

# CABLINE® -CA II

Fully-shielded with mechanical lock, high-data-rate transfer (20+ Gbps/lane), 0.4 mm pitch, horizontal mating type micro-coaxial connector



**Product Specifications:**

Mating type	Horizontal	
Board Pitch (mm)	0.4	
Wiping Length (mm)	0.54	
Mated size (mm)	Height	1.1 max. with cover
	Width	Formula: $6.95 + (0.4 * ?p)$
	Depth	6.2
Pin Counts	Range	Up to 60
	Available	20, 30, 40, 50

**Applicable Cable Size:**

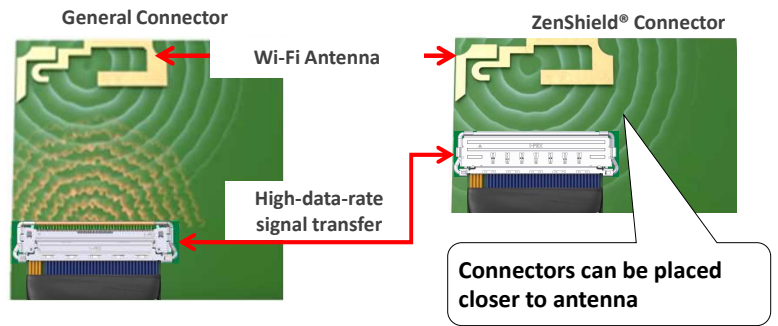
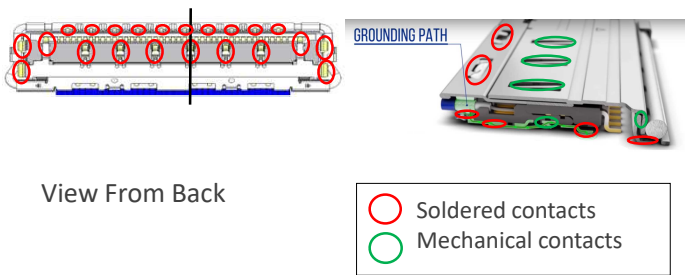
Maximum O.D. (mm)	0.4
Micro-Coaxial for Signal (AWG)	45 ohm: #38 or smaller
	50 ohm: #40 or smaller
Twin Coaxial (AWG)	#40
Discrete (AWG)	#34 or smaller

**Applicable Standards (Reference Only):**

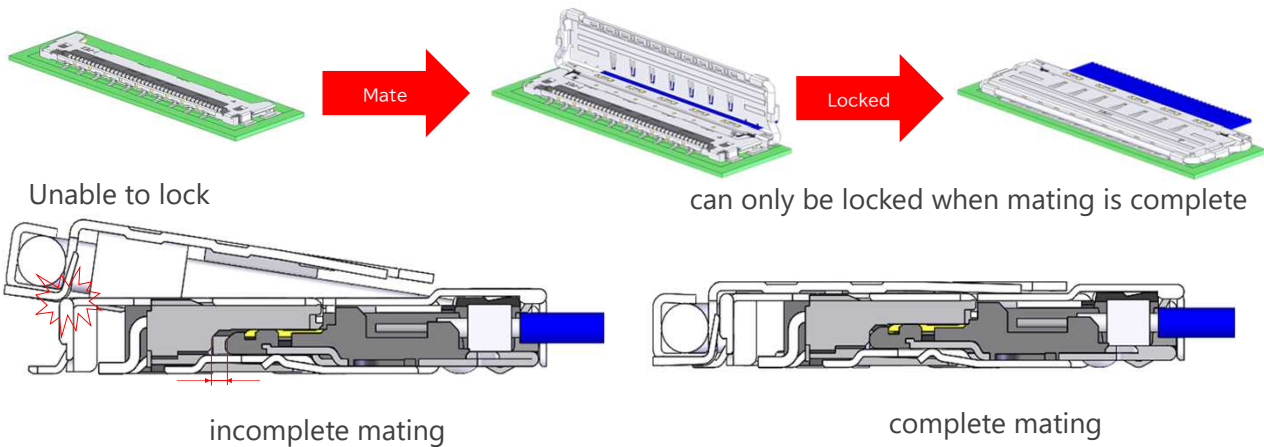
USB4/Thunderbolt 4 (20 Gbps/lane), PCIe Gen 4 (16 GT/s), USB 3.1 Gen 2 (10 Gbps), eDP HBR 3 (8.1 Gbps)

\* Please inquire for pin counts not listed or outside of the pin count range.  
\* 60p is also available with CABLINE®-CA II PLUS (wider space type).

► **ZenShield® fully-shielded with multi-point grounds to prevent EMI leakage**



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

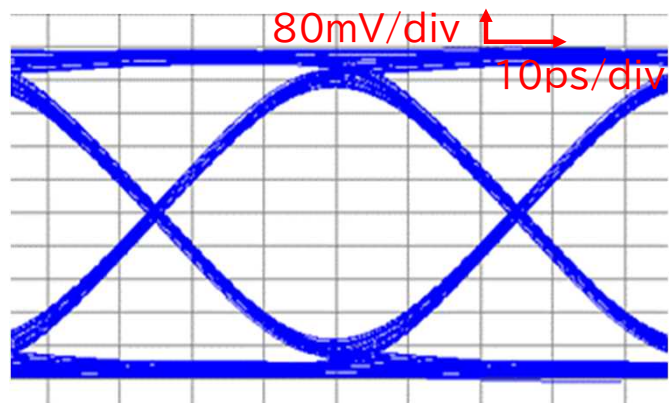


► **High-data-rate transfer, ideal for Thunderbolt 3 (20 Gbps/lane) applications**

Thunderbolt 3 (20 Gbps/lane)

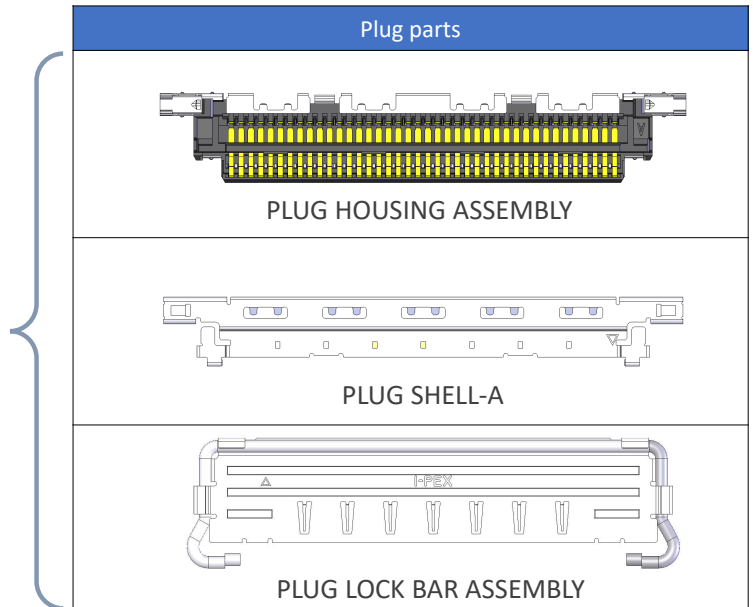
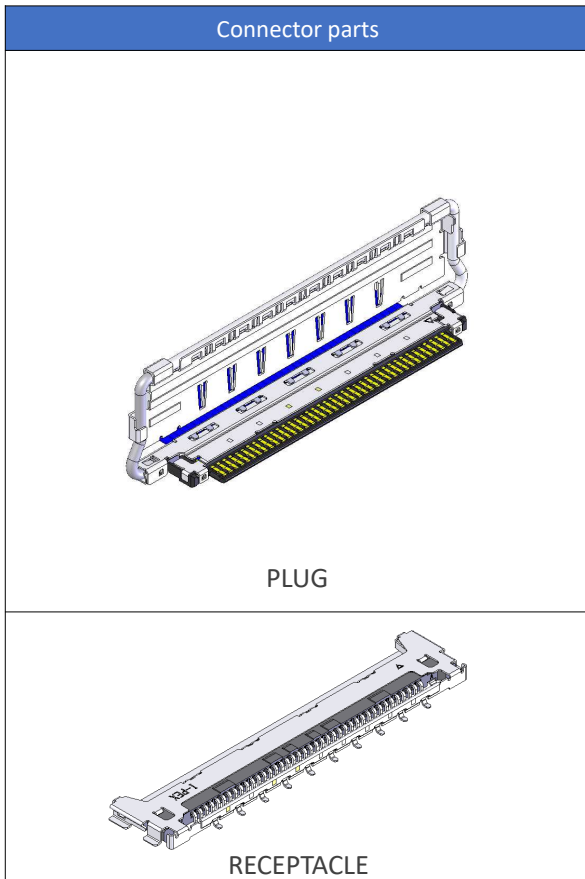
Eye pattern (Differential)  
Bit rate : 20 Gbps  
Rise time : 30ps (10-90%)  
Input voltage : 800mVp-p

\*Please contact I-PEX for more test details



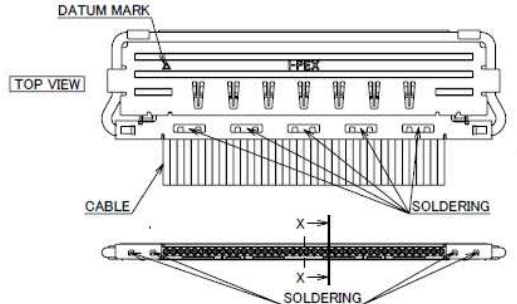
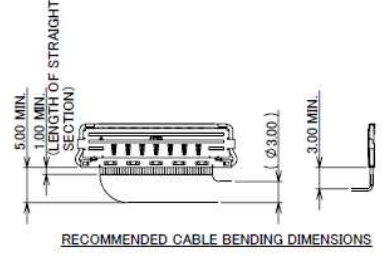
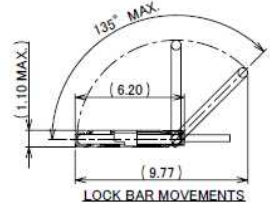
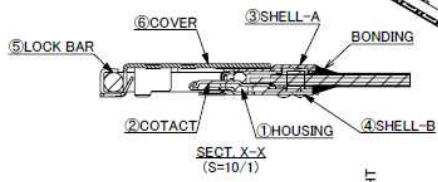
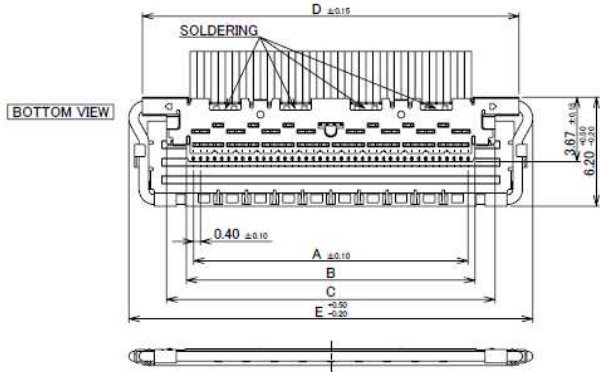
# Component Parts Details

## Component Parts



# Plug for Cable Assembly

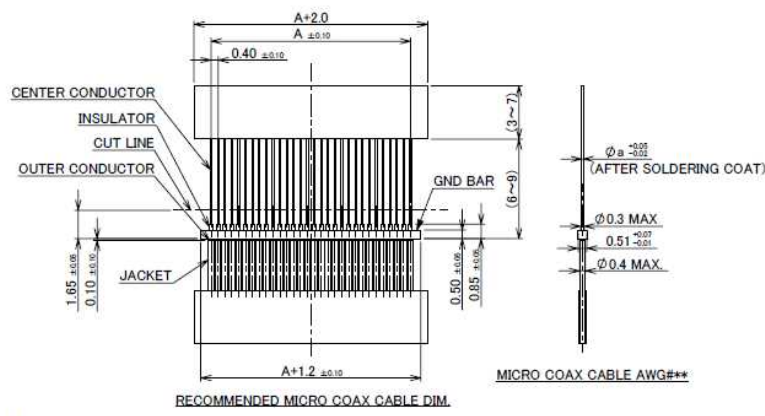
Recommended P/N		20679-0**T-01				
PART NO.	Pos.	A	B	C	D	E
20679-020T-01	20	7.60	8.40	10.66	13.40	14.95
20679-030T-01	30	11.60	12.40	14.66	17.40	18.95
20679-040T-01	40	15.60	16.40	18.66	21.40	22.95
20679-050T-01	50	19.60	20.40	22.66	25.40	26.95



NO.	DISCRPTION	MATERIAL	FINISH , REMARKS
6	COVER	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN.
5	LOCK BAR	SUS	-
4	SHELL-B	PHOSPHOR BRONZE	PARTIAL Au 0.003 μm MIN. OVER Ni 1.00 μm MIN.
3	SHELL-A	PHOSPHOR BRONZE	PARTIAL Au 0.003 μm MIN. OVER Ni 1.00 μm MIN.
2	CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN. CONTACT & SOLDERING AREA : Au 0.03 μm MIN.
1	HOUSING	LCP	UL94V-0 BLACK

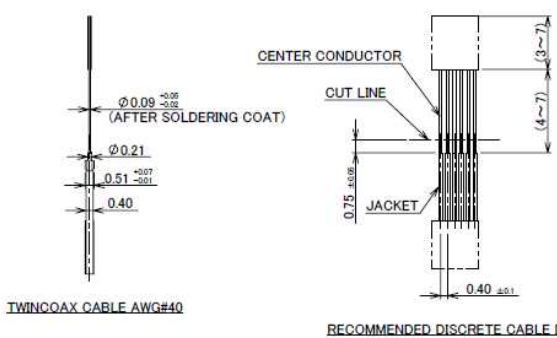
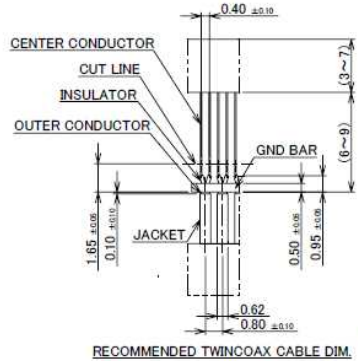
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PART NO.	Pos.	A
20679-020T-01	20	7.60
20679-030T-01	30	11.60
20679-040T-01	40	15.60
20679-050T-01	50	19.60



MICRO COAX CABLE DIMENSION

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



DISCRETE CABLE DIMENSION

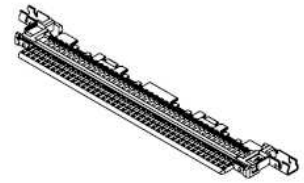
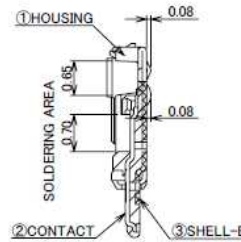
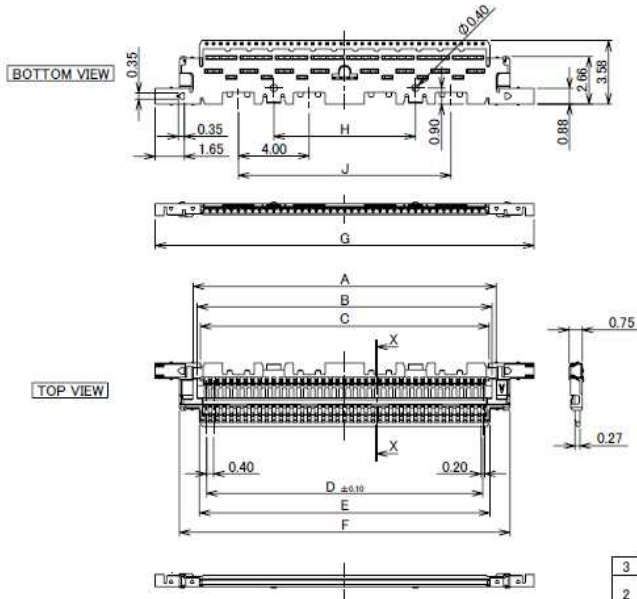
AWG	b
#34	0.192
#36	0.15

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# Plug Housing Assembly

Recommended P/N 20680-0\*\*T-01

PART NO.	Pos.	A	B	C	D	E	F	G	H	J
20680-020T-01	20	9.10	8.65	8.30	7.60	8.40	10.66	13.40	-	5.00
20680-030T-01	30	13.10	12.65	12.30	11.60	12.40	14.66	17.40	4.00	8.00
20680-040T-01	40	17.10	16.65	16.30	15.60	16.40	18.66	21.40	8.00	12.00
20680-050T-01	50	21.10	20.65	20.30	19.60	20.40	22.66	25.40	12.00	16.00
20680-060T-01	60	25.10	24.65	24.30	23.60	24.40	26.66	29.40	16.00	20.00



- NOTES:
- THIS PART IS ASSEMBLED WITH SHELL A(P/N 3204-0\*\*1) AND LOCK BAR ASS'Y(P/N 20681-0\*\*T-01) AFTER SOLDERED THE CABLE, AND IT BECOMES P/N 20679-0\*\*T-01
  - THIS PART IS ASSEMBLED WITH SHELL A(P/N 3204-0\*\*1) AND LOCK BAR ASS'Y(P/N 20789-0\*\*T-01) AFTER SOLDERED THE CABLE, AND IT BECOMES P/N 20788-0\*\*T-01

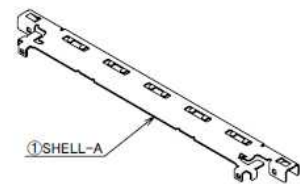
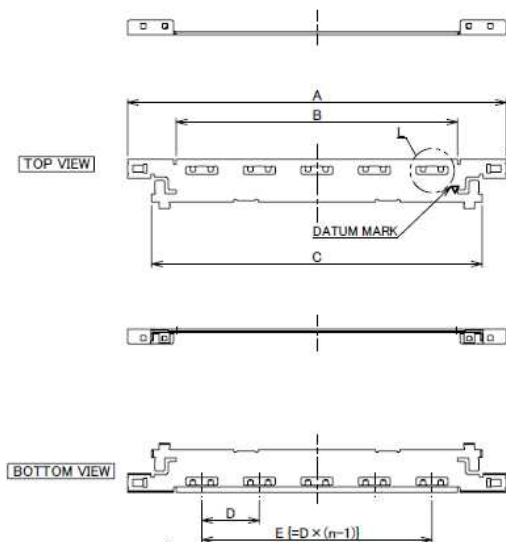
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
3	SHELL-B	PHOSPHOR BRONZE	PARTIAL Au 0.003 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN.
2	CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 $\mu$ m MIN. CONTACT & SOLDERING AREA : Au 0.03 $\mu$ m MIN.
1	HOUSING	LCP	UL94V-0 BLACK

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# Plug Shell-A

Recommended P/N 3204-0\*\*1

PART NO.	Pos.	A	B	C	D	E
3204-0201	20	13.40	7.88	10.66	2.50	5.00
3204-0301	30	17.40	11.88	14.66	3.00	9.00
3204-0401	40	21.40	15.88	18.66	3.25	13.00
3204-0501	50	25.40	19.88	22.66	3.40	17.00
3204-0601	60	29.40	23.88	26.66	4.00	20.00

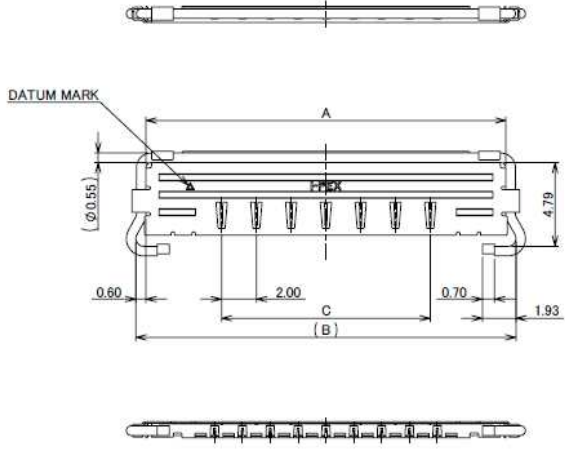
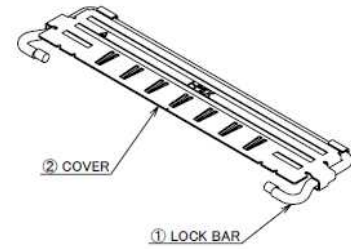


NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
1	SHELL-A	PHOSPHOR BRONZE	PARTIAL Au 0.003 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN.

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# Lock Bar Assembly

Recommended P/N		20681-0**T-01		
PART NO.	Pos.	A	B	C
20681-020T-01	20	12.65	13.85	4.00
20681-030T-01	30	16.65	17.85	8.00
20681-040T-01	40	20.65	21.85	12.00
20681-050T-01	50	24.65	25.85	16.00



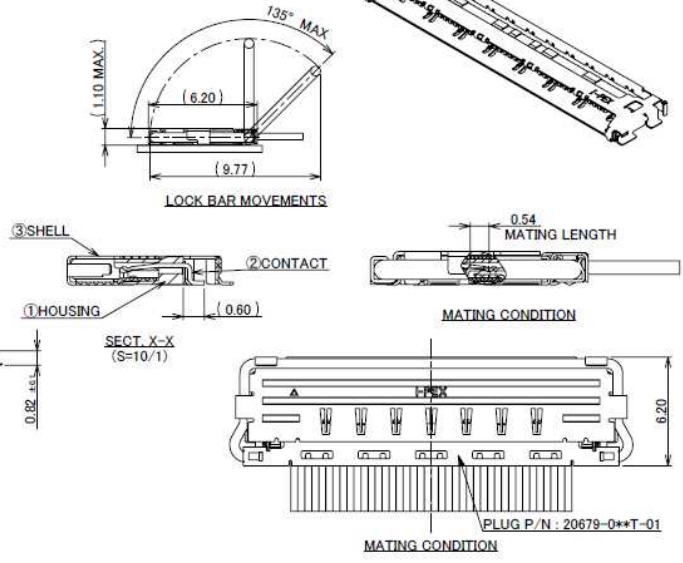
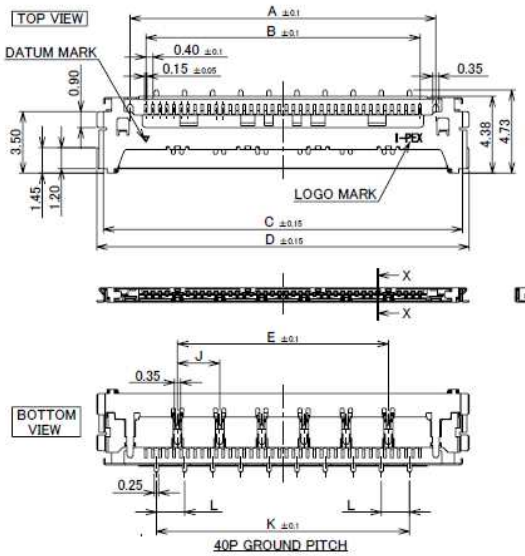
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
2	COVER	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN.
1	LOCK BAR	SUS φ0.55	-

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# Receptacle Assembly

Recommended P/N		20682-0**E-02							
PART NO.	Pos.	A	B	C	D	E	J	K	L
20682-020E-02	20	9.40	7.60	12.43	13.20	4.80	2.40	5.60	2.00
20682-030E-02	30	13.40	11.60	16.43	17.20	9.60	2.40	12.00	1.60
20682-040E-02	40	17.40	15.60	20.43	21.20	12.00	2.40	14.40	1.60
20682-050E-02	50	21.40	19.60	24.43	25.20	16.80	2.80	18.40	1.60

P/N : 20682-0\*\*E-02  
Pos.

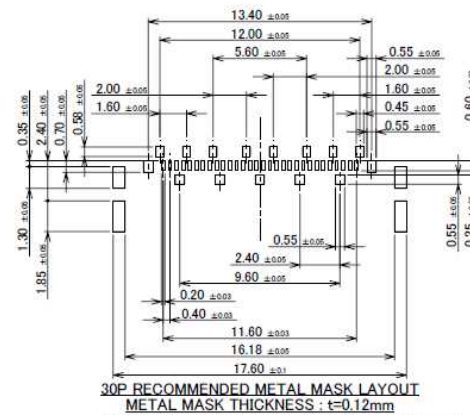
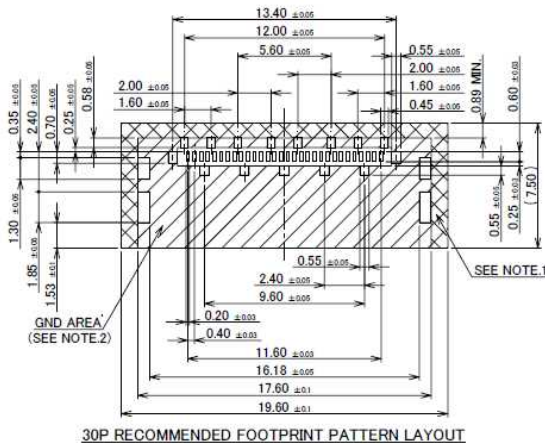
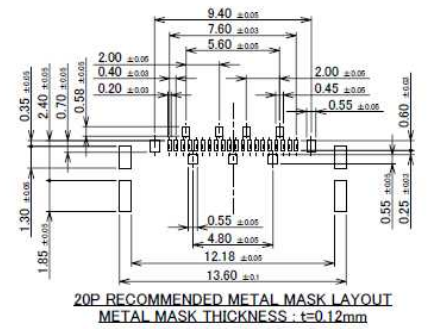
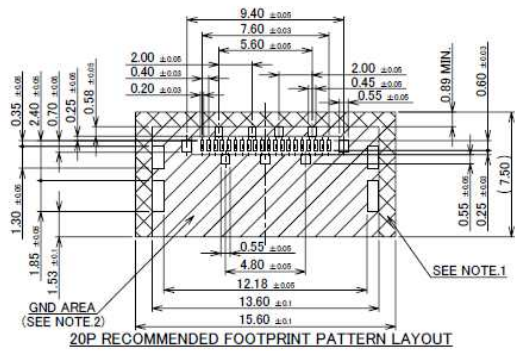
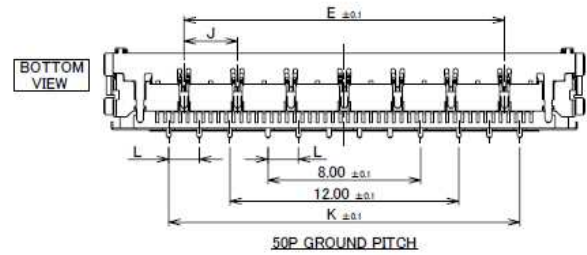
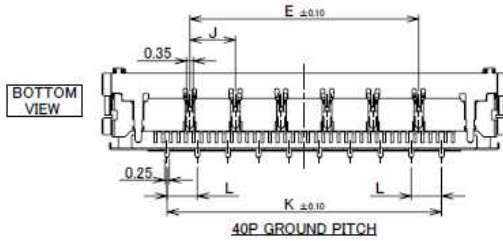
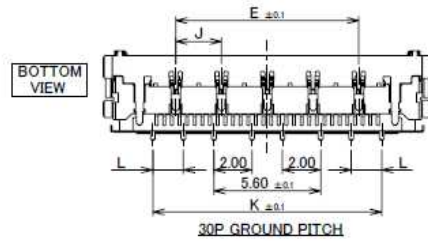
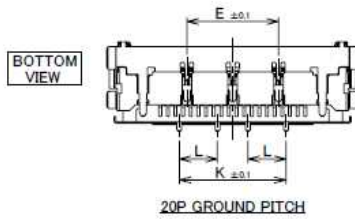


NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
3	SHELL	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN. SOLDERING AREA : Au 0.03 μm MIN.
2	CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN. CONTACT & SOLDERING AREA : Au 0.03 μm MIN.
1	HOUSING	LCP	UL94V-0 BLACK

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# Receptacle Assembly

PART NO.	Pos.	E	J	K	L
20682-020E-02	20	4.80	2.40	5.60	2.00
20682-030E-02	30	9.60	2.40	12.00	1.60
20682-040E-02	40	12.00	2.40	14.40	1.60
20682-050E-02	50	16.80	2.80	18.40	1.60

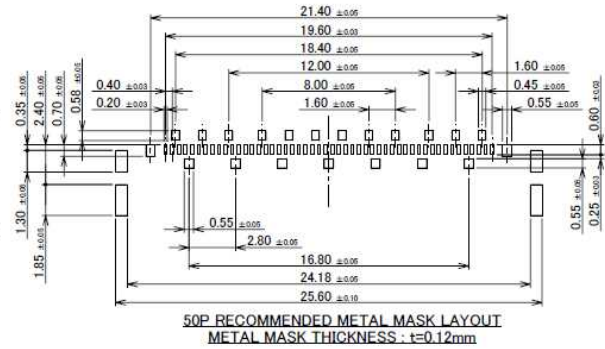
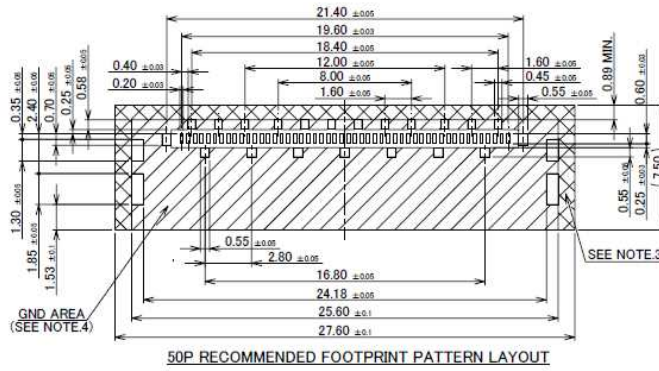
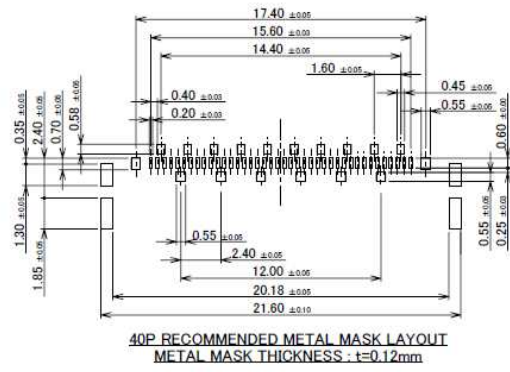
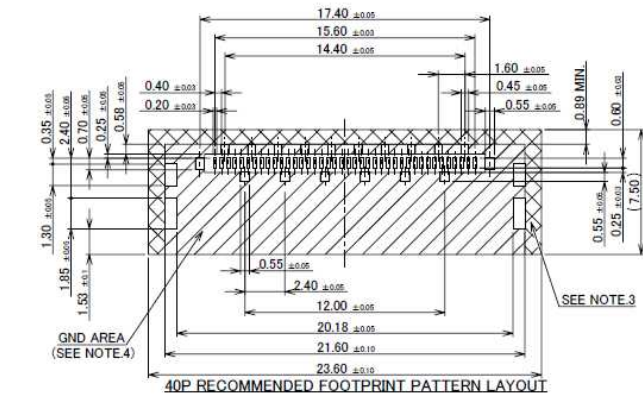


- NOTES:  
 1. THIS AREA CANNOT MOUNT ANOTHER COMPONENTS.  
 2. SOLDER RESIST SHALL BE APPLIED TO PREVENT SHORT CIRCUITS WHEN PLACING SIGNAL LINES ON GROUND AREA.

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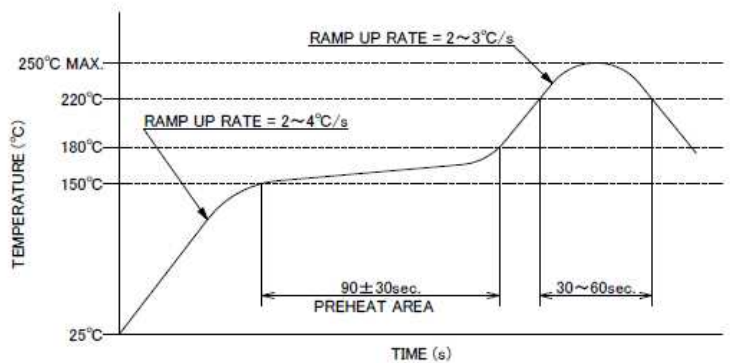
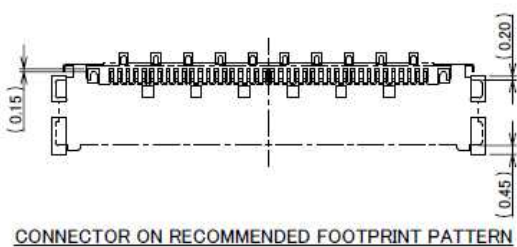
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# Receptacle Assembly



- NOTES.  
 3. THIS AREA CANNOT MOUNT ANOTHER COMPONENTS.  
 4. SOLDER RESIST SHALL BE APPLIED TO PREVENT SHORT CIRCUITS WHEN PLACING SIGNAL LINES ON GROUND AREA.

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ITEMS	SPECIFICATION
APPLICABLE CABLE	MICRO COAX : AWG# 44 , 42 , 40 , 38 , 36 DISCRETE : AWG# 36 , 34 TWINCOAX : AWG# 40
RATING VOLTAGE	100V AC (PER CONTACT)
RATING AMPERAGE (FOR CONTACT)	0.1A AC/DC [AWG#44] PER CONTACT/UP TO 50 CONTACTS 0.24A AC/DC [AWG#42] PER CONTACT/UP TO 50 CONTACTS 0.3A AC/DC [AWG#40] PER CONTACT/UP TO 50 CONTACTS 0.5A AC/DC [AWG#38] PER CONTACT/UP TO 18 CONTACTS 0.8A AC/DC [AWG#36] PER CONTACT/UP TO 6 CONTACTS 1.0A AC/DC [AWG#34] PER CONTACT/UP TO 6 CONTACTS ※TESTING BY A REAL MACHINE IS RECOMMENDED BECAUSE TEMPURTURE RISE MAY AFFECTED BY ACTUAL SITUATION.
OPERATING TEMPERATURE	233~378K(-40℃~105℃)
OPERATING HUMIDITY	85% MAX.(NON-CONDENDING)
CONTACT RESISTANCE	INITIAL : 180mohm MAX.(AWG#34) / AFTER TEST : <math>\triangleleft</math>40mohm MAX. 275mohm MAX.(AWG#38) 360mohm MAX.(AWG#38) 600mohm MAX.(AWG#40) 700mohm MAX.(AWG#42) 1080mohm MAX.(AWG#44)
GROUND SHELL RESISTANCE	INITIAL : 50mohm MAX. / AFTER TEST : <math>\triangleleft</math>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)	20P : 9.70N MAX. 30P : 14.55N MAX. 40P : 19.40N MAX. 50P : 24.25N MAX.
UN-MATING FORCE (INITIAL / AFTER 30 CYCLES)	20P : 2.0N MIN. 30P : 3.0N MIN. 40P : 4.0N MIN. 50P : 5.0N MIN.
CABLE RETENTION FORCE	20P : 9.70N MIN. 30P : 14.55N MIN. 40P : 19.40N MIN. 50P : 24.25N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-2163
TEST REPORT	TR-15103
INSTRUCTION MANUAL	HIM-15033
PACKING STANDARD	PST-15027
APPEARANCE CRITERIA No.	QLS-A***

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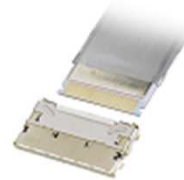
Board to Board



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



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Contact your sales representative or more detailed information.

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