

# 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



- ✓ 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

Pin counts:

Range	Up to 60
Available	20, 30, 40, 50

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

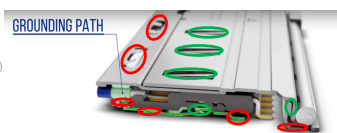
\*60p is also available with CABLINE® -CA II PLUS (wider space type).

Mating type		Horizontal
Wire (FPC) pitch (mm)		0.4
Board pitch (mm)		0.4
Mated size (mm)	Height	1.1 max. with cover
	Width	6.95 + (0.4*?p)
	Depth	6.20
Wiping length (mm)		0.54
Applicable wire (AWG#)	Micro-coax for signals	45Ω : #38 or smaller 50Ω : #40 or smaller
	Twincoax	#40
	Discrete	#34 or smaller
Contact point		Top
Performance (Reference only)		Thunderbolt 3 (20 Gbps/lane) PCIe Gen 4 (16 GT/s) USB 3.1 Gen 2 (10 Gbps) eDP HBR 3 (8.1 Gbps)

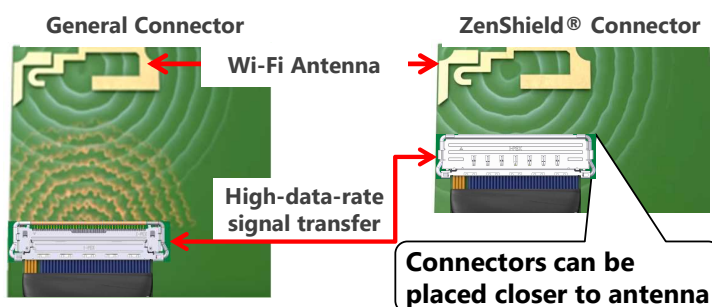
## ZenShield® fully-shielded with multi-point grounds to prevent EMI leakage



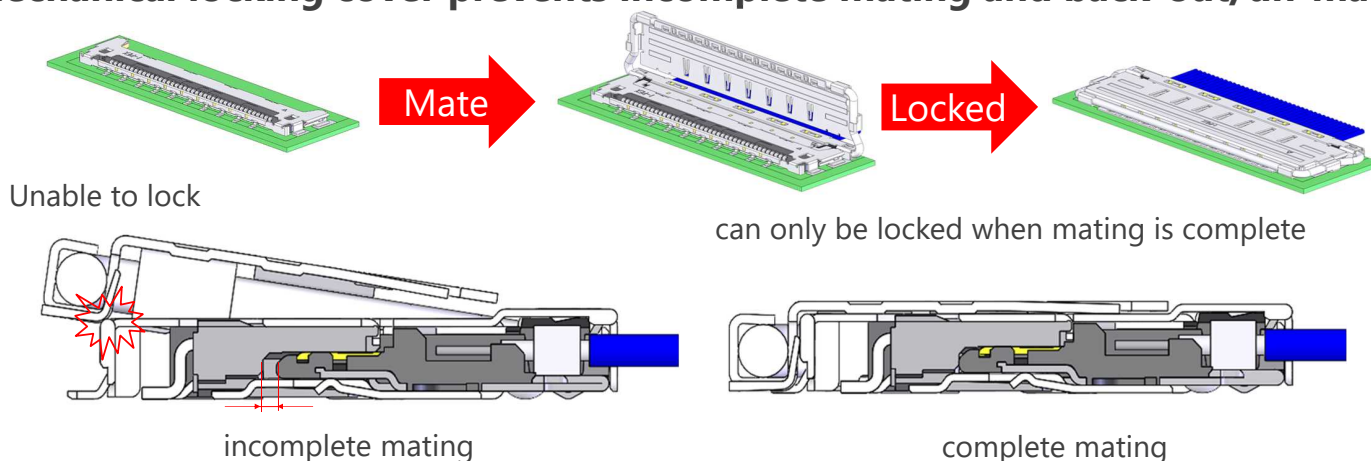
View From Back



- Soldered contacts
- Mechanical contacts



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



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

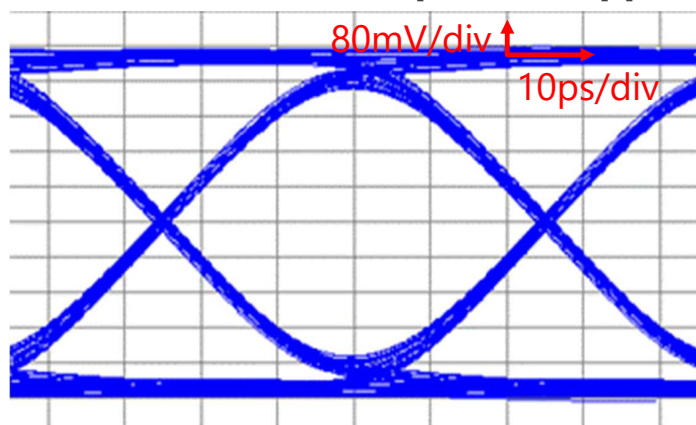
Thunderbolt 3 (20 Gbps/lane)

Eye pattern (Differential)

Bit rate : 20 Gbps

Rise time : 30ps (10-90%)

Input voltage : 800mVp-p



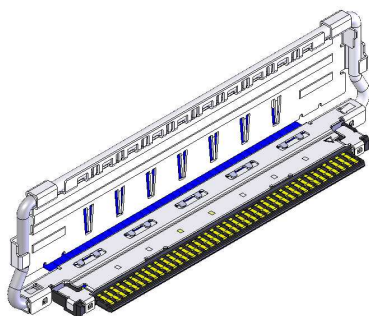
\*Please contact I-PEX for more test details.

# CABLINE<sup>®</sup>-CA II

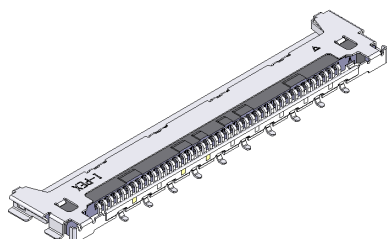
## Component Parts Detail

### Component Parts:

#### Connector parts

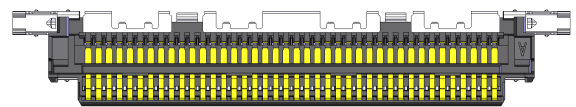


PLUG

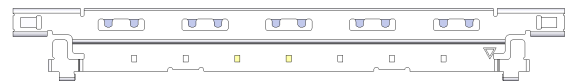


RECEPTACLE

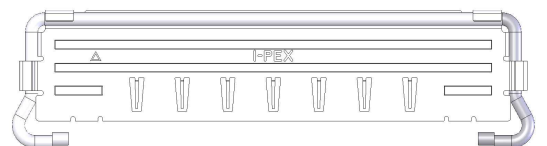
#### Plug parts



PLUG HOUSING ASSEMBLY



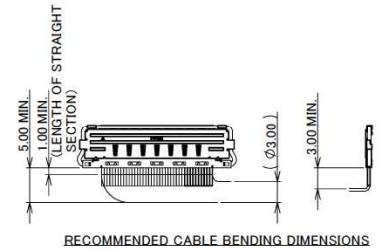
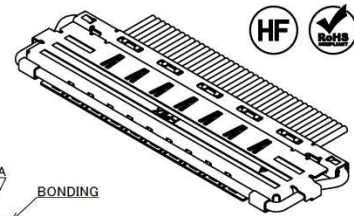
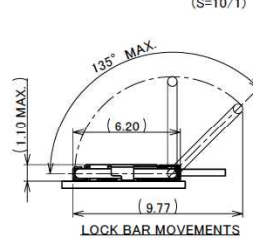
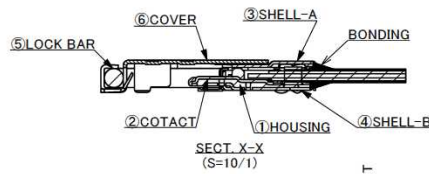
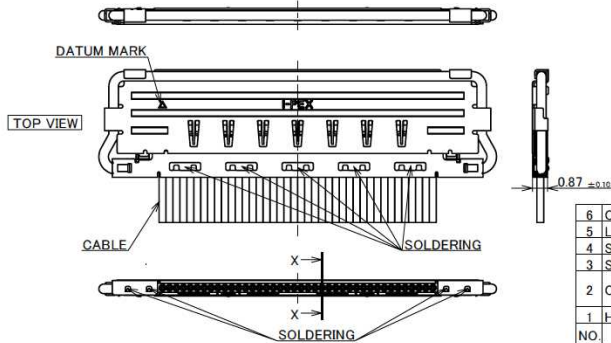
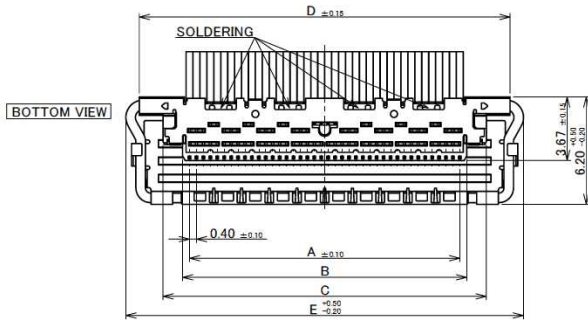
PLUG SHELL-A



PLUG LOCK BAR ASSEMBLY

# Plug for Cable Assembly :

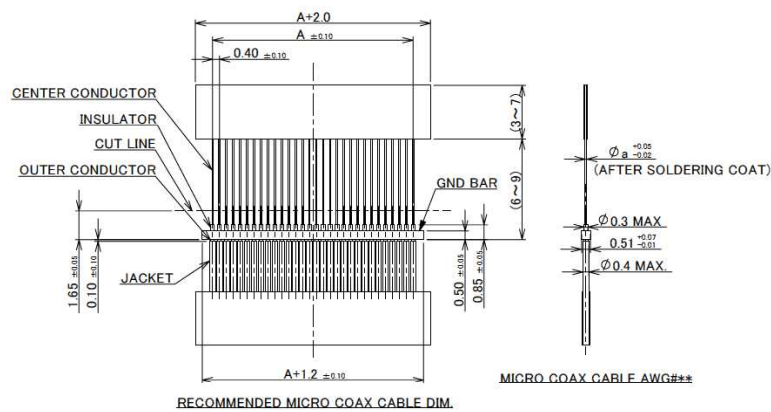
Recommended P/N		20679-0**T-01				
PART NO.	Pos.	A	B	C	D	E
20679-020T-01	20	7.60	8.40	10.66	13.40	14.95
20679-030T-01	30	11.60	12.40	14.66	17.40	18.95
20679-040T-01	40	15.60	16.40	18.66	21.40	22.95
20679-050T-01	50	19.60	20.40	22.66	25.40	26.95



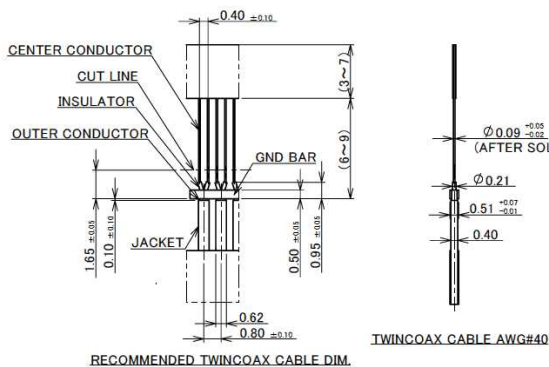
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
6	COVER	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN.
5	LOCK BAR	SUS	-
4	SHELL-B	PHOSPHOR BRONZE	PARTIAL Au 0.003 μm MIN. OVER Ni 1.00 μm MIN.
3	SHELL-A	PHOSPHOR BRONZE	PARTIAL Au 0.003 μm MIN. OVER Ni 1.00 μm MIN.
2	CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN.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

Rev.6

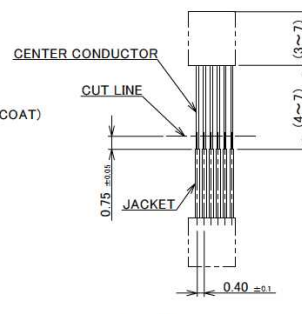
PART NO.	Pos.	A
20679-020T-01	20	7.60
20679-030T-01	30	11.60
20679-040T-01	40	15.60
20679-050T-01	50	19.60



MICRO COAX CABLE DIMENSION	
	a
#36	0.15
#38	0.12
#40	0.09
#42	0.075
#44	0.063



TWINCOAX CABLE AWG#40



RECOMMENDED DISCRETE CABLE DIM.

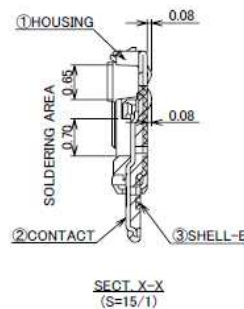
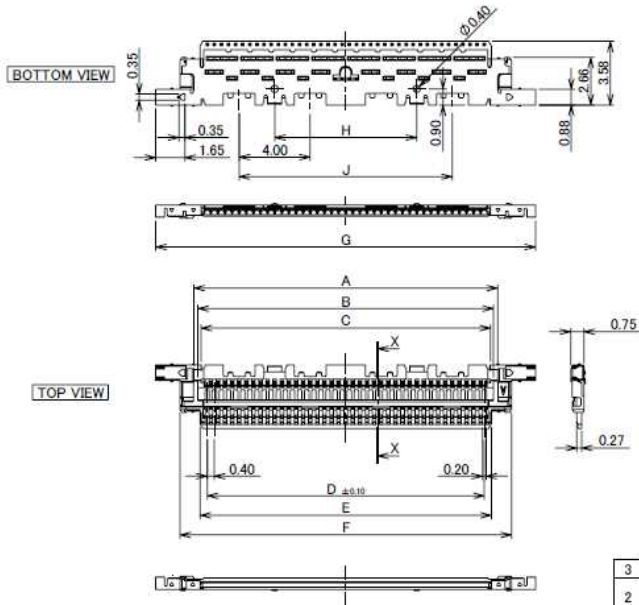
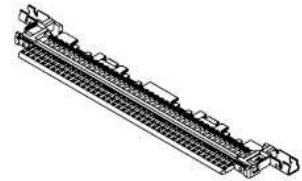
DISCRETE CABLE DIMENSION	
	b
#34	0.192
#36	0.15

Rev.6

# 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.
1. THIS PART IS ASSEMBLED WITH SHELL A(P/N 3204-0\*\*1) AND LOCK BAR ASSY(P/N 20681-0\*\*T-01) AFTER SOLDERED THE CABLE, AND IT BECOMES P/N 20679-0\*\*T-01
  2. THIS PART IS ASSEMBLED WITH SHELL A(P/N 3204-0\*\*1) AND LOCK BAR ASSY(P/N 20789-0\*\*T-01) AFTER SOLDERED THE CABLE, AND IT BECOMES P/N 20788-0\*\*T-01

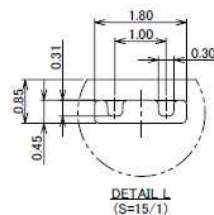
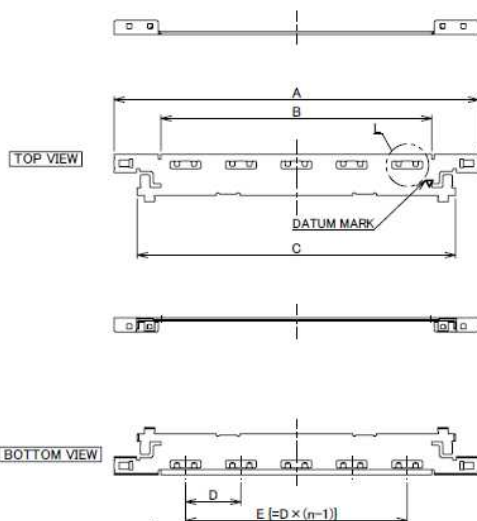
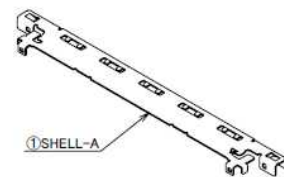
3	SHELL-B	PHOSPHOR BRONZE	PARTIAL Au 0.003 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN.
2	CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 $\mu$ m MIN. CONTACT & SOLDERING AREA : Au 0.03 $\mu$ m MIN.
1	HOUSING	LCP	UL94V-0 ,BLACK
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

Rev.7

# 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



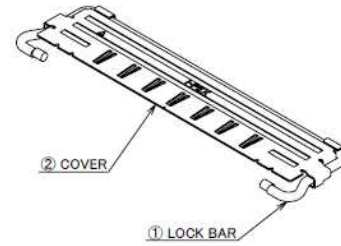
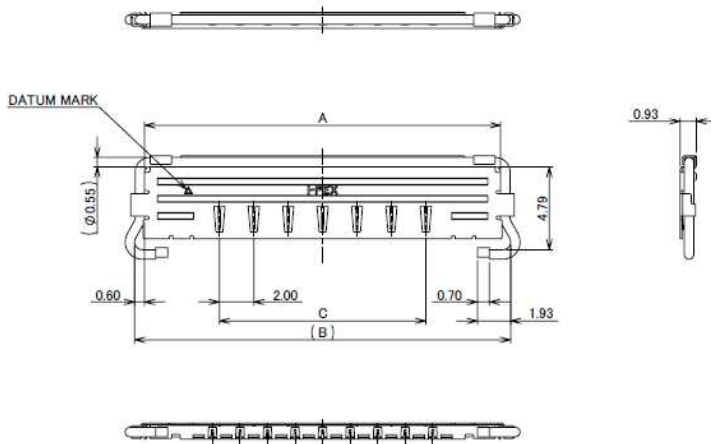
1	SHELL-A	PHOSPHOR BRONZE	PARTIAL Au 0.003 $\mu$ m MIN. OVER Ni 1.00 $\mu$ m MIN.
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

Rev.7



## 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	



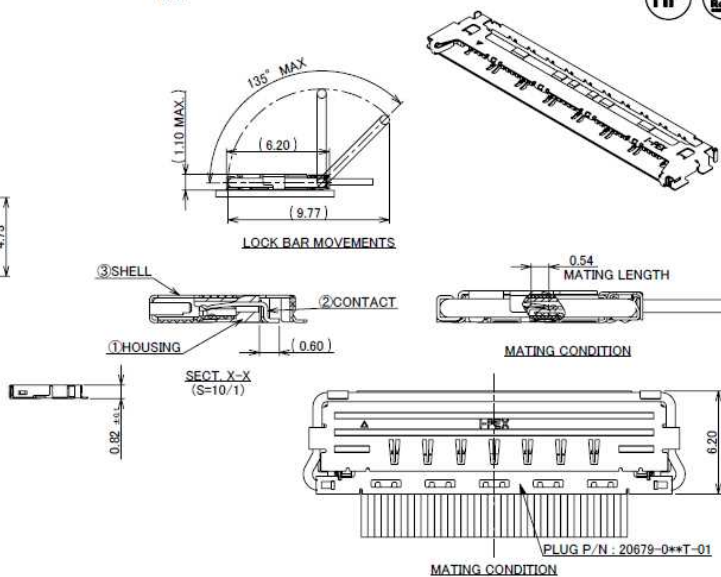
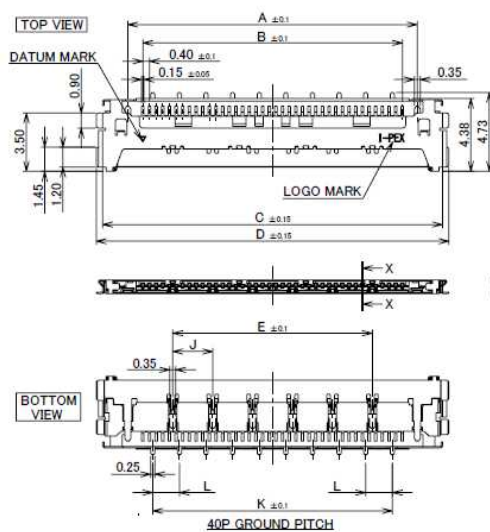
2	COVER	PHOSPHOR BRONZE	ALL OVER Ni 1.00 $\mu$ m MIN.
1	LOCK BAR	SUS $\phi$ 0.55	-
NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS

Rev.5

## 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

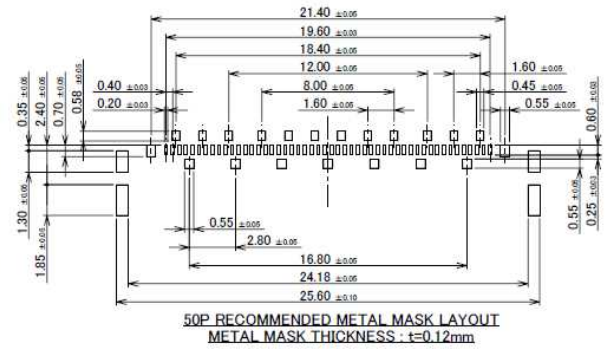
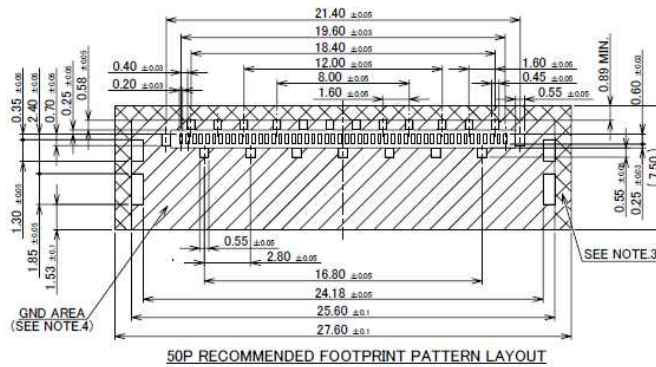
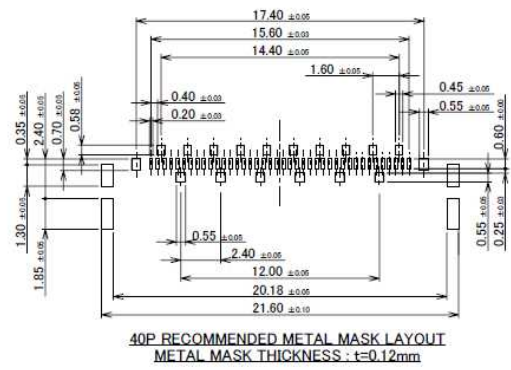
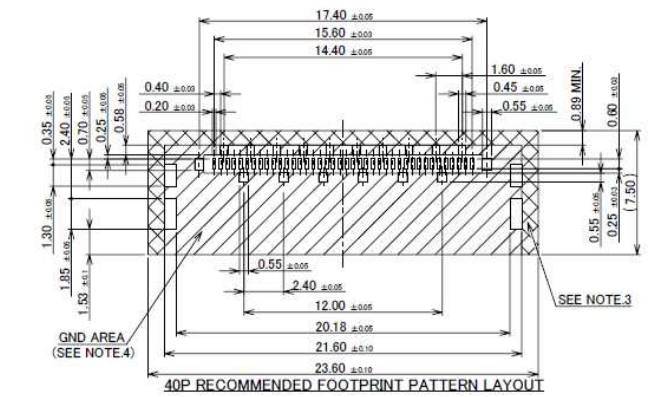
P/N : 20682-0\*\*E-02  
Pos.



3	SHELL	PHOSPHOR BRONZE	ALL OVER Ni 1.00 $\mu$ m MIN. SOLDERING AREA : Au 0.03 $\mu$ 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
NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS

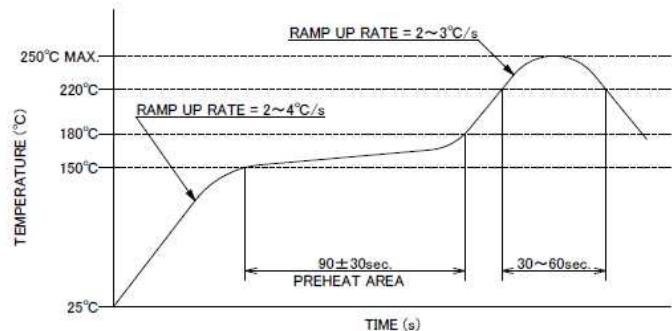
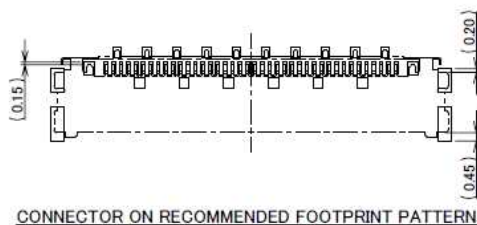
Rev.10





- 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.

Rev.10



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

Rev.10

ITEMS	SPECIFICATION
APPLICABLE CABLE	MICRO COAX : AWG# 44 , 42 , 40 , 38 , 36 DISCRETE : AWG# 38 , 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 TEMPERATURE RISE MAY AFFECTED BY ACTUAL SITUATION.
OPERATING TEMPERATURE	233~358K(-40℃~85℃)
OPERATING HUMIDITY	85% MAX.(NON-CONDENSING)
CONTACT RESISTANCE	INITIAL : 180mohm MAX.(AWG#34) / AFTER TEST : <140mohm 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 : <140mohm 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***

Rev.10



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