

CABLIN[®]-VS II

Fully-shielded with mechanical lock, Suitable for high-data-rate transfer (20 Gbps/lane), 5 mm pitch, Horizontal mating type micro-coaxial connector

Product Specifications:

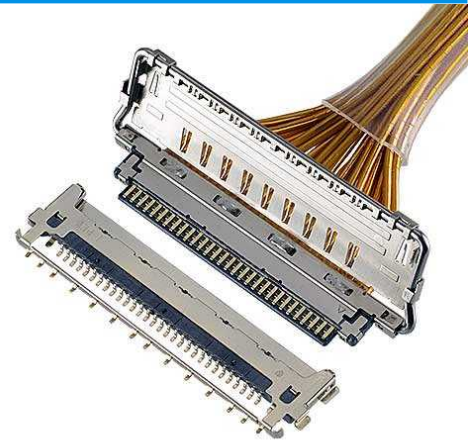
Mating type	Horizontal	
Board Pitch (mm)	0.5	
Wiping Length (mm)	0.54	
Mated size (mm)	Height	1.2 max. with cover
	Width	Formula: 6.85 + (0.5*?p)
	Depth	6.70
Pin Counts	Range	Up to 55
	Available	20, 30, 40

Applicable Cable Size:

Maximum O.D. (mm)	0.5
Micro-Coaxial for Signal (AWG)	45 ohm: #36 or smaller
Twin Coaxial (AWG)	50 ohm: #38 or smaller
Discrete (AWG)	#40

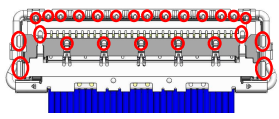
Applicable Standards (Reference Only):

USB4/Thunderbolt 4(20 Gbps/lane), PCIe Gen 4 (16 GT/s), USB 3.1 Gen 2 (10 Gbps), eDP HBR 3 (8.1 Gbps)

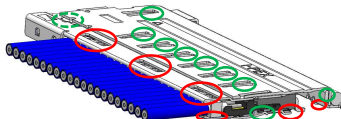


* Please inquire for pin counts not listed or outside of the pin count range.

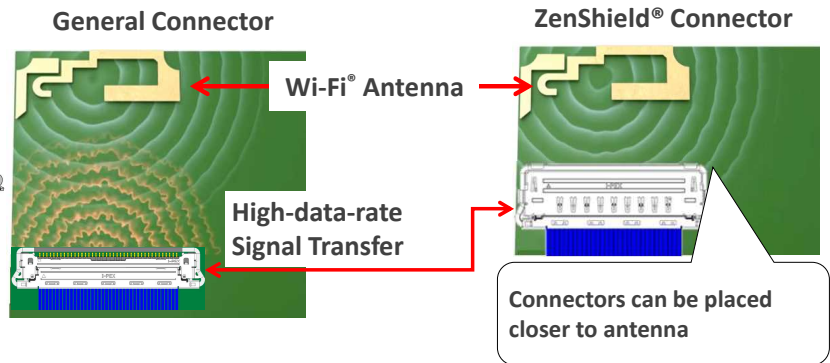
ZenShield[®] fully-shielded with multi-point grounds to prevent EMI leakage



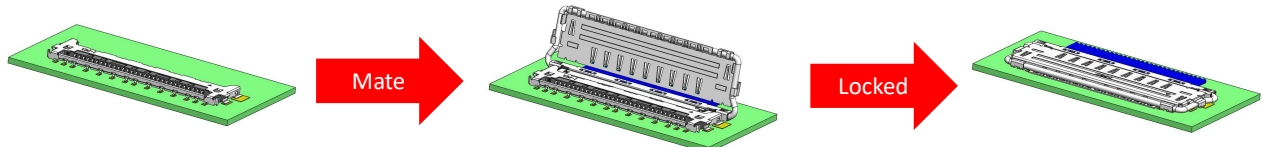
View From Back



○ Soldered contacts
○ Mechanical contacts

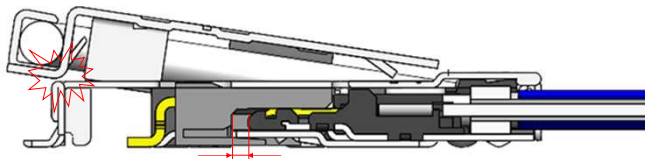


Mechanical locking cover prevents incomplete mating and back-out/un-mating

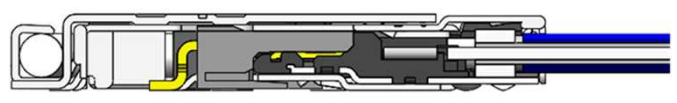


Unable to lock

can only be locked when mating is complete



incomplete mating



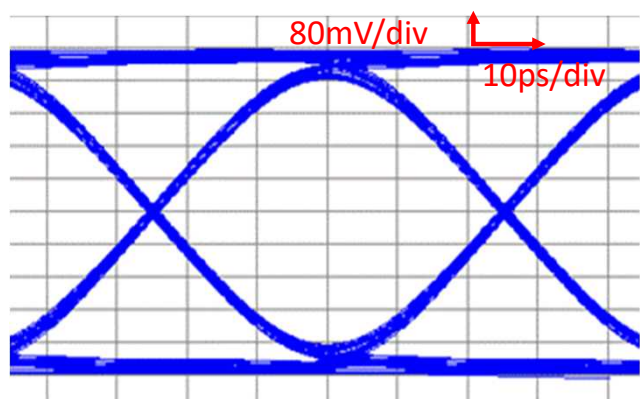
complete mating

High-data-rate transfer, ideal for Thunderbolt 4 (20 Gbps/lane) applications

Thunderbolt 4 (20 Gbps/lane)

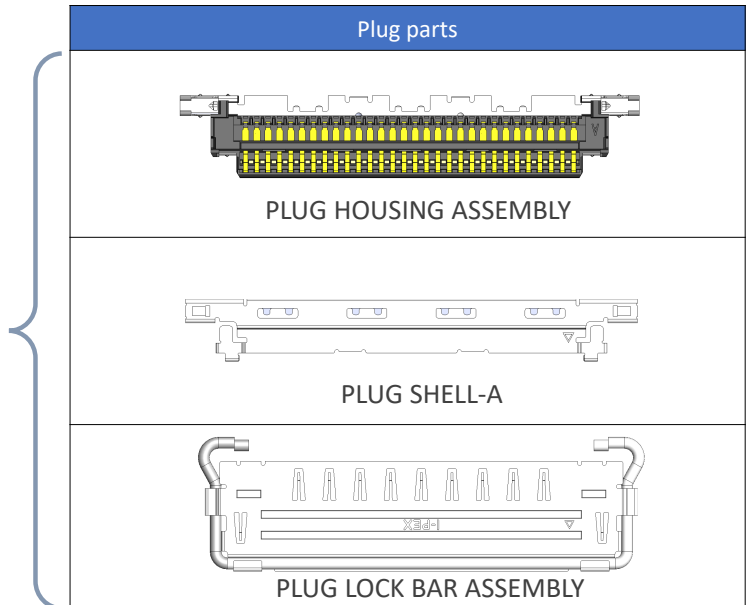
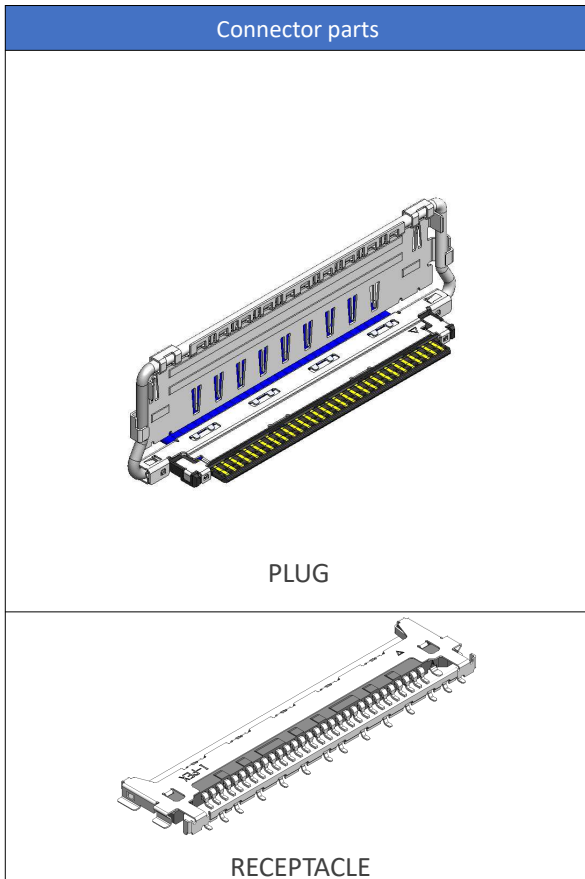
Eye pattern (Differential)
Bit rate : 20 Gbps
Rise time : 30ps (10-90%)
Input voltage : 800mVp-p

*Please contact I-PEX for more test details.



Component Parts Details

Component Parts



Plug for Cable Assembly

Recommended P/N		20846-0**T-01				
PART NO.	Pos.	A	B	C	D	E
20846-020T-0#	20	15.30	9.50	10.30	12.56	16.85
20846-030T-0#	30	20.30	14.50	15.30	17.56	21.85
20846-040T-0#	40	25.40	19.50	20.30	22.56	26.85

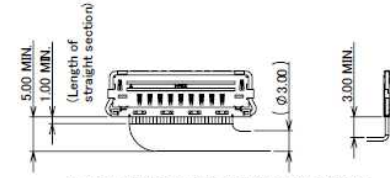
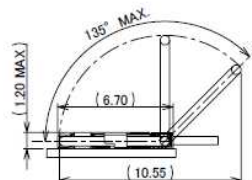
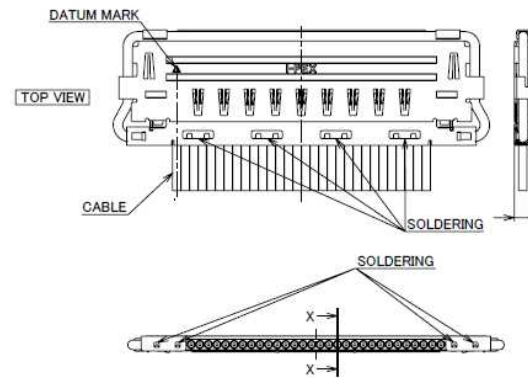
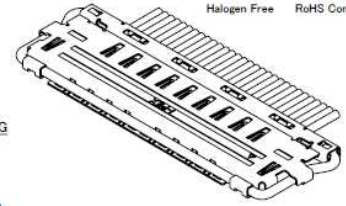
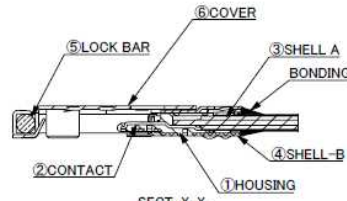
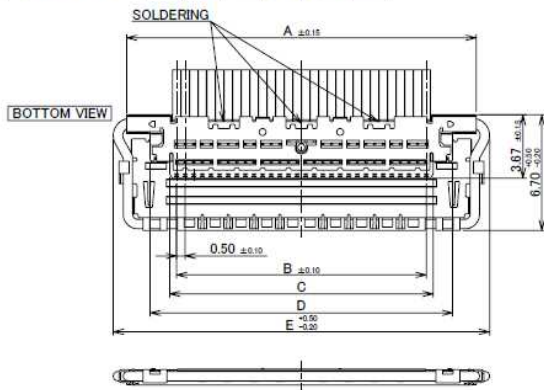
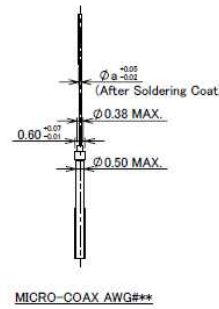
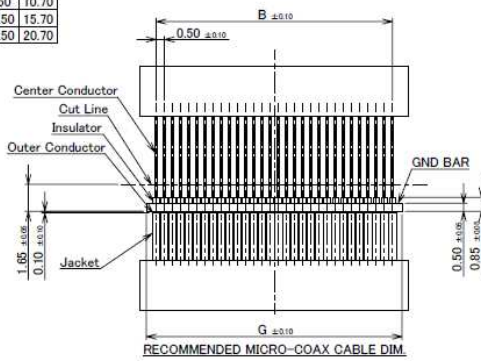


TABLE 1

PART NO.	CONTACT FINISH
20846-0**T-01	CONTACT & SOLDERING AREA : Au 0.03 μ m MIN. OVER Ni 1.00 μ m MIN.
20846-0**T-02	CONTACT AREA : Au 0.38 μ m MIN. OVER Ni 1.27 μ m MIN. SOLDERING AREA : Au 0.53 μ m MIN. OVER Ni 1.00 μ m MIN.

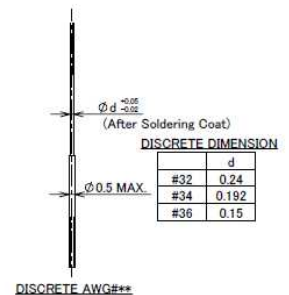
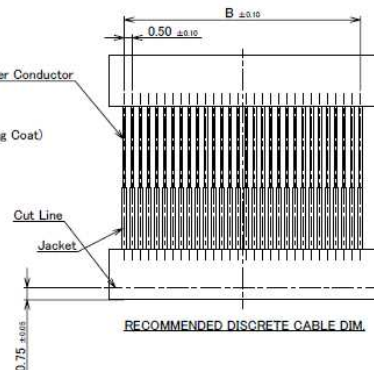
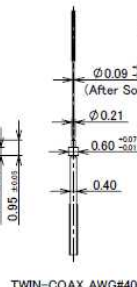
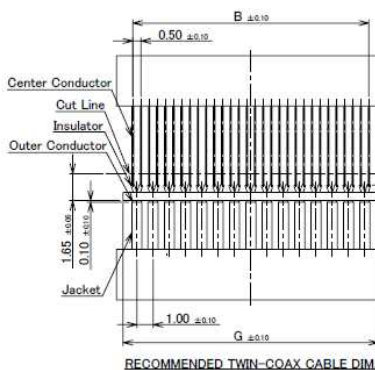
NO.	DISCRIPTION	MATERIAL	FINISH .REMARKS
6	COVER	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μ m MIN.
5	LOCK BAR	SUS	-
4	SHELL-B	PHOSPHOR BRONZE	PARTIAL Au 0.003 μ m MIN. OVER Ni 1.00 μ m MIN.
3	SHELL-A	PHOSPHOR BRONZE	PARTIAL Au 0.003 μ m MIN. OVER Ni 1.00 μ m MIN.
2	CONTACT	PHOSPHOR BRONZE	SEE TABLE 1
1	HOUSING	LCP	UL94V-0. BLACK

PART NO.	Pos.	B	G
20846-020T-0#	20	9.50	10.70
20846-030T-0#	30	14.50	15.70
20846-040T-0#	40	19.50	20.70



MICRO-COAX DIMENSION

AWG	a
#36	0.15
#38	0.12
#40	0.09
#42	0.075
#44	0.063



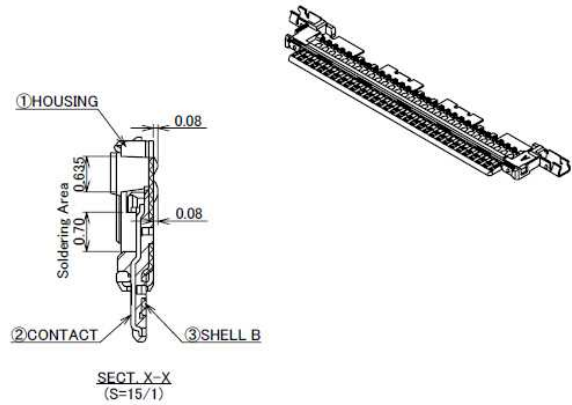
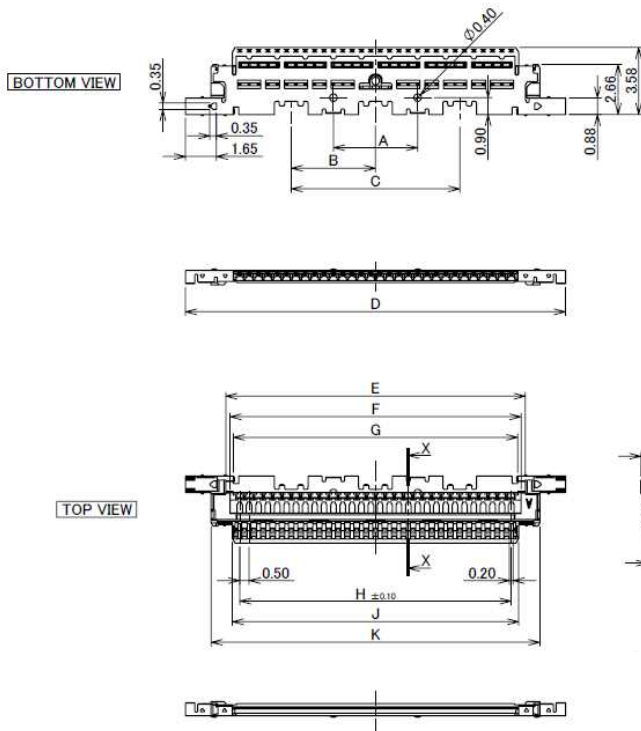
Rev.10

Rev.10

Plug Housing Assembly

Recommended P/N 20847-0**T-01

PART NO.	Pos.	A	B	C	D	E	F	G	H	J	K
20847-020T-0#	20	-	-	5.00	15.30	11.00	10.55	10.20	9.50	10.30	12.56
20847-030T-0#	30	4.50	4.50	9.00	20.30	16.00	15.55	15.20	14.50	15.30	17.56
20847-040T-0#	40	9.00	4.50	13.50	25.40	21.00	20.55	20.20	19.50	20.30	22.56



NOTES:
 1. THIS PART IS ASSEMBLED WITH SHELL A (P/N 3427-0**1) AND LOCK BAR ASS'Y (P/N 20848-0**T-01) AFTER SOLDERING THE CABLE, AND SHALL BE ASSIGNED AS P/N 20846-0**T-0#

TABLE 1

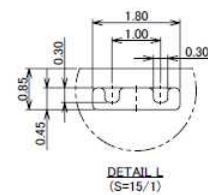
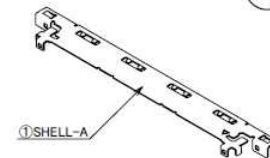
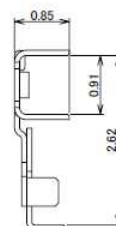
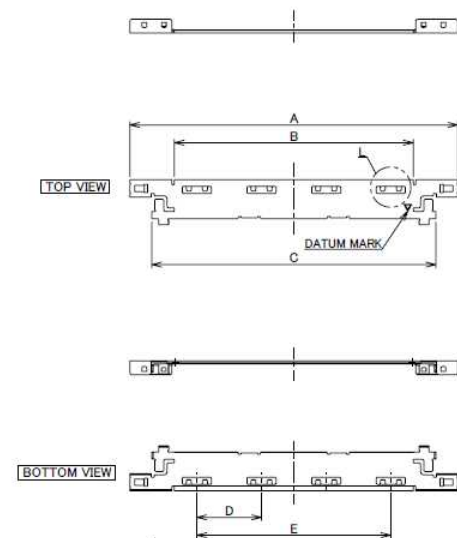
PART NO.	CONTACT FINISH
20847-0**T-01	CONTACT & SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.
20847-0**T-02	CONTACT AREA : Au 0.38 μm MIN. OVER Ni 1.27 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.

Rev.6

Plug Shell-A

Recommended P/N 3427-0**1

PART No.	Pos.	A	B	C	D	E
3427-0201	20	15.30	9.78	12.56	3.00	6.00
3427-0301	30	20.30	14.78	17.56	4.00	12.00
3427-0401	40	25.40	19.88	22.56	4.00	16.00



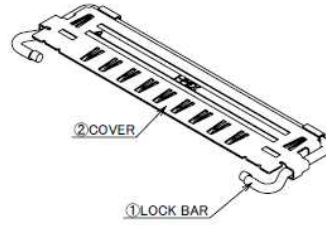
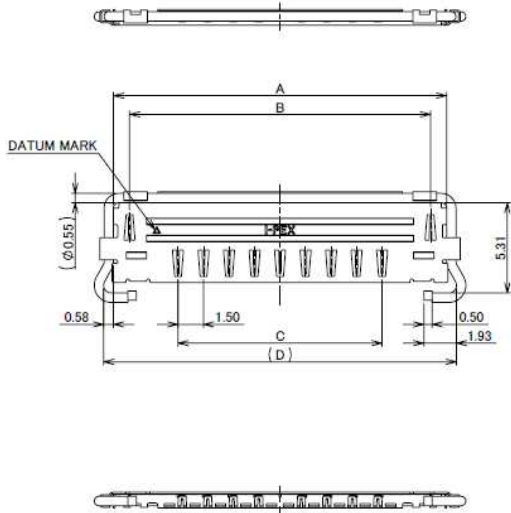
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
1	SHELL-A	PHOSPHOR BRONZE	PARTIAL Au 0.003 μm MIN. OVER Ni 1.00 μm MIN.

Rev.3

Plug Lock Bar Assembly

Recommended P/N		20848-0**T-01				
PART NO.	Pos.	A	B	C	D	E
20848-020T-01	20	14.59	12.70	7.50	15.75	7.00
20848-030T-01	30	19.59	17.70	12.00	20.75	12.00
20848-040T-01	40	24.59	22.70	18.00	25.75	17.00

20848-0**T-01
POS.



NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
2	COVER	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN.
1	LOCK BAR	SUS φ0.55	-

Rev.6

Receptacle Assembly

Recommended P/N		20849-0**E-01			
PART NO.	Pos.	A	B	C	D
20849-020E-0#	20	11.30	9.50	14.33	15.10
20849-030E-0#	30	16.30	14.50	19.33	20.10
20849-040E-0#	40	21.30	19.50	24.33	25.10

P/N : 20849-0**E-0#
SEE TABLE 1
POS.

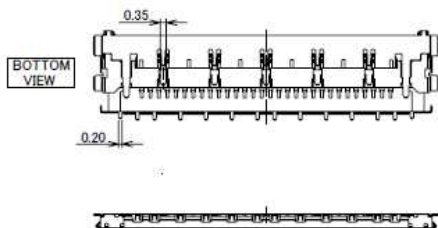
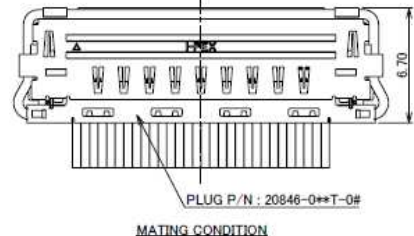
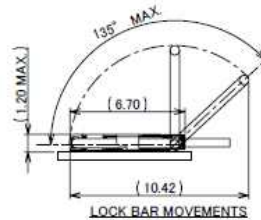
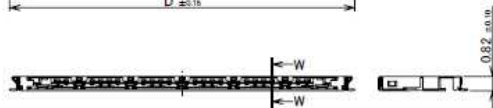
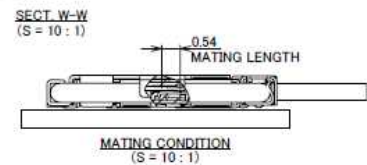
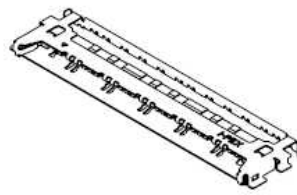
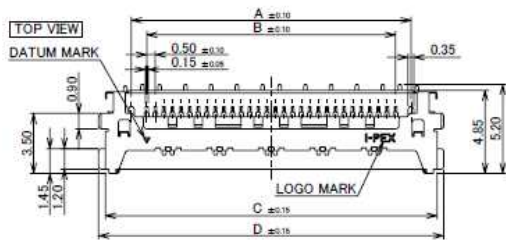
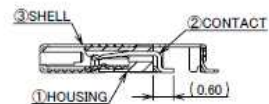


TABLE 1

PART NO.	CONTACT FINISH	SHELL FINISH
20849-0**E-01	CONTACT & 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.
20849-0**E-02	CONTACT AREA : Au 0.38 μm MIN. OVER Ni 1.27 μm MIN. SOLDERING AREA : Au 0.03 μm MIN. OVER Ni 1.00 μm MIN.	

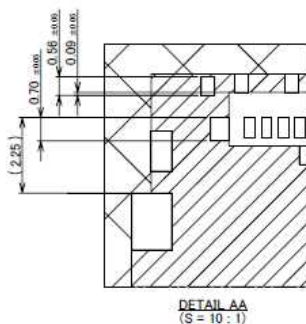
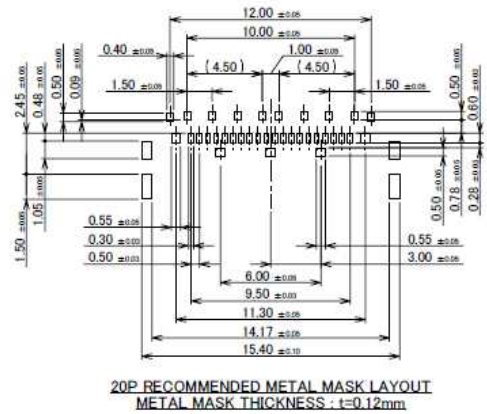
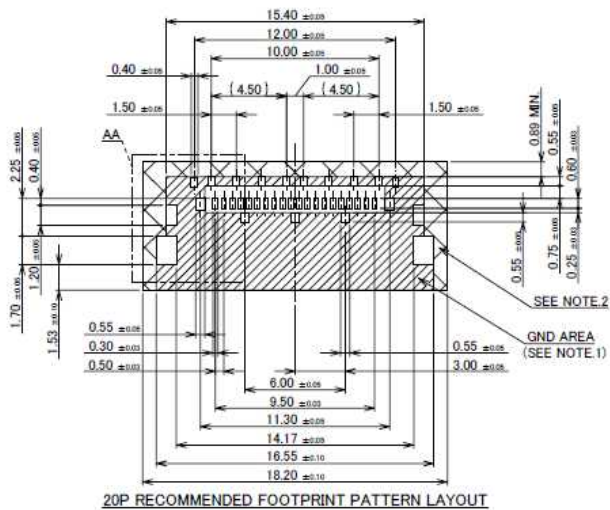
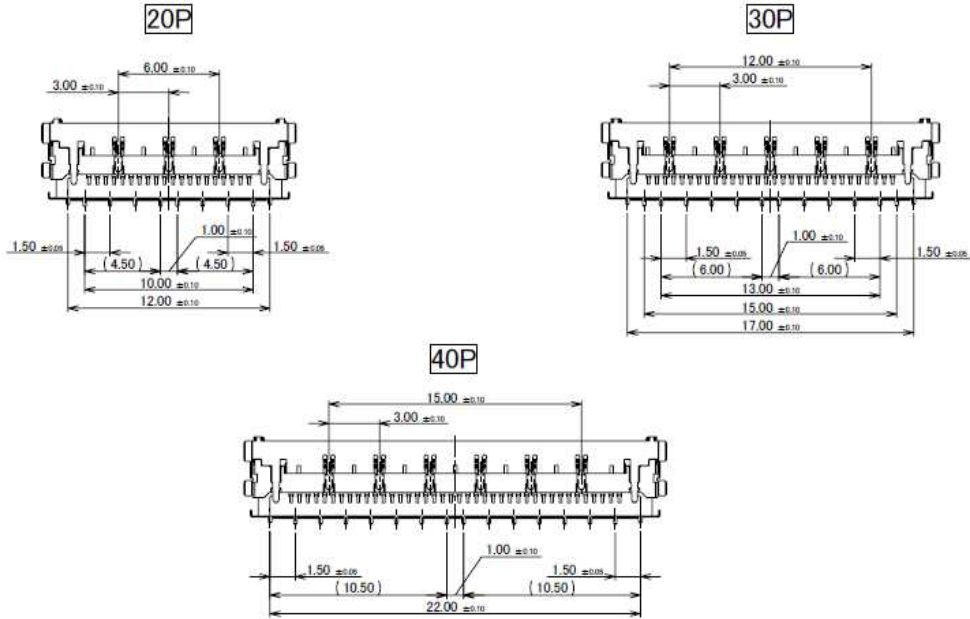
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
3	SHELL	PHOSPHOR BRONZE	SEE TABLE 1
2	CONTACT	PHOSPHOR BRONZE	SEE TABLE 1
1	HOUSING	LCP	UL94V-0, BLACK

Rev.9

Receptacle Assembly

PART NO.	Pos.
20849-020E-0#	20
20849-030E-0#	30
20849-040E-0#	40

BOTTOM VIEW

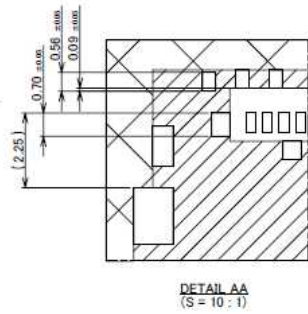
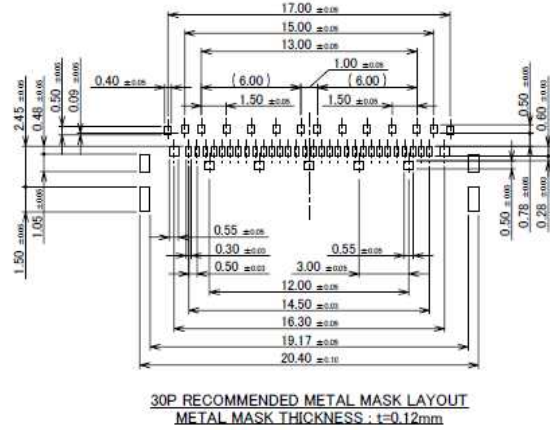
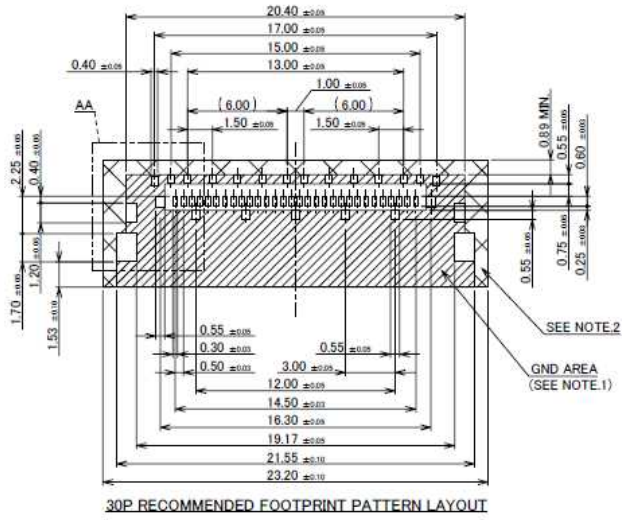


- NOTES:
1. SOLDER RESIST MUST BE APPLIED TO THIS AREA.
2. DO NOT MOUNT ANOTHER COMPONENT IN THIS AREA.

Rev.9

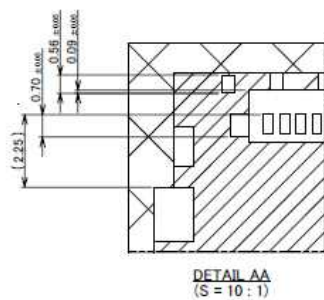
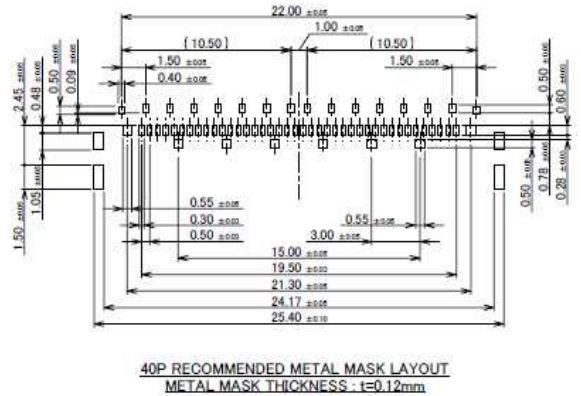
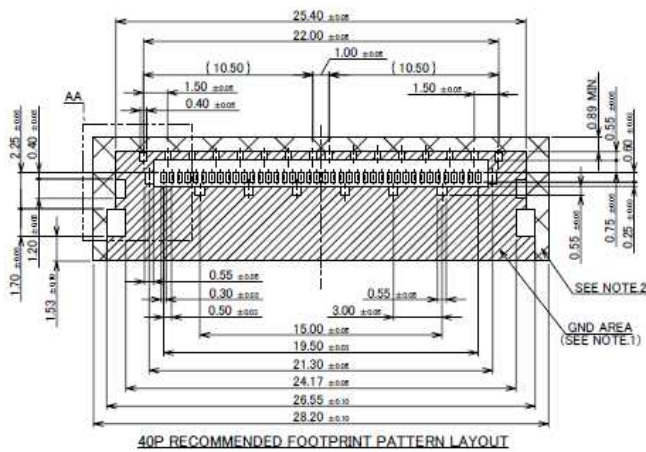
Rev.9

Receptacle Assembly



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

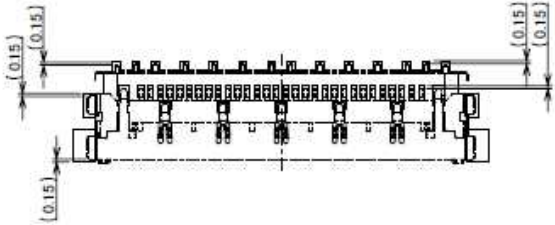
Rev.9



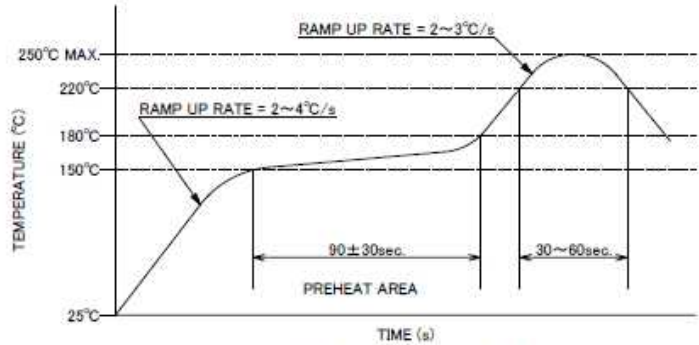
- NOTES
1. SOLDER RESIST MUST BE APPLIED TO THIS AREA.
 2. DO NOT MOUNT ANOTHER COMPONENT IN THIS AREA.

Rev.9

Receptacle Assembly



CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN



REFLOW TEMPERATURE PROFILE
SENJU METAL INDUSTRY CO., LTD. : M706-SHF(Sn96.5 Ag3.0 Cu0.5)

Rev.9

ITEMS	SPECIFICATION
APPLICABLE CABLE	MICRO COAX : AWG# 44 , 42 , 40 , 38 , 36 DISCRETE : AWG# 36 , 34 , 32 TWIN COAX : AWG# 40
RATING VOLTAGE	100V AC (PER CONTACT)
RATING AMPERAGE (FOR CONTACT)	0.1A AC/DC [AWG#44] PER CONTACT/UP TO 40 CONTACTS 0.24A AC/DC [AWG#42] PER CONTACT/UP TO 40 CONTACTS 0.3A AC/DC [AWG#40] PER CONTACT/UP TO 40 CONTACTS 0.5A AC/DC [AWG#38] PER CONTACT/UP TO 23 CONTACTS 0.8A AC/DC [AWG#36] PER CONTACT/UP TO 10 CONTACTS 1.0A AC/DC [AWG#34] FOR POWER PER CONTACT/UP TO 9 CONTACTS 1.0A AC/DC [AWG#32] FOR POWER PER CONTACT/UP TO 9 CONTACTS ※TESTING BY A REAL MACHINE IS RECOMMENDED BECAUSE TEMPERATURE RISE MAY AFFECTED BY ACTUAL SITUATION
OPERATING TEMPERATURE	233~378K(-40°C~+105°C)
OPERATING HUMIDITY	85% MAX.(NON-CONDENSING)
CONTACT RESISTANCE	INITIAL : 140mohm MAX.(AWG#32) / AFTER TEST : $\leq 140\text{mohm}$ MAX. 180mohm MAX.(AWG#34) 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 : $\leq 140\text{mohm}$ MAX.
INSULATION RESISTANCE	INITIAL : 1000mohm MIN. / AFTER TEST : 500mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	30 CYCLES
MATING FORCE (INITIAL / AFTER 30 CYCLES)	20P : 9.70N MAX. 30P : 14.55N MAX. 40P : 19.40N MAX.
UNMATING FORCE (INITIAL / AFTER 30 CYCLES)	20P : 2.00N MIN. 30P : 3.00N MIN. 40P : 4.00N MIN.
CABLE RETENTION FORCE	20P : 9.80N MIN. 30P : 14.70N MIN. 40P : 19.60N MIN.
PRODUCT SPECIFICATION	PRS-2398
TEST REPORT	TR-17060 (20846-0**T-01) / TR-18048 (20846-0**T-02)
INSTRUCTION MANUAL	HIM-17015
ASSEMBLY MANUAL	ASM-17005
APPEARANCE CRITERIA No.	QLS-A***

Rev.10

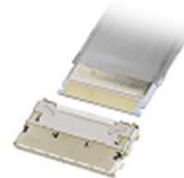
Board to Board



High-Density



Autolocking FPC/FFC



High-Density



FPC/FFC



Micro-Coaxial / Discrete Cable



High-Speed



RF



High-Frequency



Optical Module



High-Speed



Power



High-Power



I/O (Input/Output)



Quick charge



Effector



Custom Connectors Available

Inquiry



I-PEX, MHF, CABLINE, NOVASTACK, EVAFLEX, MINIFLEX, ISH, IARPB, IASLP, ESTORQ, ISFIT, i-Fit and ZenShield are registered trademarks of I-PEX Inc. Please note that the contents in the catalog might be changed without prior notification. I-PEX Inc. assumes no responsibility for any inaccuracies or obligation to update information on these documents. Please be sure to read and understand the latest "Precautions for Use" and "Instruction Manual" before you use our products. We shall not be responsible for any defects, damages or troubles in case you use our products without following the precautions for use. Please feel free to contact our sales representatives when you use our products for any applications that require very high reliability and safety, or that relate to human life (ex. nuclear power control, aerospace, transportation, medical equipment, safety equipment etc.).

Contact your sales representative or more detailed information.

www.i-pex.com



I-PEX

© I-PEX Inc. 2022
All rights reserved.