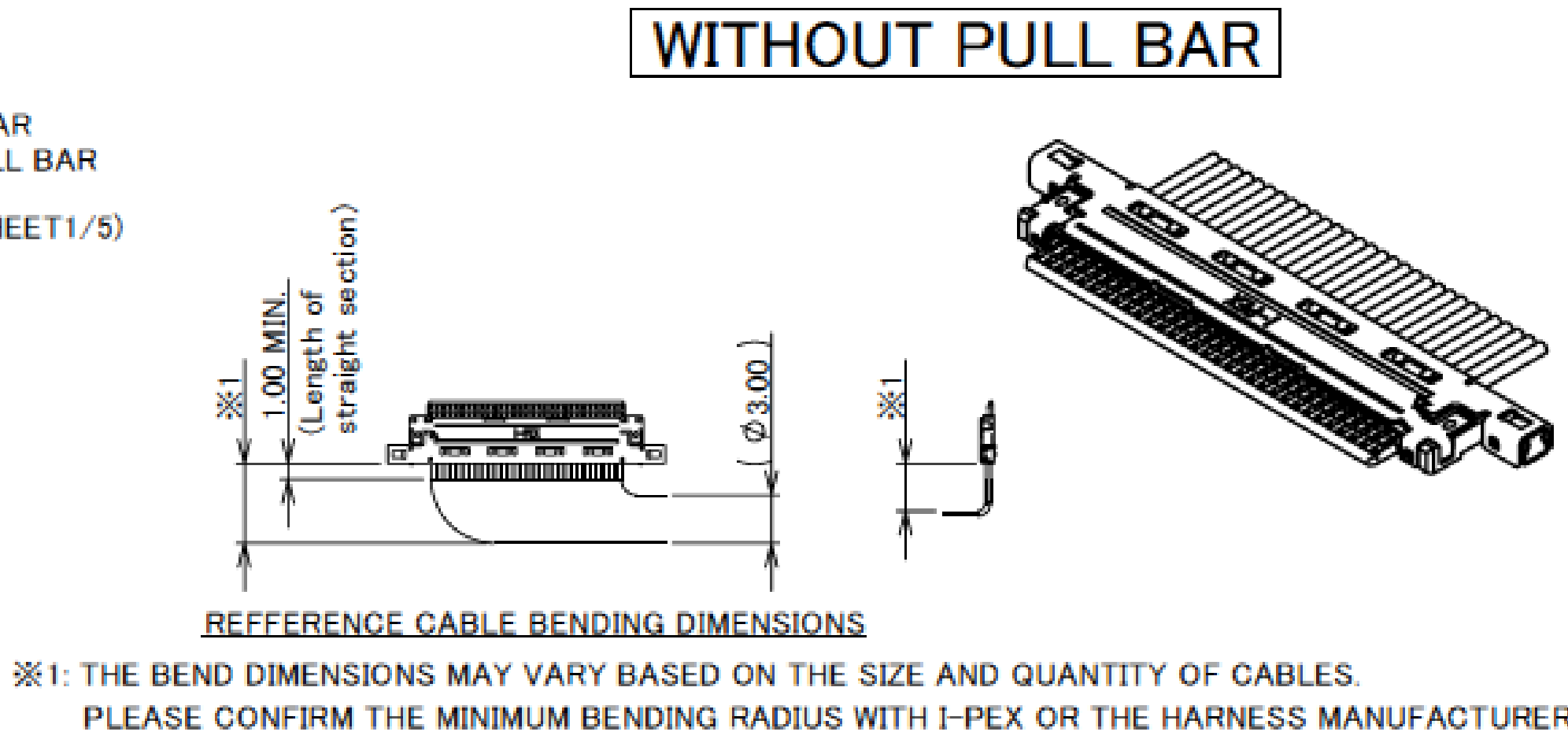
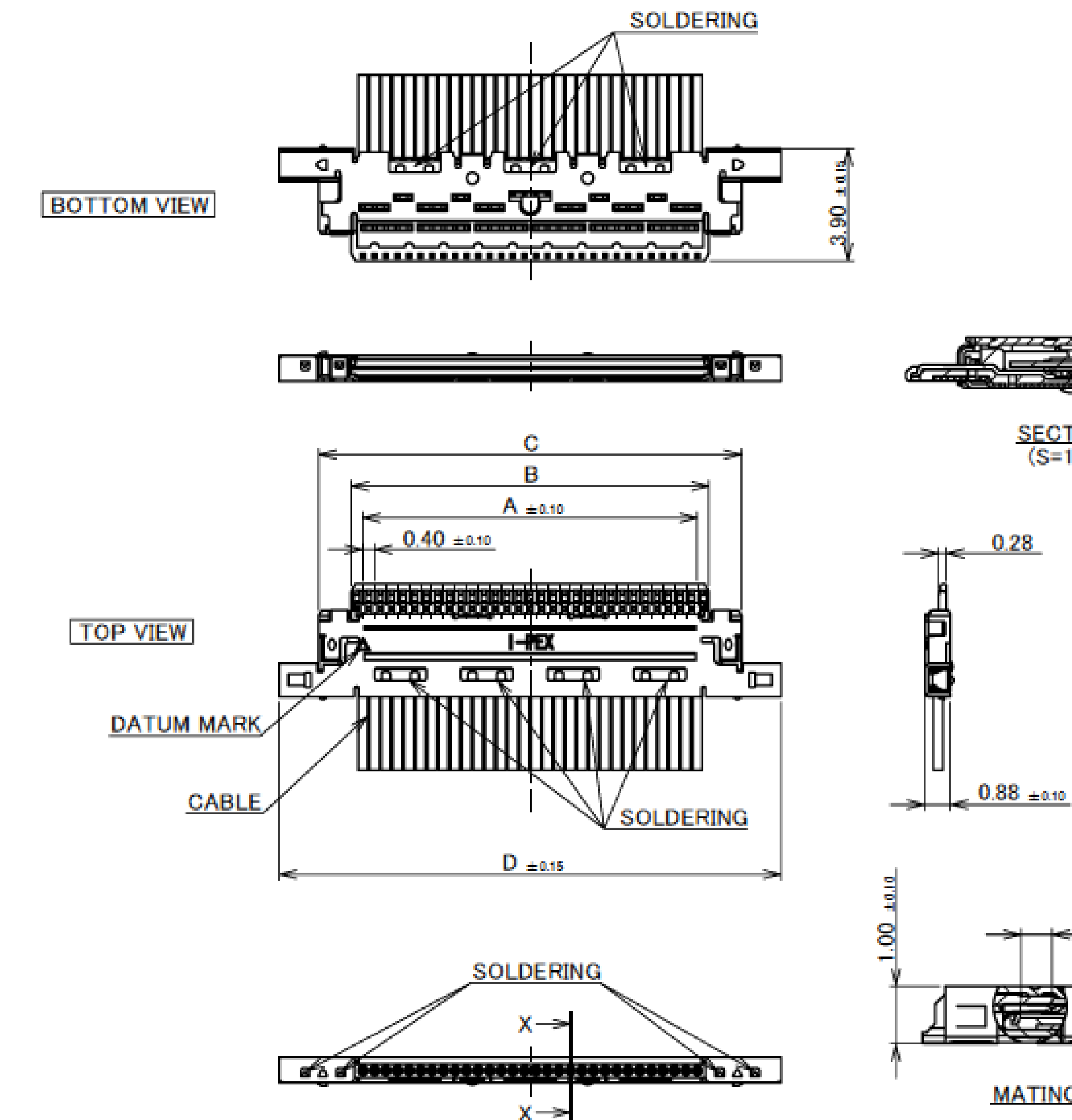
PART NO.			
CABLE ASS'Y PART NO.	HOUSING ASS'Y PART NO.	SHELL A PART NO.	PULL BAR PART NO.
20633-2**T-01S	20634-1**T-02	2764-0**1-002	2766-0**1
20633-3**T-01S	20634-2**T-02	2764-0**1-003	

PART NO.	CONTACT FINISH	SHELL A FINISH	SHELL B FINISH
20633-2**T-0#S	CONTACT AREA Au 0.1 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA Au 0.05 μm MIN. OVER Ni 1.00 μm MIN.	TOP SIDE Au 0.03 μm MIN. OVER Ni 1.00 μm MIN. BOTTOM SIDE Ni 1.00 μm MIN. (THERE IS THE POSSIBILITY THAT Au ATTACHES RANDOMLY) Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.	TOP SIDE Ni 1.00 μm MIN. (THERE IS THE POSSIBILITY THAT Au ATTACHES RANDOMLY) BOTTOM SIDE Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.
20633-3**T-0#S	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.	PARTIAL Au 0.003 μm MIN. OVER Ni 1.00 μm MIN.	PARTIAL Au 0.003 μm MIN. OVER Ni 1.00 μm MIN.

NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS
5	PULL BAR	SUS	
4	SHELL B	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
3	SHELL A	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
2	CONTACT	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
1	HOUSING	LCP	UL94V-0, BLACK

Rev.15

Recommended P/N		20633-2**T-01S(12~60P)				20633-310T-01S(10P)	
PART NO.	POS.	A	B	C	D		
20633-#10T-02S	10	3.60	4.40	6.66	9.40		
20633-#12T-02S	12	4.40	5.20	7.46	10.20		
20633-#20T-02S	20	7.60	8.40	10.66	13.40		
20633-#30T-02S	30	11.60	12.40	14.66	17.40		
20633-#40T-02S	40	15.60	16.40	18.66	21.40		
20633-#50T-02S	50	19.60	20.40	22.66	25.40		
20633-#60T-02S	60	23.60	24.40	26.66	29.40		



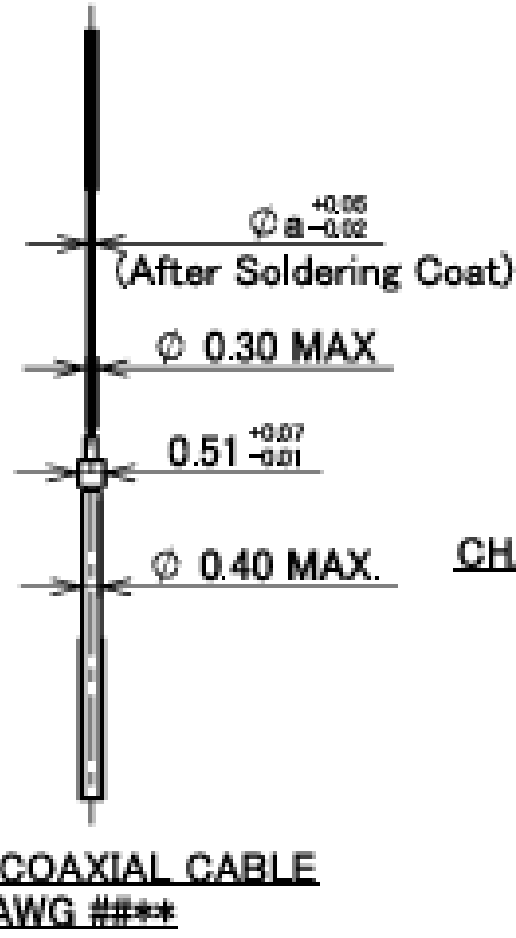
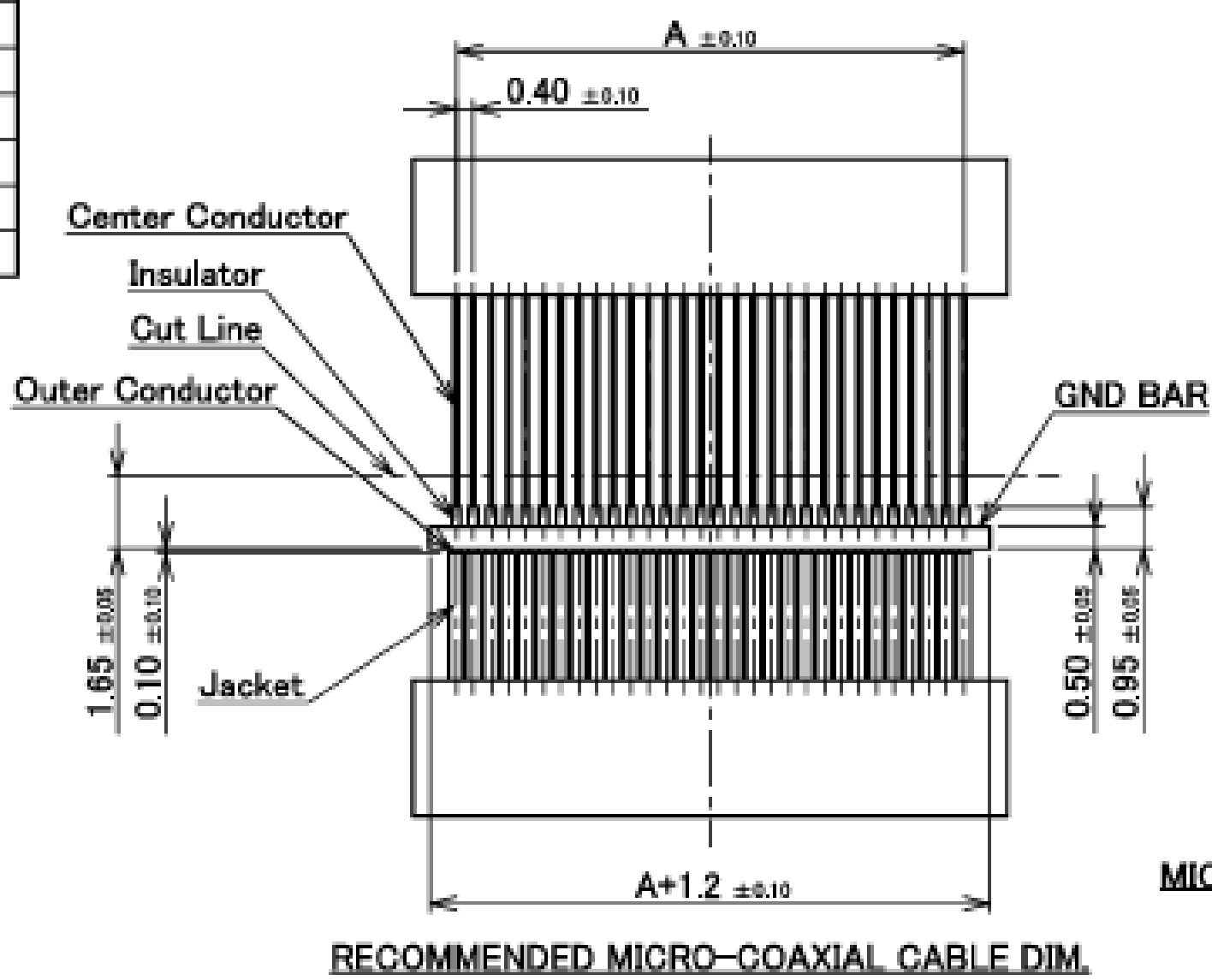
PART NO.			
CABLE ASS'Y PART NO.	HOUSING ASS'Y PART NO.	SHELL-A PART NO.	PULL BAR PART NO.
20633-2**T-02S	20634-1**T-02	2764-0**1-002	-
20633-3**T-02S	20634-2**T-02	2764-0**1-003	

NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS
5	PULL BAR	SUS	
4	SHELL B	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
3	SHELL A	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
2	CONTACT	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
1	HOUSING	LCP	UL94V-0, BLACK

Rev.15

Plug for Cable Assembly

PART NO.	POS.	A
20633-#10T-0#S	10	3.60
20633-#12T-0#S	12	4.40
20633-#20T-0#S	20	7.60
20633-#30T-0#S	30	11.60
20633-#40T-0#S	40	15.60
20633-#50T-0#S	50	19.60
20633-#60T-0#S	60	23.60



CHARACTERISTIC IMPEDANCE MATCHING MICRO-COAXIAL CABLE

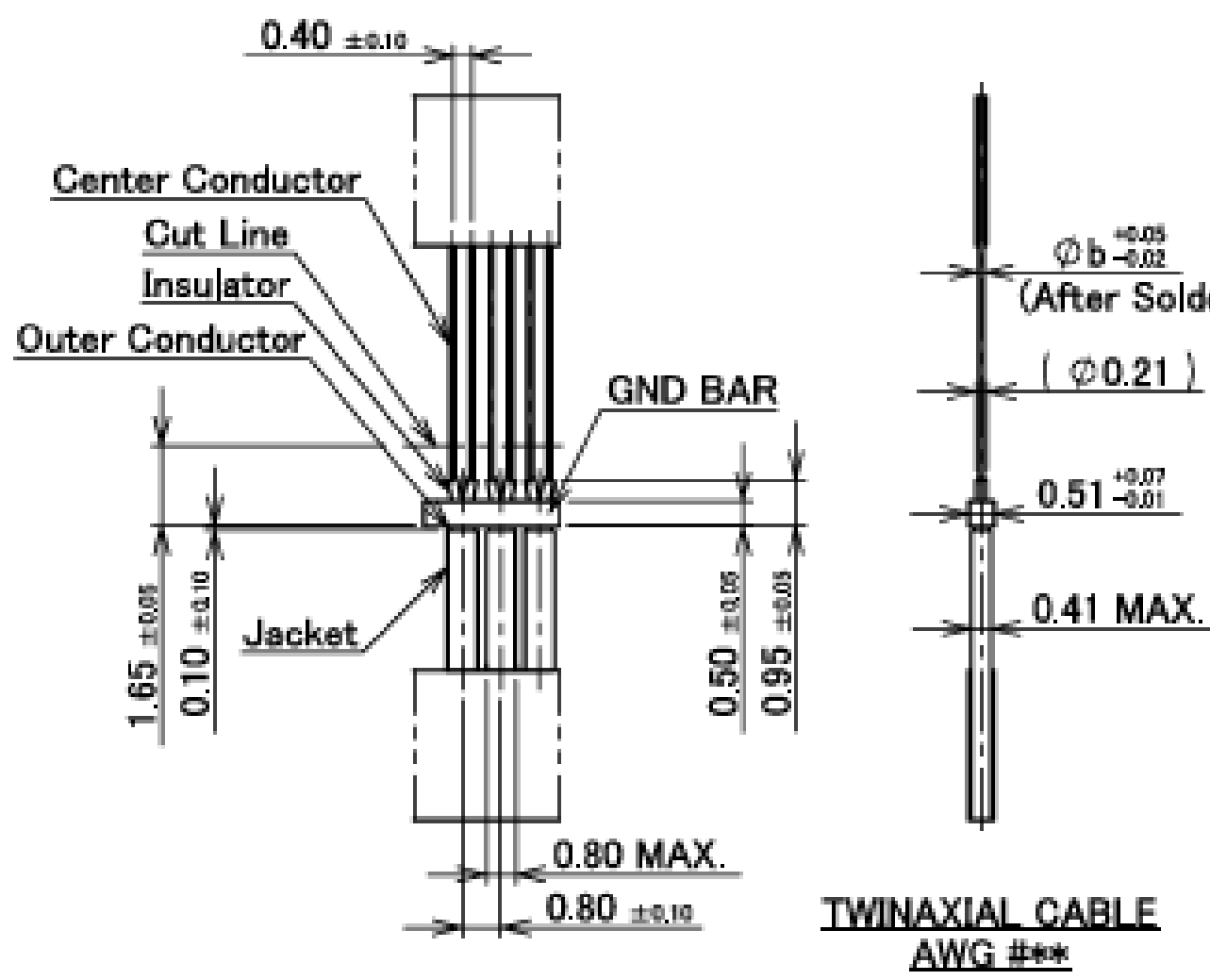
	a
#38	0.12
#40	0.09
#42	0.075
#44	0.063

CHARACTERISTIC IMPEDANCE UN-MATCHING MICRO-COAXIAL CABLE

	a
#36	0.15

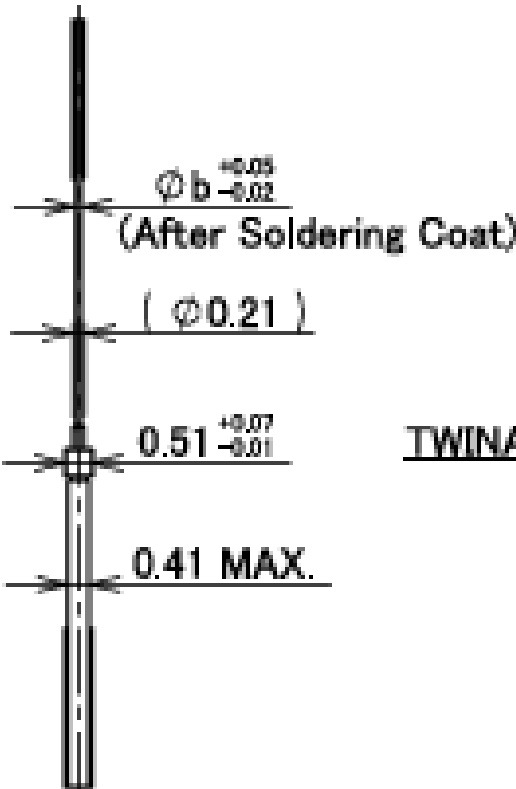
MICRO-COAXIAL CABLE #36 : NOT RECOMMENDED FOR HIGH SPEED SIGNAL TRANSFER

MICRO-COAXIAL CABLE
AWG #**



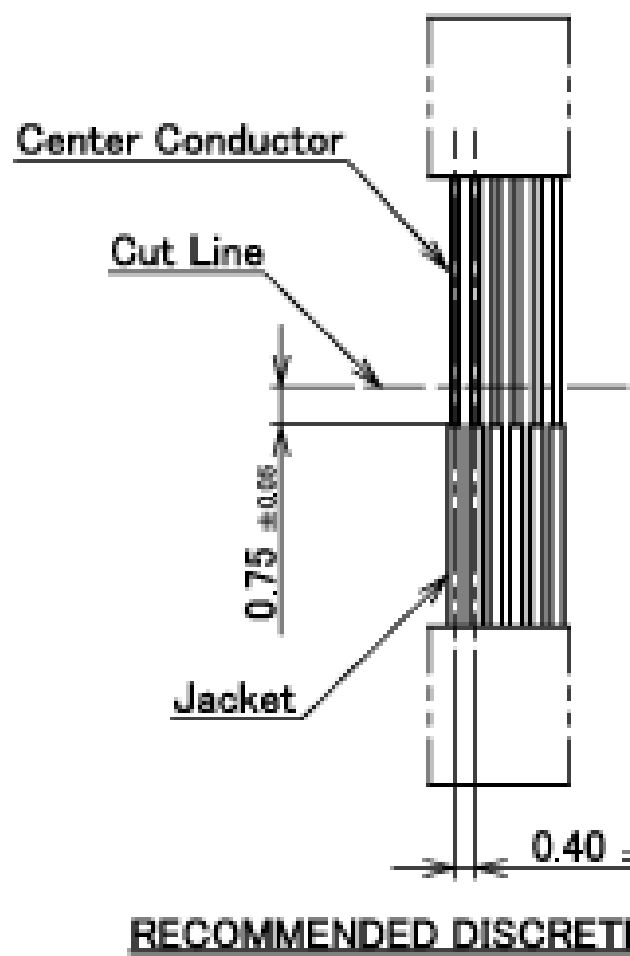
TWINAXIAL CABLE
AWG #**

RECOMMENDED TWINAXIAL CABLE DIM.

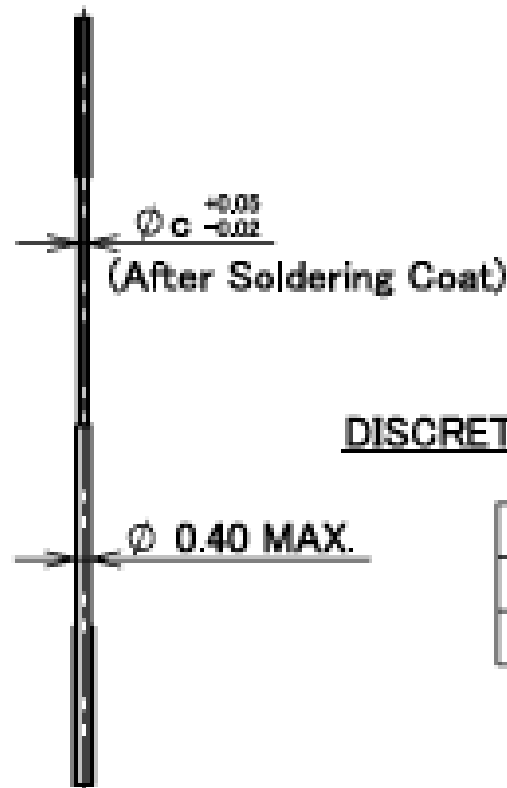


TWINAXIAL CABLE DIMENSION

	b
#40	0.09
#42	0.075



RECOMMENDED DISCRETE WIRE DIM.



DISCRETE WIRE DIMENSION

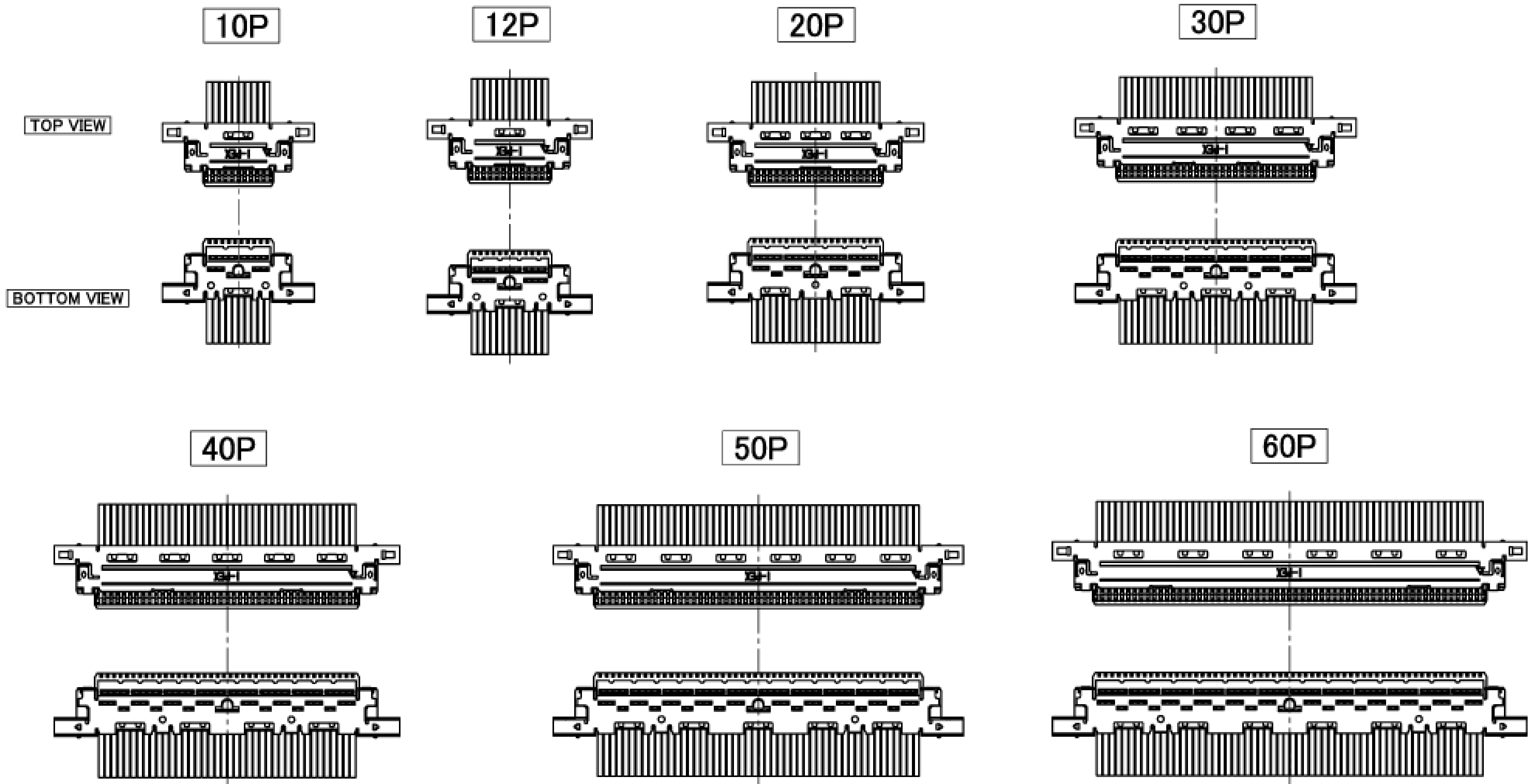
	c
#34	0.192
#36	0.15

DISCRETE WIRE
AWG #**

Rev.15

PART NO.
20633-#**T-0#S

THE EXTERNAL APPEARANCE



Rev.15

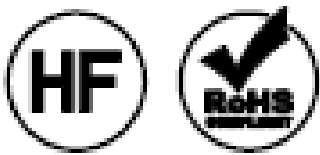
Plug for Cable Assembly

ITEMS	SPECIFICATION
APPLICABLE CABLE	MICRO-COAXIAL CABLE : AWG #44 , 42 , 40 , 38 , 36 DISCRETE WIRE : AWG #36, 34 TWINAXIAL CABLE : AWG #40 , 42
RATED 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.
RATED 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 TO 358K (−40°C TO 85°C)
OPERATING HUMIDITY	85% MAX.
CONTACT RESISTANCE	INITIAL : 180mohm MAX. (AWG #34) / AFTER TEST : ≦40mohm 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 : ≦40mohm 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.
PRODUCT SPECIFICATION	PRS-1968
TEST REPORT	TR-14122 (20525-0**E-0##) / TR-16023 (20525-2**E-0##)
INSTRUCTION MANUAL	HIM-09008
ASSEMBLY MANUAL	ASM-09005
APPEARANCE CRITERIA No.	QLS-A***

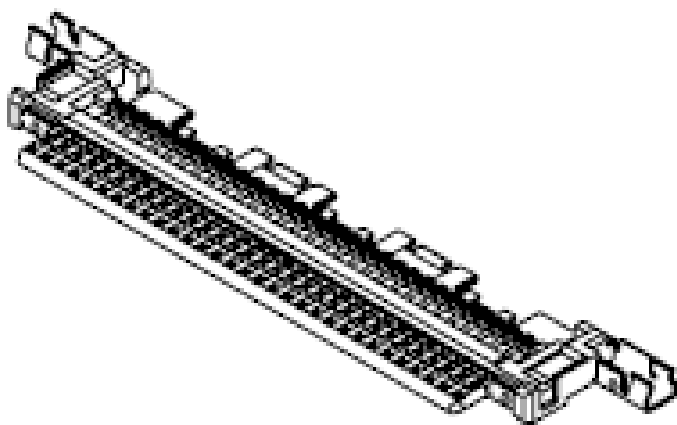
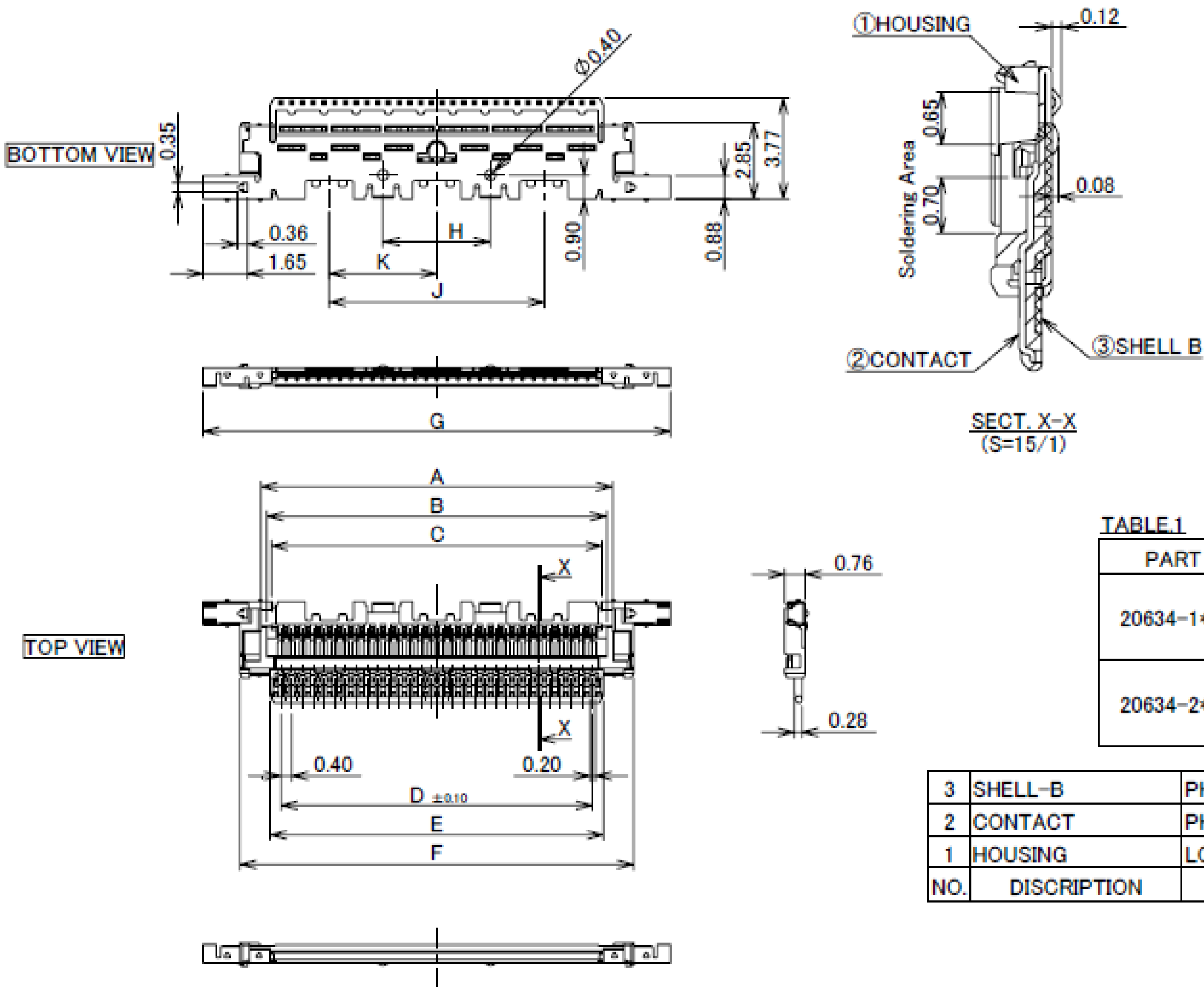
Rev.15

Plug Housing Assembly

Recommended P/N		20634-1**T-02(12~60P)						20634-210T-02(10P)			
PART NO.	Pos.	A	B	C	D	E	F	G	H	J	K
20634-#10T-02	10	5.10	4.65	4.30	3.60	4.40	6.66	9.40	3.40	-	-
20634-#12T-02	12	5.90	5.45	5.10	4.40	5.20	7.46	10.20	4.10	-	-
20634-#20T-02	20	9.10	8.65	8.30	7.60	8.40	10.66	13.40	-	5.00	-
20634-#30T-02	30	13.10	12.65	12.30	11.60	12.40	14.66	17.40	4.00	8.00	4.00
20634-#40T-02	40	17.10	16.65	16.30	15.60	16.40	18.66	21.40	8.00	12.00	4.00
20634-#50T-02	50	21.10	20.65	20.30	19.60	20.40	22.66	25.40	12.00	16.00	4.00
20634-#60T-02	60	25.10	24.65	24.30	23.60	24.40	26.66	29.40	16.00	20.00	4.00



P/N : 20634-#**T-02
POS.
SEE TABLE.1



NOTES
1. THIS PART IS ASSEMBLED WITH SHELL A(P/N 2764-0**1-00#)
AND PULL BAR(P/N 2766-0**1) AFTER SOLDERED THE CABLE,
AND IT BECOMES P/N 20633-#**T-0#S

PART NO.	CONTACT FINISH	SHELL B FINISH
20634-1**T-02	CONTACT AREA Au 0.1 μm MIN. OVER Ni 1.00 μm MIN. SOLDERING AREA Au 0.05 μm MIN. OVER Ni 1.00 μm MIN.	TOP SIDE Ni 1.00 μm MIN.(THERE IS THE POSSIBILITY THAT Au ATTACHES RANDOMLY) BOTTOM SIDE Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.
20634-2**T-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.	PARTIAL Au 0.003 μm MIN. OVER Ni 1.00 μm MIN.

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

Rev.11

Plug Shell-A

Recommended P/N		2764-0**1-002(12~60P)				2764-0101-003(10P)	
PART NO.	A	B	C	D	E		
2764-0101-00#	9.40	3.88	6.66	-	-		
2764-0121-00#	10.20	4.68	7.46	-	-		
2764-0201-00#	13.40	7.88	10.66	2.50	5.00 [= 2.50 × (3 - 1)]		
2764-0301-00#	17.40	11.88	14.66	3.00	9.00 [= 3.00 × (4 - 1)]		
2764-0401-00#	21.40	15.88	18.66	3.25	13.00 [= 3.25 × (5 - 1)]		
2764-0501-00#	25.40	19.88	22.66	3.40	17.00 [= 3.40 × (6 - 1)]		
2764-0601-00#	29.40	23.88	26.66	4.00	20.00 [= 4.00 × (6 - 1)]		

P/N: 2764-0**1-00#
SEE TABLE.1
Pos.

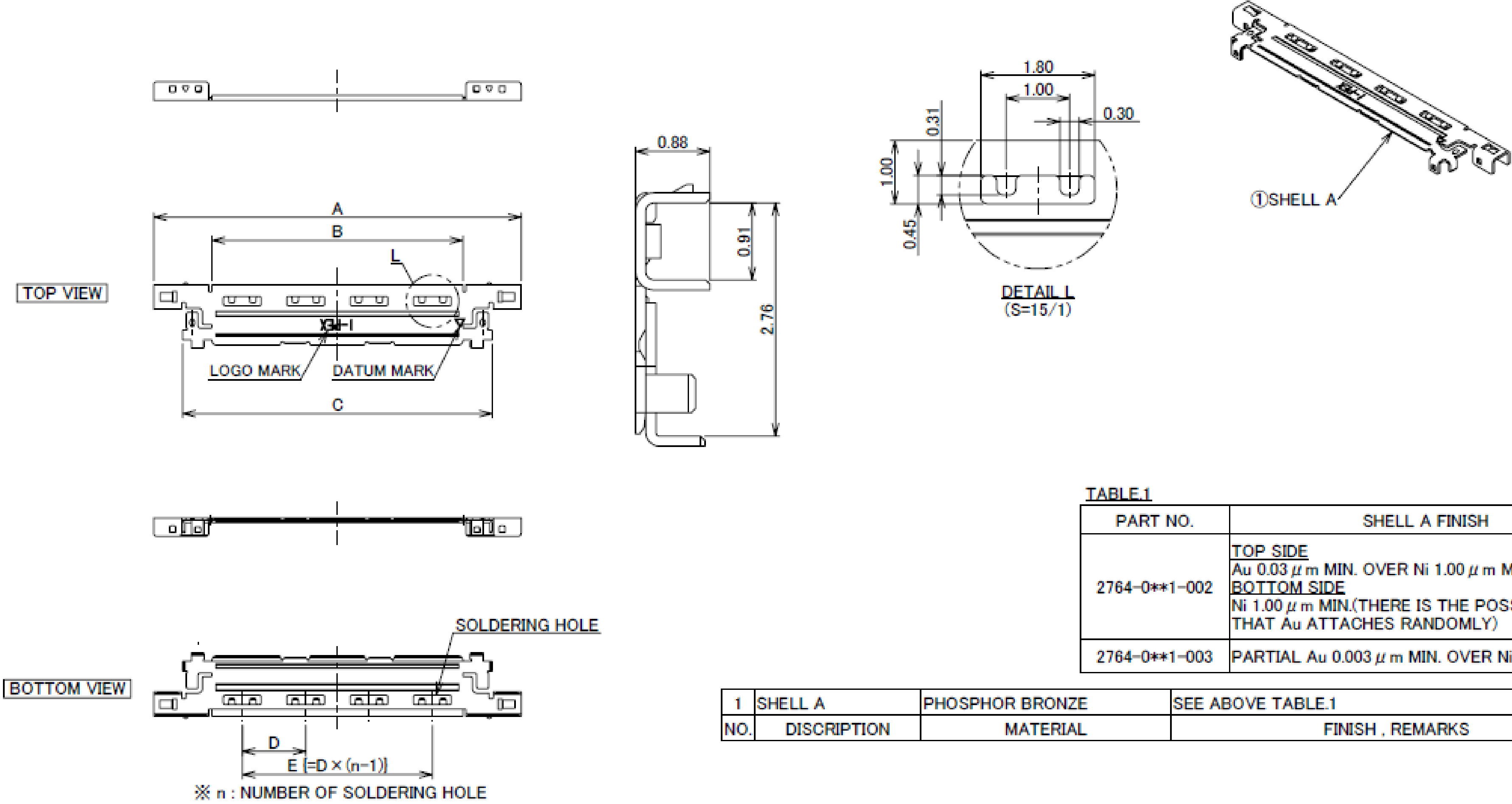
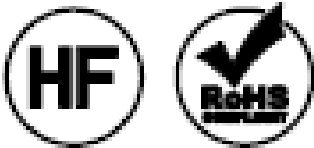


TABLE.1	
PART NO.	SHELL A FINISH
2764-0**1-002	TOP SIDE Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.
	BOTTOM SIDE Ni 1.00 μm MIN.(THERE IS THE POSSIBILITY THAT Au ATTACHES RANDOMLY)
2764-0**1-003	PARTIAL Au 0.003 μm MIN. OVER Ni 1.00 μm MIN.

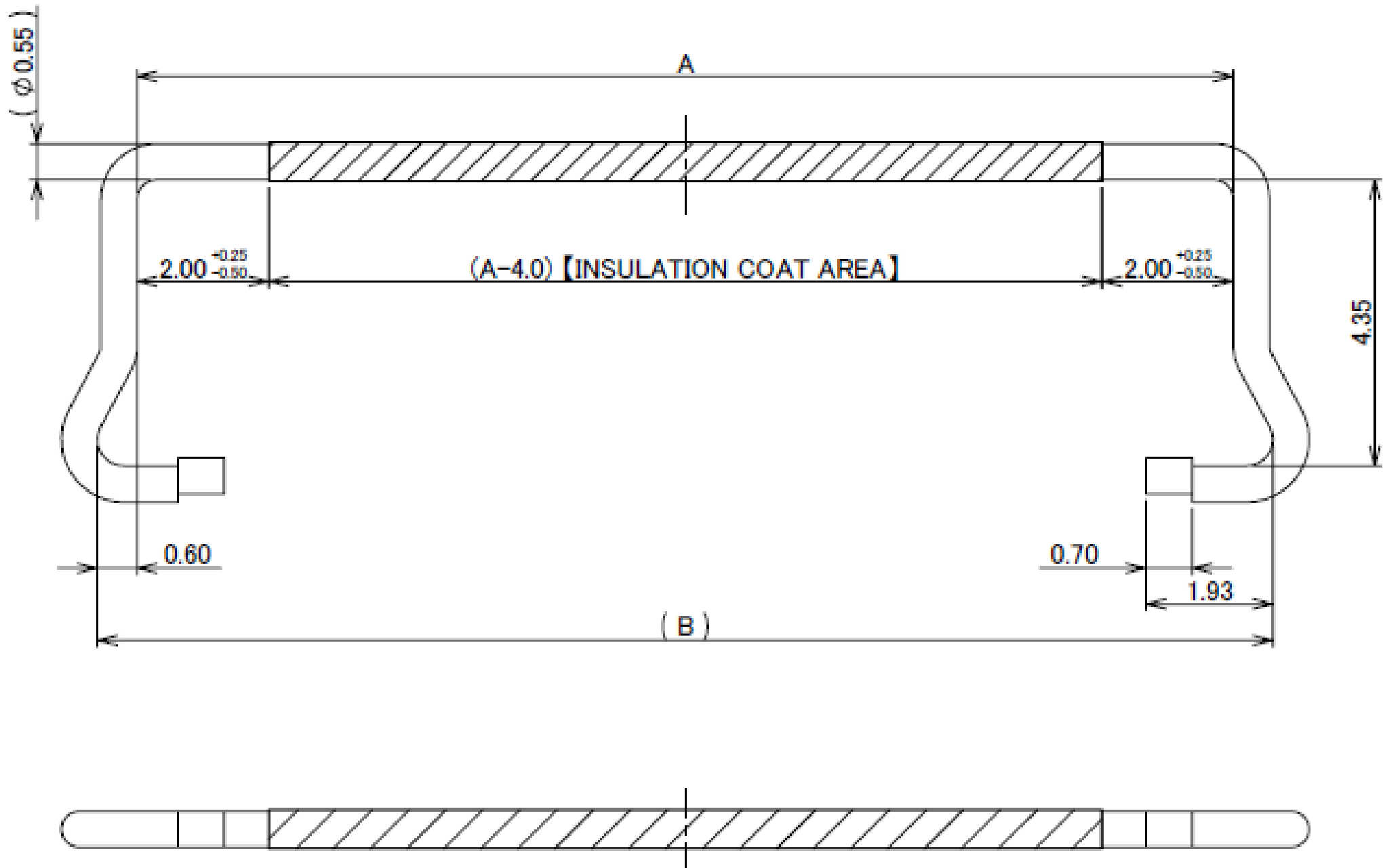
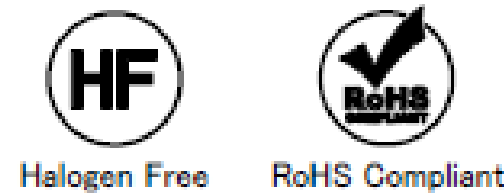
1	SHELL A	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

Rev.11

Plug Pull Bar

Recommended P/N		2766-0**1	
PART NO.	A	B	
2766-0101	8.65	9.85	
2766-0121	9.45	10.65	
2766-0201	12.65	13.85	
2766-0301	16.65	17.85	
2766-0401	20.65	21.85	
2766-0501	24.65	25.85	
2766-0601	28.65	29.85	

P/N: 2766-0**1
POS.



1	PULL BAR	SUS	-
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

Rev.15

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					

PATENT REGISTERED

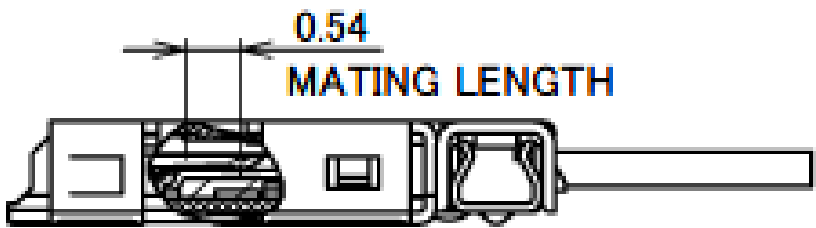


Halogen Free

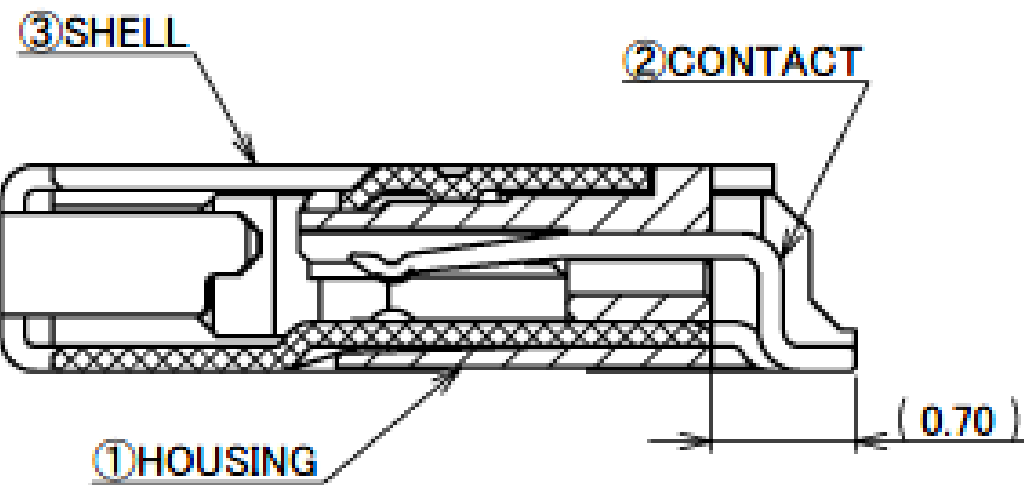
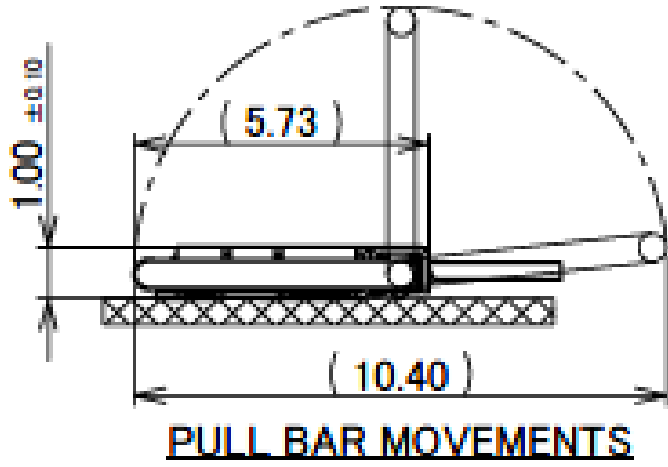
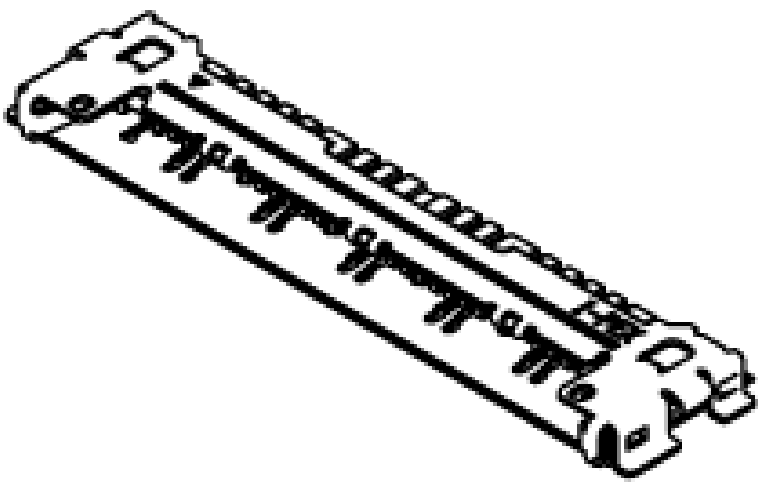
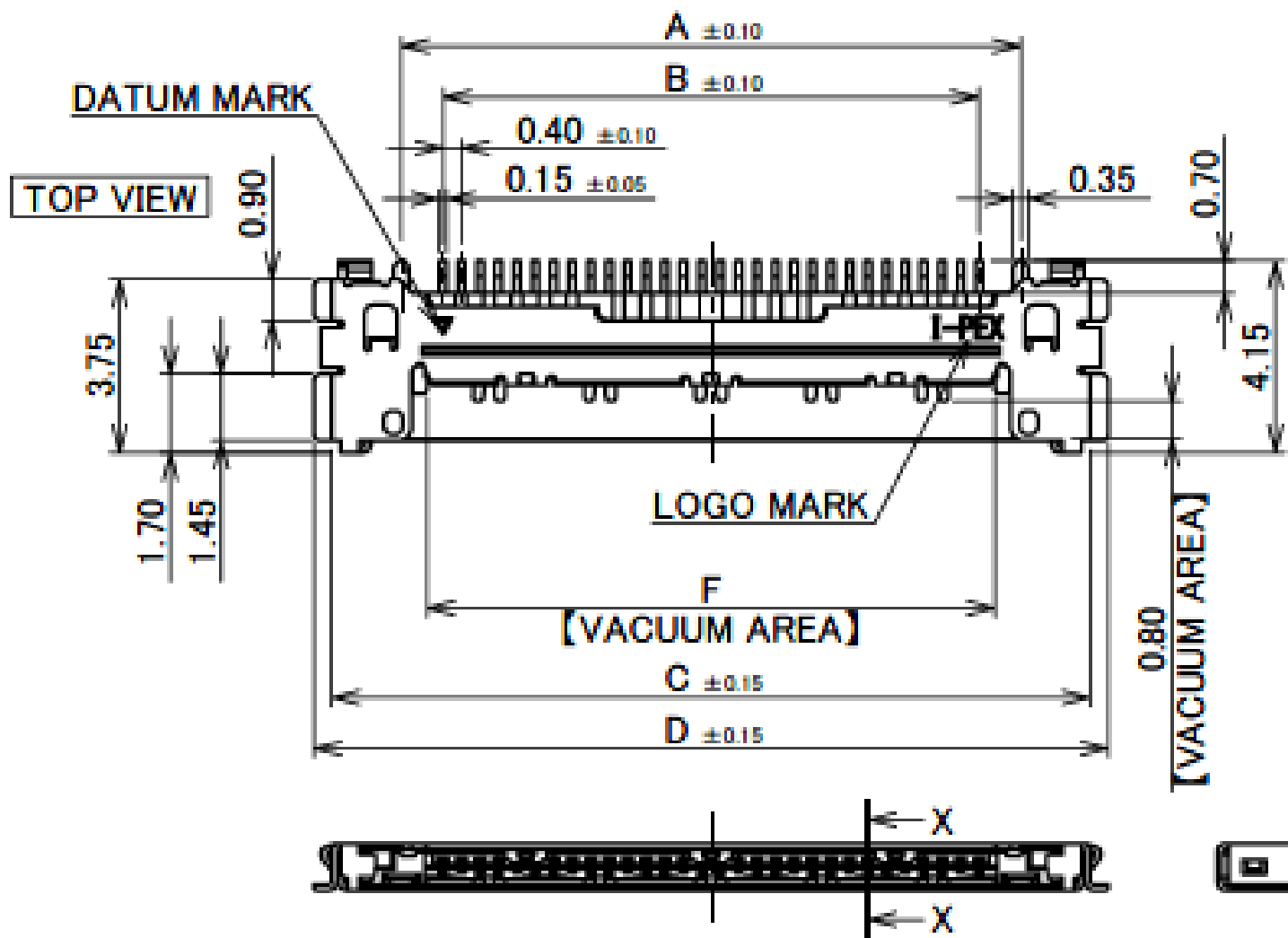
RoHS Compliant

P/N : 20525-#**E-02

POS.
SEE TABLE 1



MATING CONDITION



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

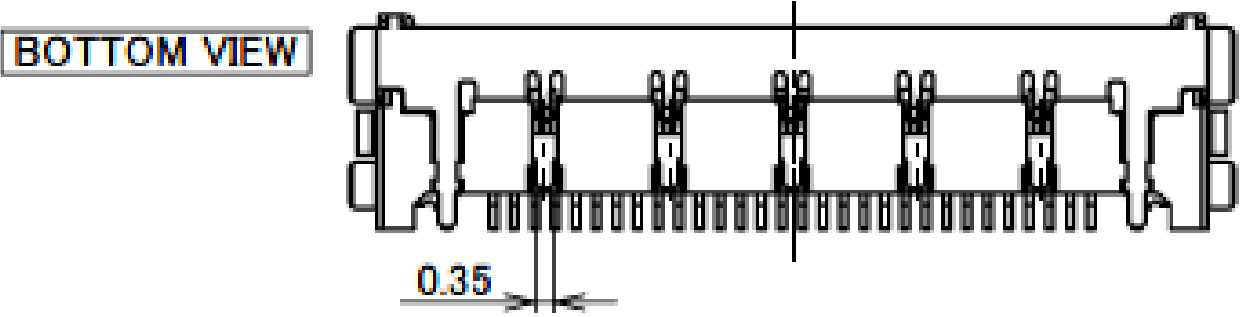
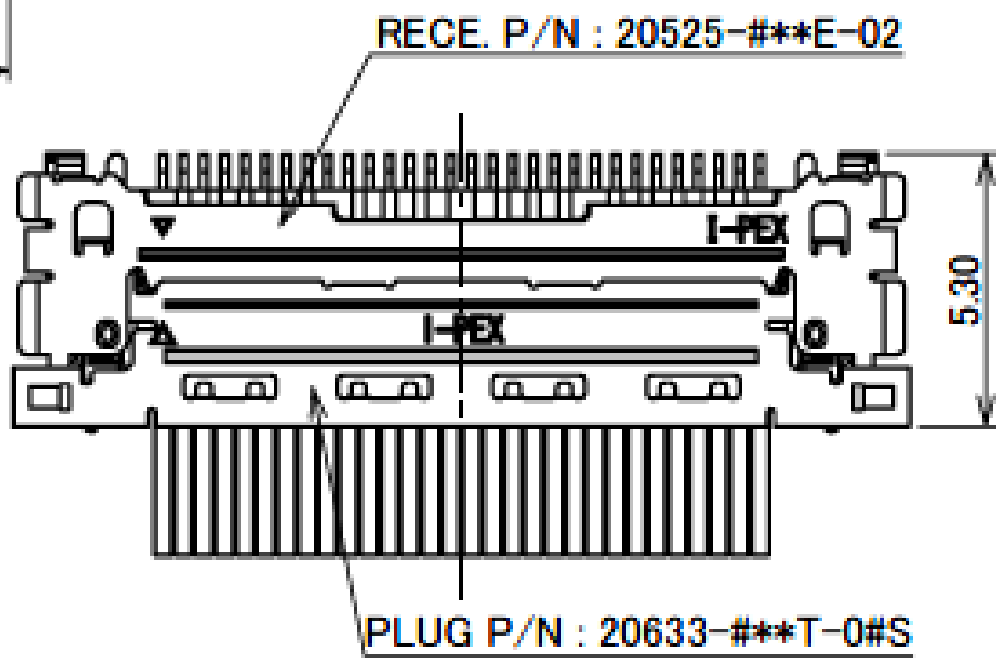


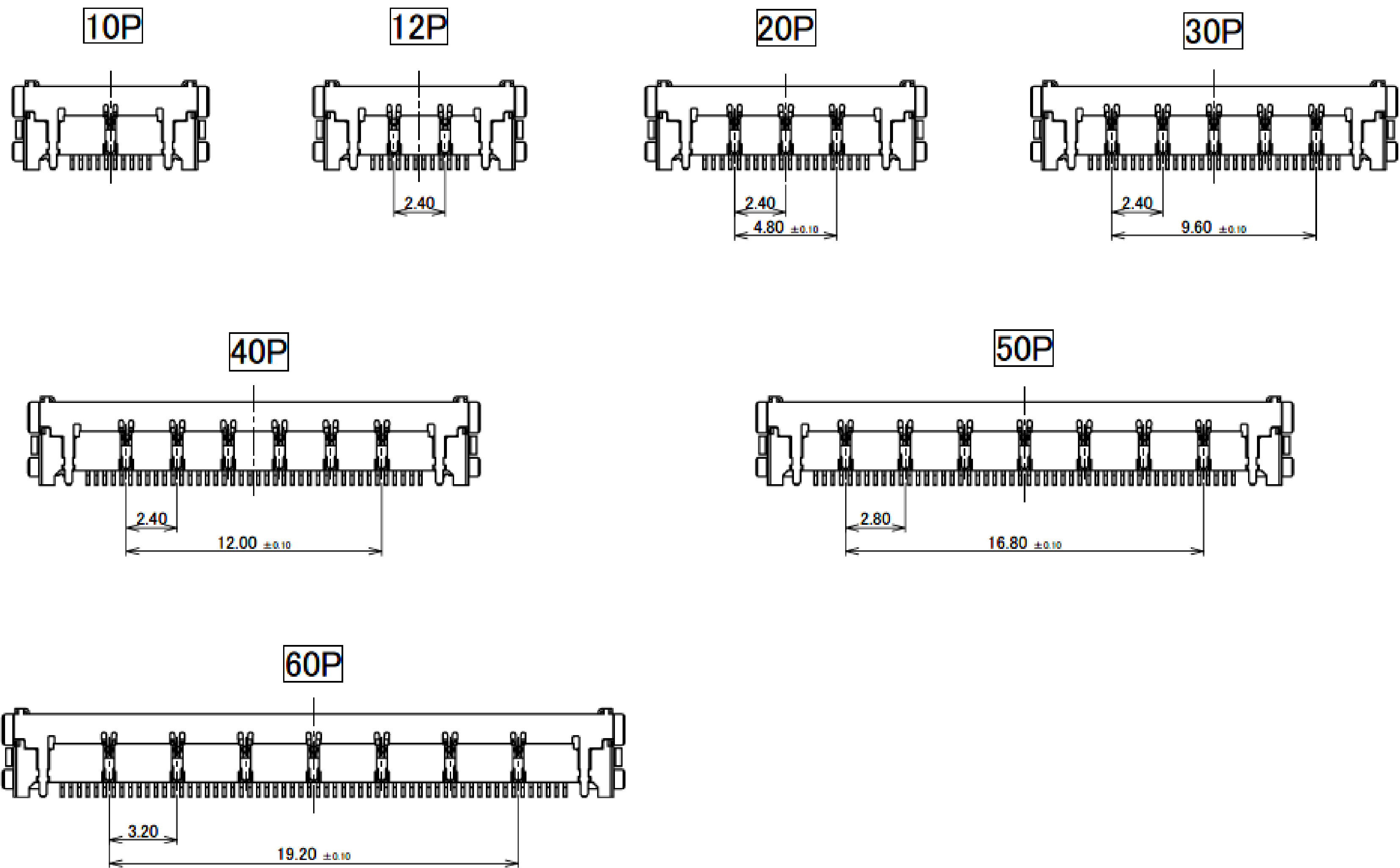
TABLE 1

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

PART NO.
20525-***E-02

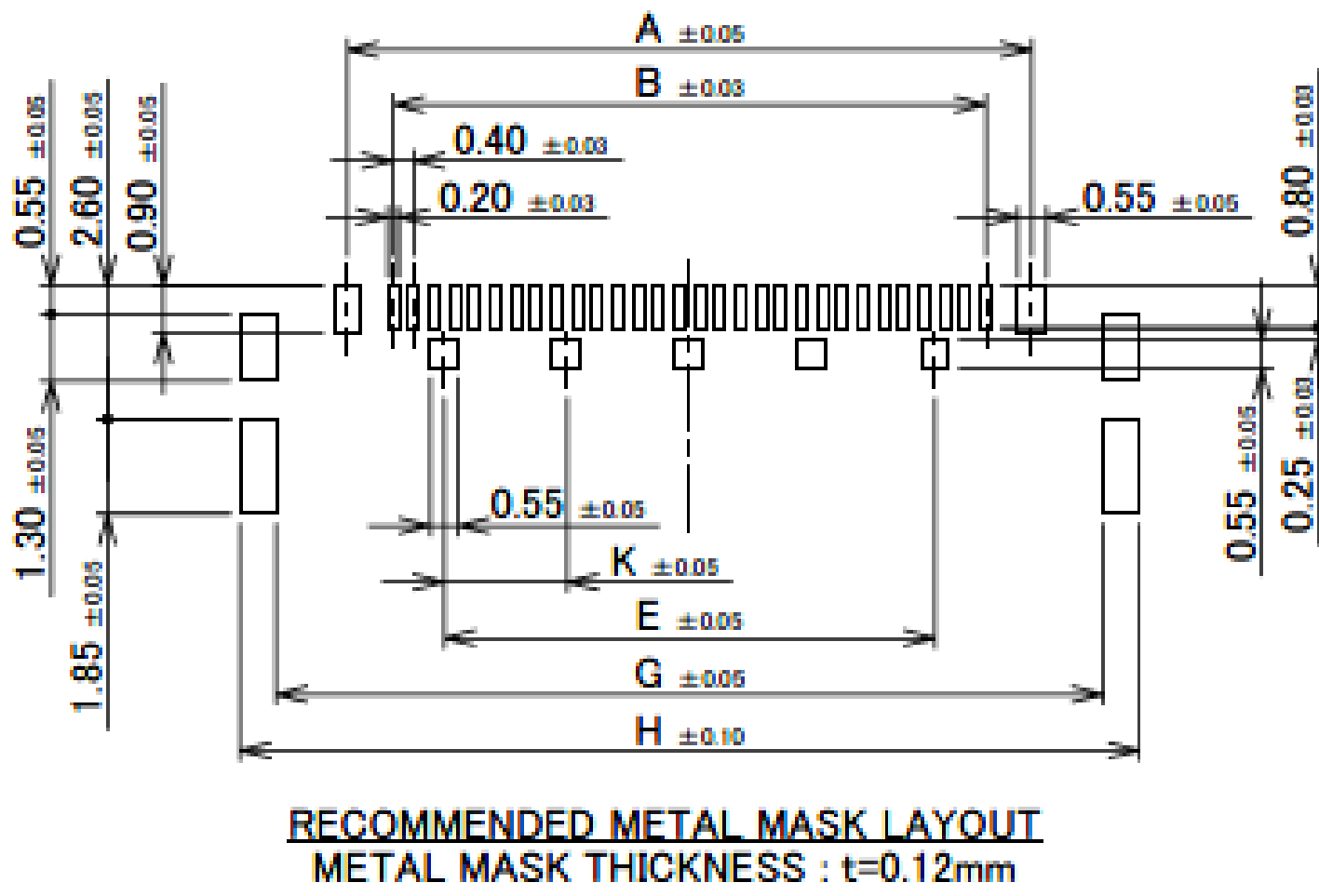
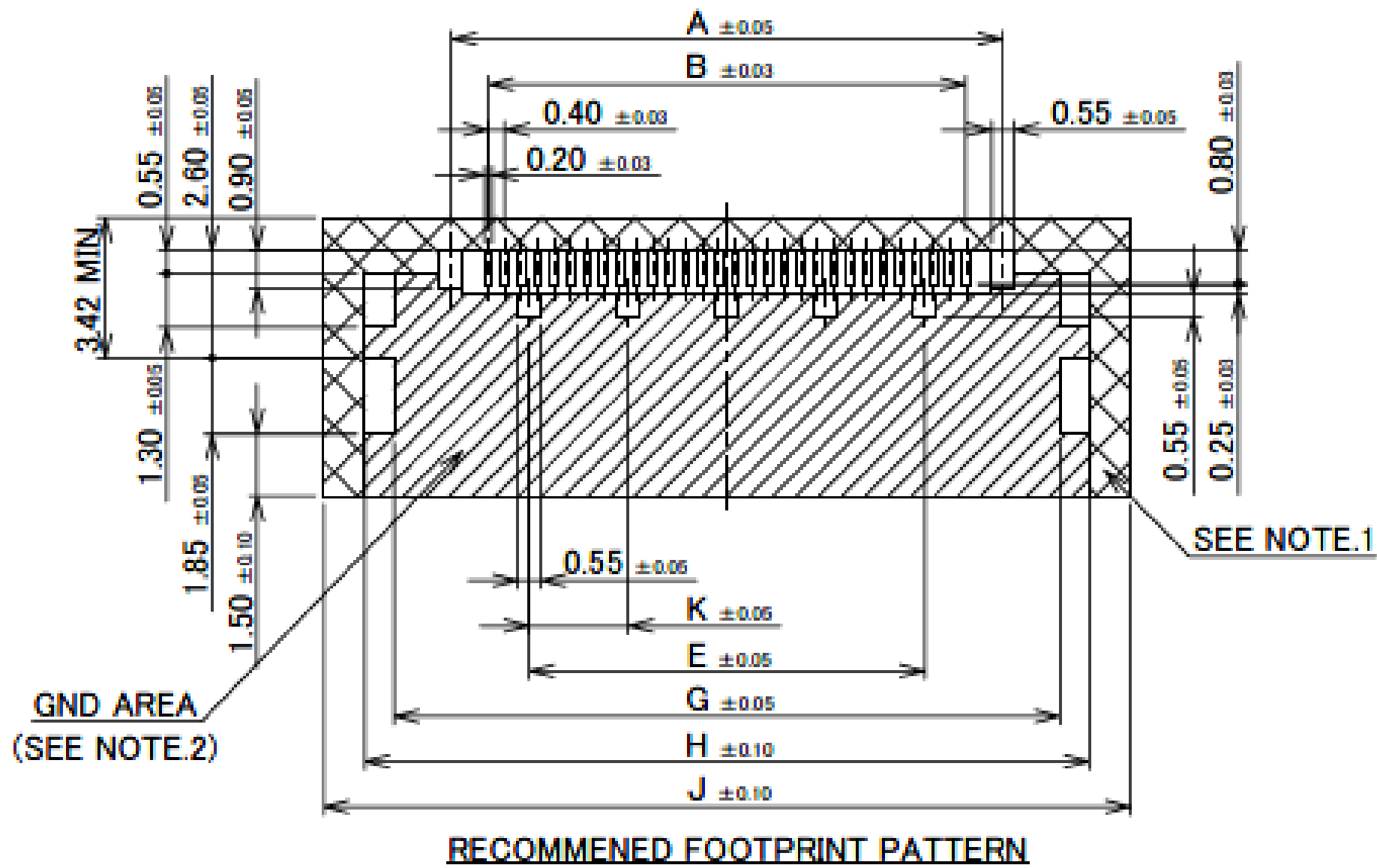
BOTTOM VIEW



Receptacle Assembly

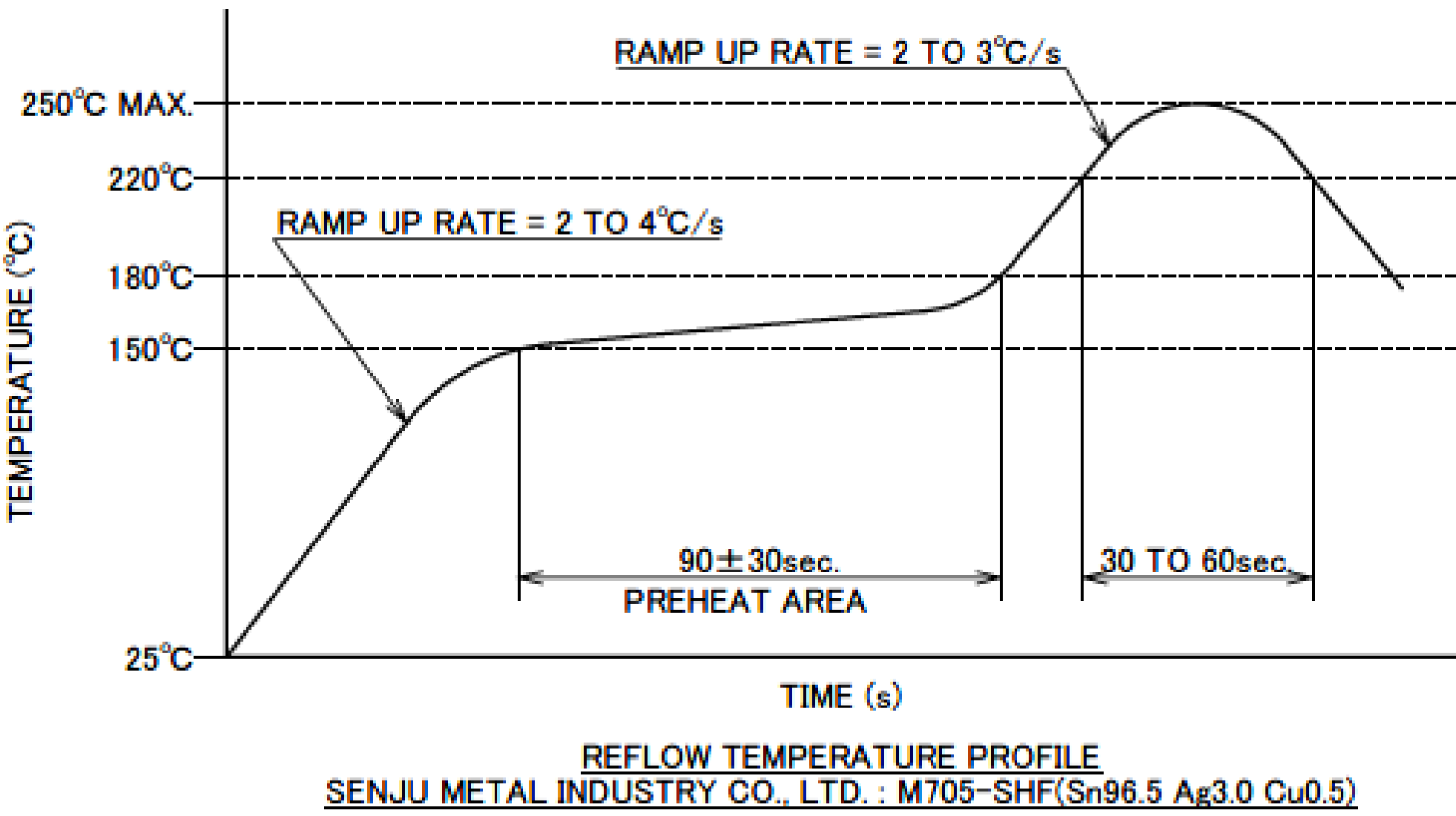
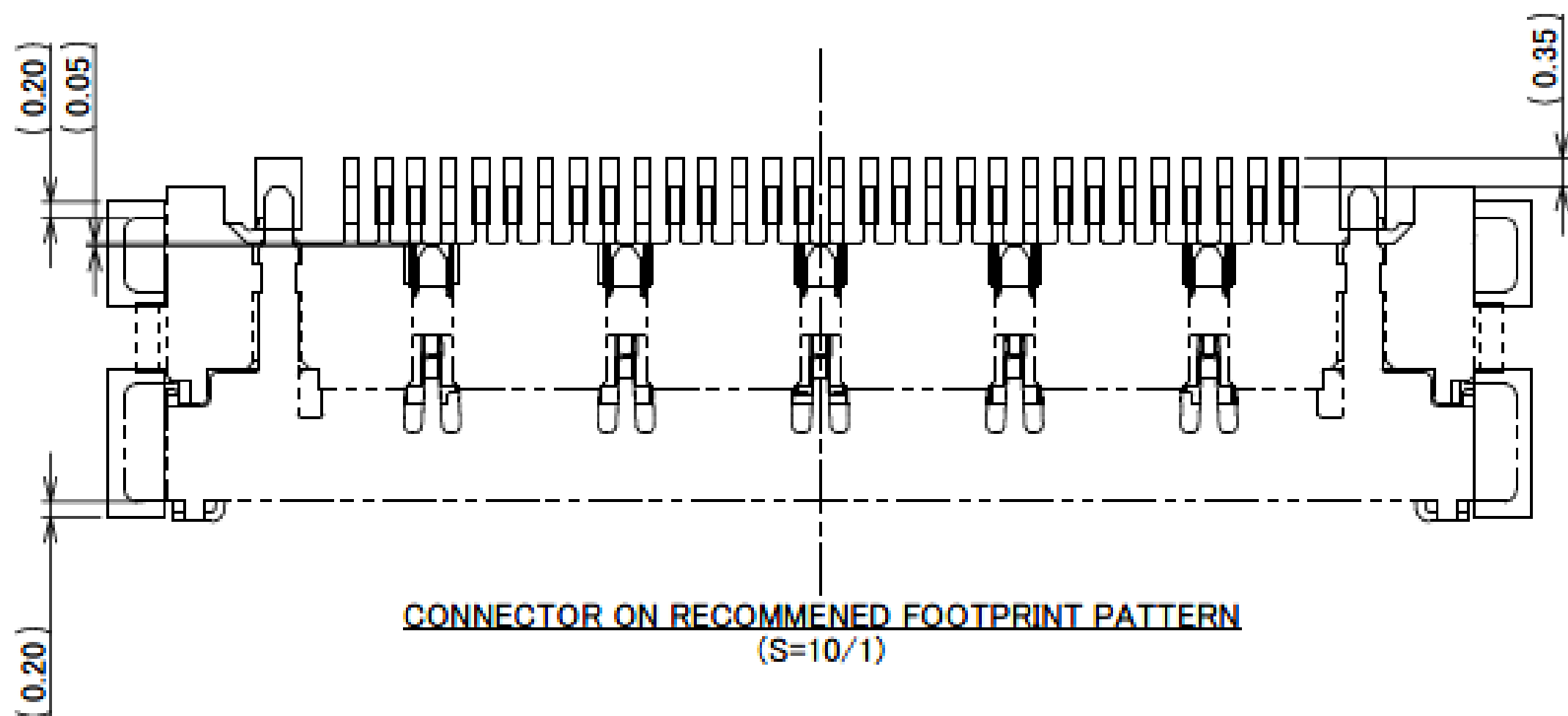
PART NO.	POS.	A	B	E	G	H	J	K
20525-#10E-02	10	5.40	3.60	-	8.18	9.60	11.60	-
20525-#12E-02	12	6.20	4.40	2.40	8.98	10.40	12.40	-
20525-#20E-02	20	9.40	7.60	4.80	12.18	13.60	15.60	2.40
20525-#30E-02	30	13.40	11.60	9.60	16.18	17.60	19.60	2.40
20525-#40E-02	40	17.40	15.60	12.00	20.18	21.60	23.60	2.40
20525-#50E-02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

PATENT REGISTERED



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.

Rev.33



Rev.33

Receptacle Assembly

FOR CABLINE-CA PLUG CABLE ASSEMBLY (DWG NO. 20633)

ITEMS	SPECIFICATION
APPLICABLE CABLE	MICRO-COAXIAL CABLE : AWG #44 , 42 , 40 , 38 , 36 DISCRETE WIRE : AWG #36 , 34 TWINAXIAL CABLE : AWG #40 , 42
RATED 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.
RATED 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 TO 358K (-40°C TO 85°C)
OPERATING HUMIDITY	85% MAX.
CONTACT RESISTANCE	INITIAL : 180mohm MAX. (AWG #34) / AFTER TEST : ≦40mohm 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 : ≦40mohm 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***

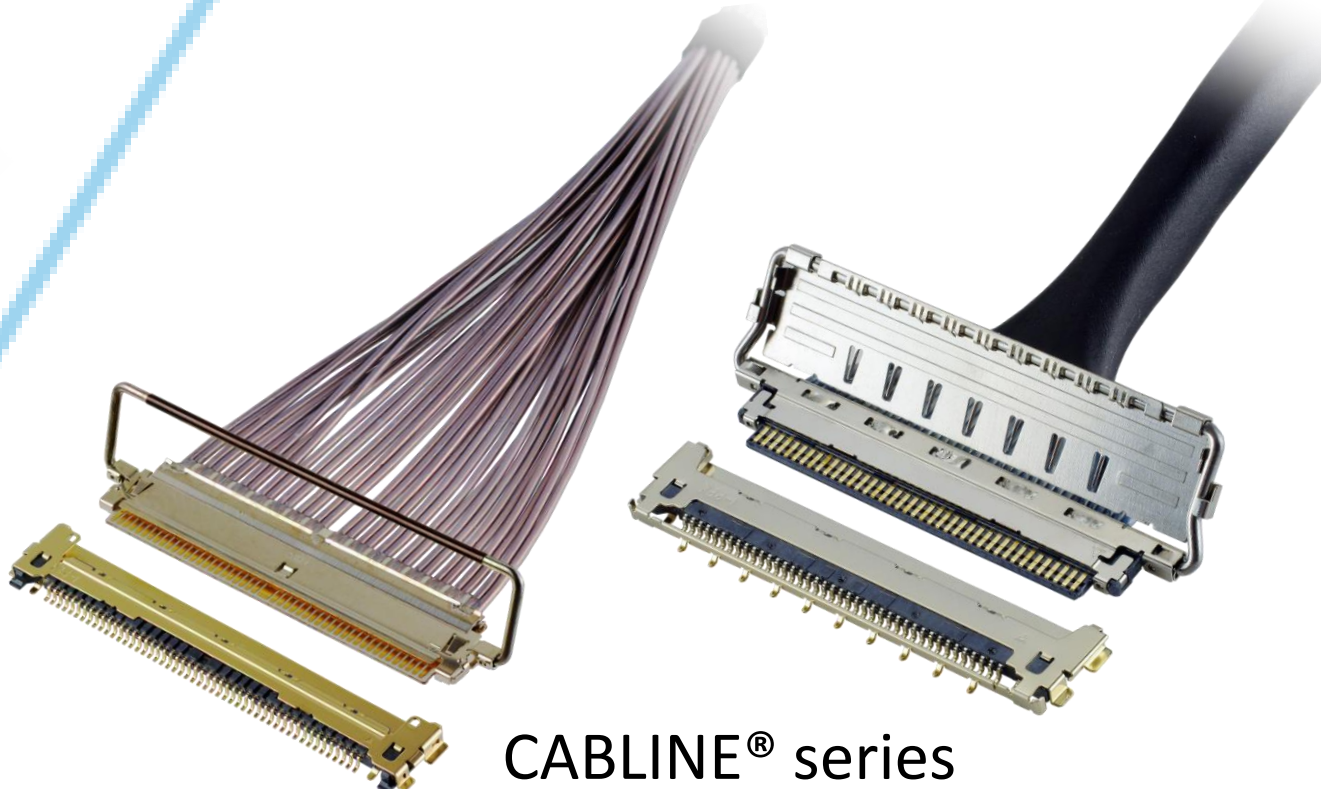
Custom Connectors Available

 RF
Connectors

MHF® series



CABLINE® series



Micro-Coaxial/Twinaxial
Connectors



Wire-to-Board
Connectors/
Terminals

AP series



ISH® series



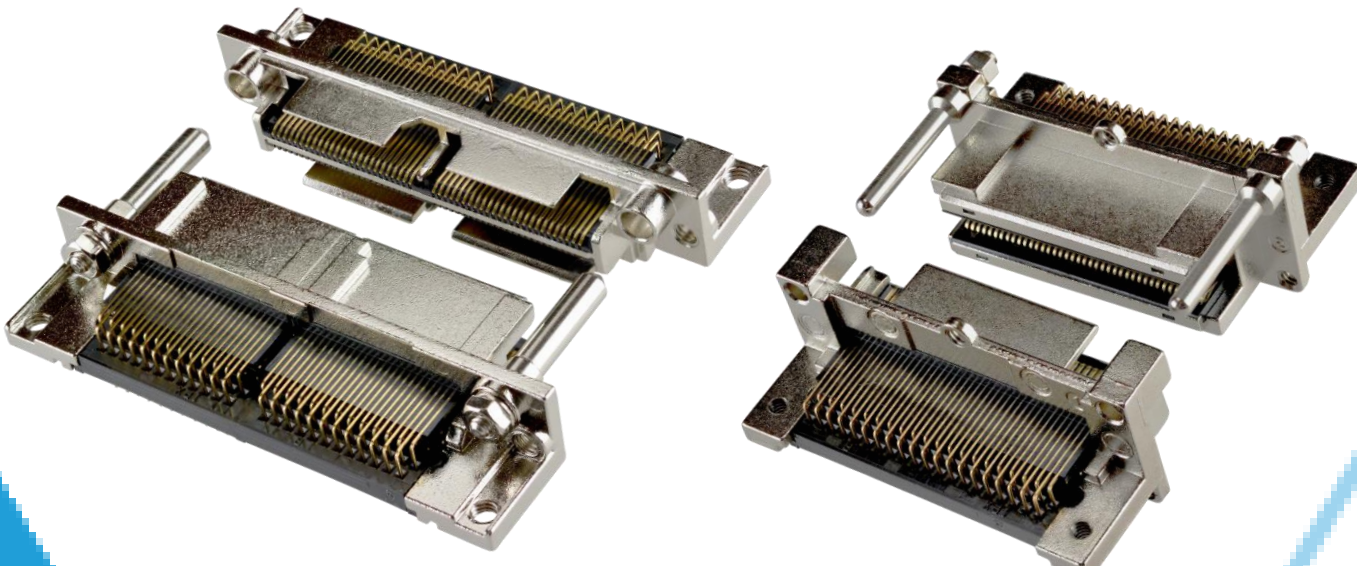
NOVASTACK® series



Board-to-Board
Connectors



I/O
Connectors



MINIDOCK™ series

MINIFLEX® series

EVAFLEX® series



FPC/FFC
Connectors



Inquiry



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