

FPL II

Max power delivery (AWG #32), eDP HBR2 (5.4 Gbps/lane),
Durable to noise, 0.5 mm pitch, Vertical mating type micro-coaxial connector

Product Specifications:

Mating type		Right angle vertical
Board Pitch (mm)		0.5
Wiping Length (mm)		0.51
Mated size (mm)	Height	2.2 +/- 0.2
	Width	Formula: 5.8 + (0.5*?p)
	Depth	6.1
Pin Counts	Range	Up to 50
	Available	30, 40, 50

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

Applicable Cable Size:

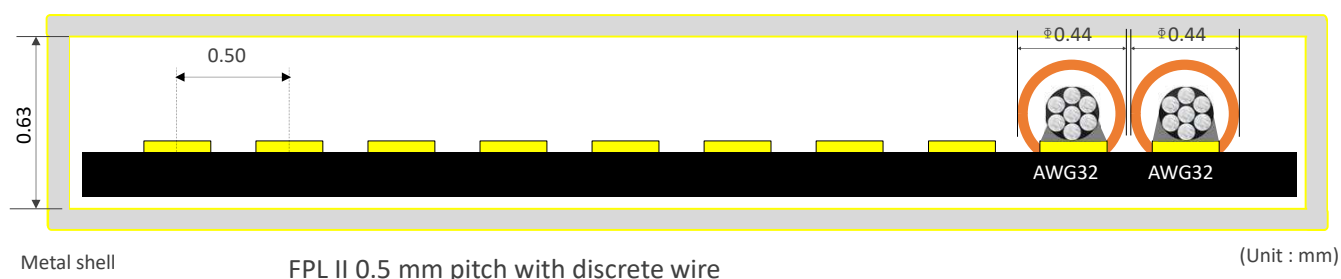
Maximum O.D. (mm)	0.5
Micro-Coaxial for Signal (AWG)	45 ohm: #36 or smaller
	50 ohm: #38 or smaller
Twinax (AWG)	#40
Discrete (AWG)	#32 or smaller

Applicable Standards (Reference Only):

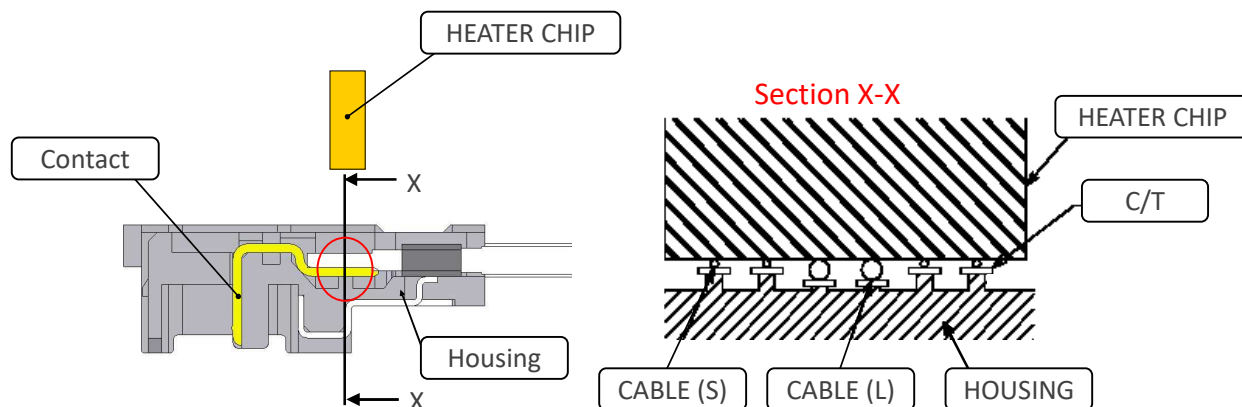
eDP HBR 2 (5.4 Gbps), USB 3.1 Gen 1 (5 Gbps)



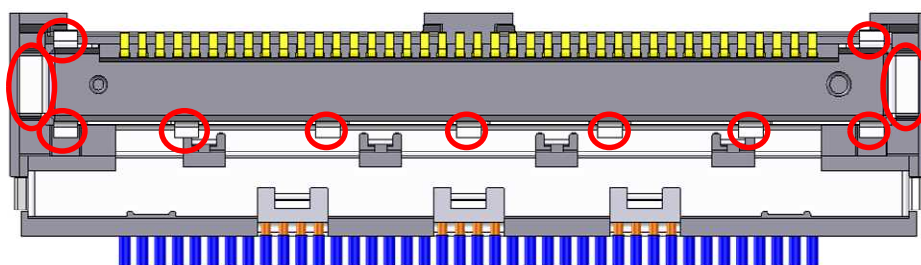
Maximum power delivery (AWG #32)



Simultaneous soldering of different size cables for micro-coaxial and discrete wire



Several ground points durable to noise

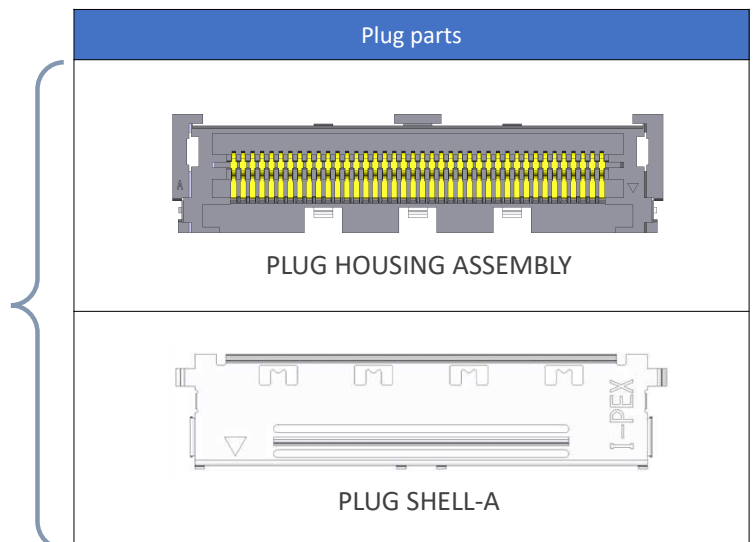
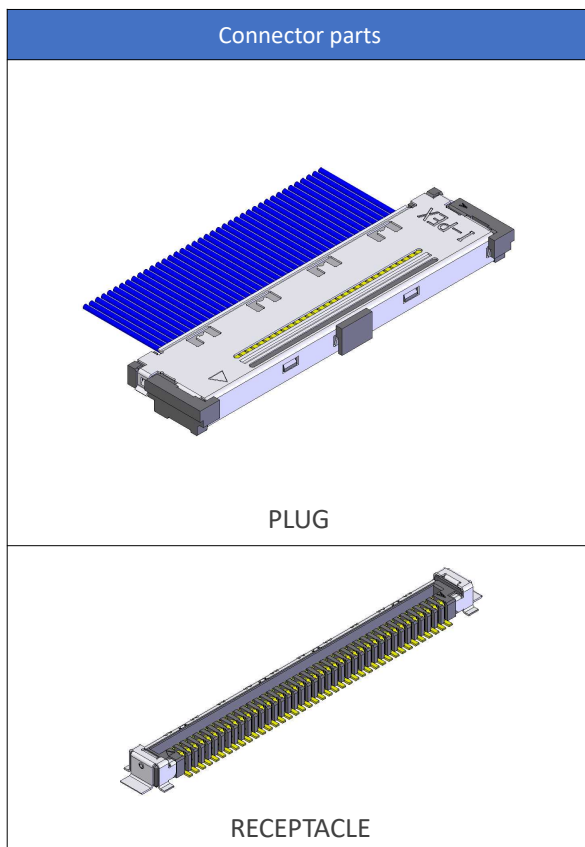


View from back FPL II 30P

○ Ground position

Component Parts Details

Component Parts



Plug for Cable Assembly

Recommended P/N 20437-0**T-01

PART No.	POS.	A	B	C
20437-030T-1	30	14.50	10.50	20.80
20437-040T-1	40	19.50	15.50	25.80
20437-050T-1	50	24.50	20.50	30.80

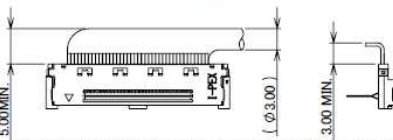
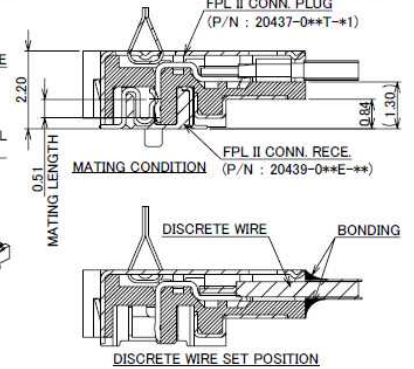
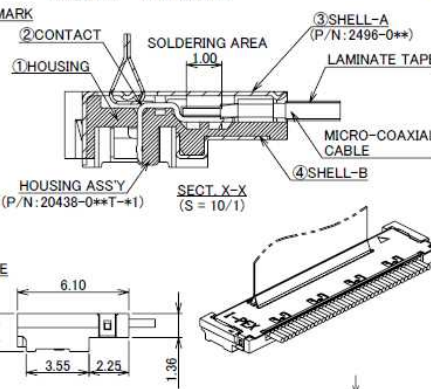
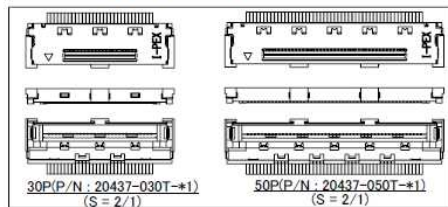
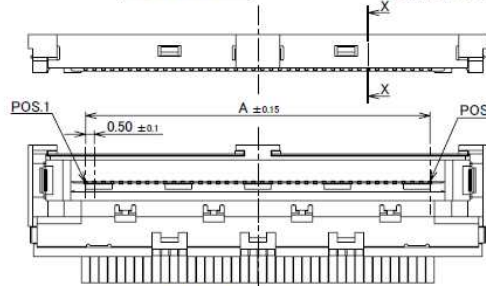
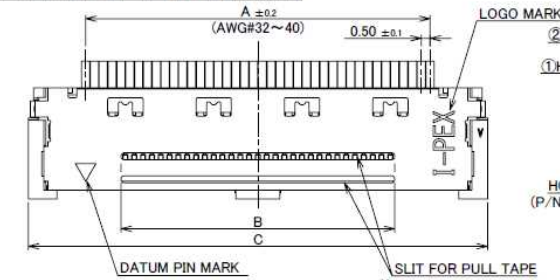


Halogen Free



RoHS Compliant

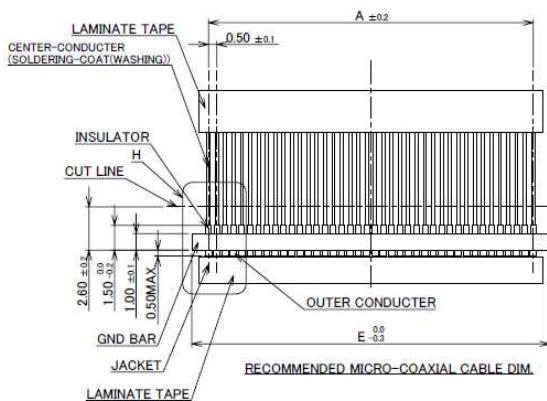
CABLE ASSY PART No.	HOUSING ASSY PART No.	SHELL-A PART No.	CONTACT FINISH (MATING AREA)
20437-0**T-01	20438-0**T-01	2496-0**	Au 0.10 μm MIN.
20437-0**T-11	20438-0**T-11	2496-0**	Au 0.30 μm MIN.



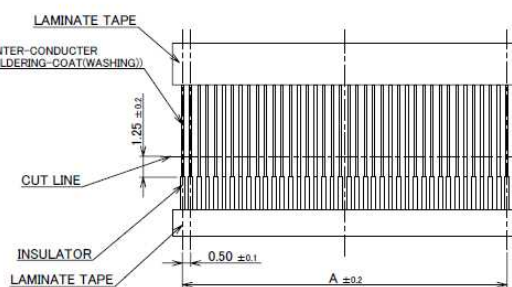
RECOMMENDED DIMENSION WHEN THE CABLE IS BENT

NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS
4	SHELL-B	PHOSPHOR BRONZE	Sn 2.00 μm MIN. OVER Ni 1.00 μm MIN.
3	SHELL-A	PHOSPHOR BRONZE	Sn 2.00 μm MIN. OVER Ni 1.00 μm MIN.
2	CONTACT	PHOSPHOR BRONZE	PART NO. 20437-0**T-01 MATING AREA : Au 0.10 μm MIN. OVER Ni 1.00 μm MIN. OTHER AREA : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN. PART NO. 20437-0**T-11 MATING AREA : Au 0.30 μm MIN. OVER Ni 1.00 μm MIN. OTHER AREA : Au 0.05 μm MIN. OVER Ni 1.00 μm MIN.
1	HOUSING	LCP	UL94V-0, BLACK

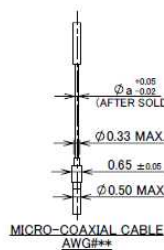
Rev.17



RECOMMENDED MICRO-COAXIAL CABLE DIM.



RECOMMENDED DISCRETE WIRE DIM.



MICRO-COAXIAL CABLE AWG#**

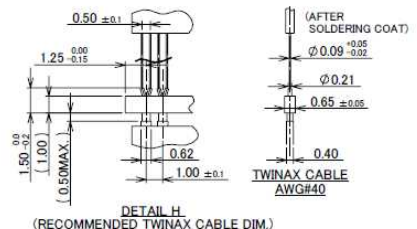
CHARACTERISTIC IMPEDANCE MATCHING MICRO-COAXIAL CABLE

	a
#36	0.15
#38	0.12
#40	0.09

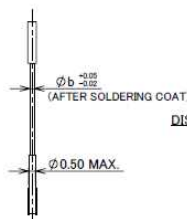
CHARACTERISTIC IMPEDANCE UN-MATCHING MICRO-COAXIAL CABLE

	a
#32	0.24
#34	0.192

MICRO-COAXIAL CABLE #32, 34 : NOT RECOMMENDED FOR HIGH SPEED SIGNAL TRANSFER



DETAIL H (RECOMMENDED TWINAX CABLE DIM.)



DISCRETE WIRE AWG#**

DISCRETE WIRE DIMENSION

	b
#32	0.24
#34	0.192
#36	0.15

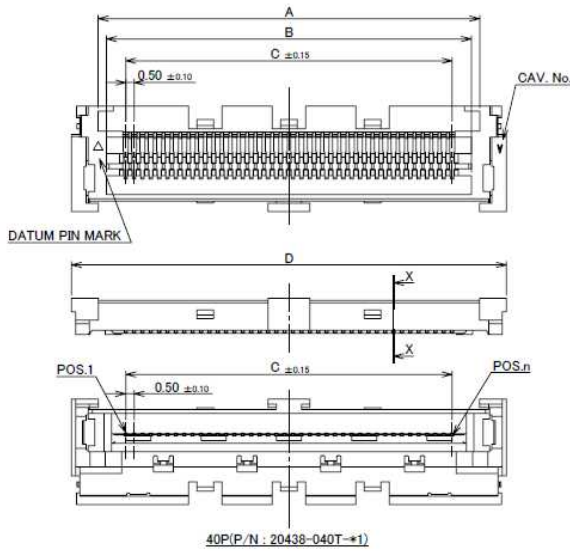
Rev.17

Plug Housing Assembly

Recommended P/N 20438-0**T-01

PART No.	POS.	A	B	C	D
20438-030T-01	30	17.80	16.80	14.50	20.80
20438-040T-01	40	22.80	21.80	19.50	25.80
20438-050T-01	50	27.80	26.80	24.50	30.80

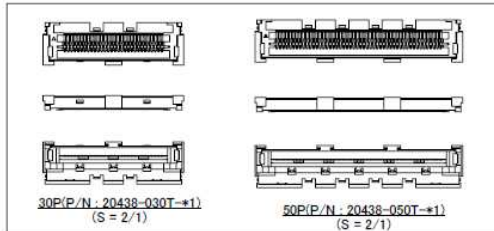
PART NO.	CONTACT FINISH (MATING AREA).
20438-0**T-01	Au 0.10 μ m MIN.
20438-0**T-11	Au 0.30 μ m MIN.



NOTES

- THIS PART IS ASSEMBLE WITH SHELL-A(PART NO. 2496-0**) AFTER SOLDERED THE CABLE, AND IT BECOMES PART NO. 20437-0**T-01

NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS
3	SHELL-B	PHOSPHOR BRONZE	Sn 2.00 μ m MIN. OVER Ni 1.00 μ m MIN. PART NO. 20438-0**T-01 MATING AREA : Au 0.10 μ m MIN. OVER Ni 1.00 μ m MIN. OTHER AREA : Au 0.05 μ m MIN. OVER Ni 1.00 μ m MIN.
2	CONTACT	PHOSPHOR BRONZE	PART NO. 20438-0**T-11 MATING AREA : Au 0.30 μ m MIN. OVER Ni 1.00 μ m MIN. OTHER AREA : Au 0.05 μ m MIN. OVER Ni 1.00 μ m MIN.
1	HOUSING	LCP	UL94V-0, BLACK

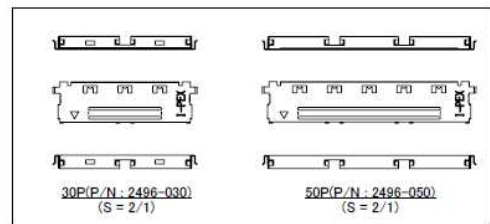
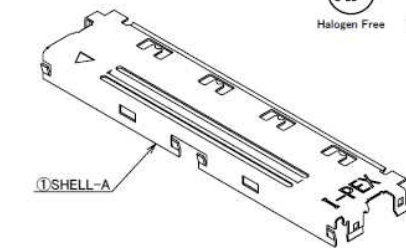
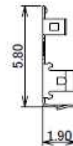
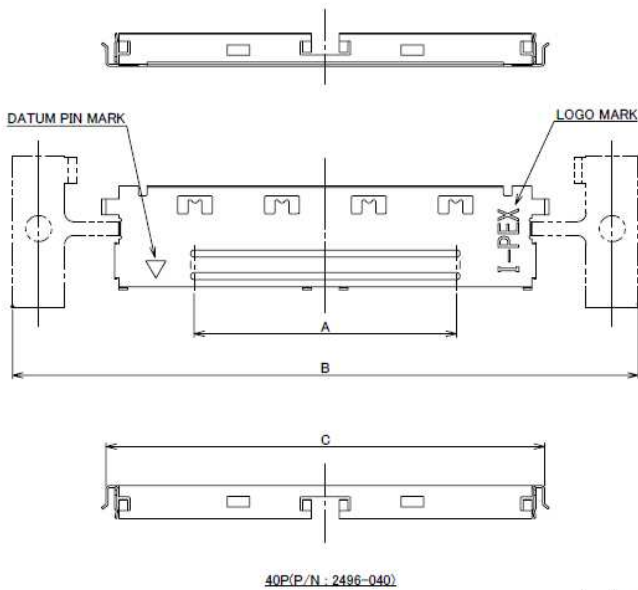


Rev.12

Plug Shell-A

Recommended P/N 2496-0**

PART NO.	Pos.	A	B	C	D
2496-030	30	10.00	30.00	20.24	35.00
2496-040	40	15.00	36.00	25.24	40.00
2496-050	50	20.00	40.00	30.24	45.00



NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS
1	SHELL-A	PHOSPHOR BRONZE	Sn(NO POLISH) 2.00 μ m MIN. OVER Ni 1.00 μ m MIN.

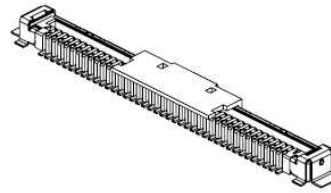
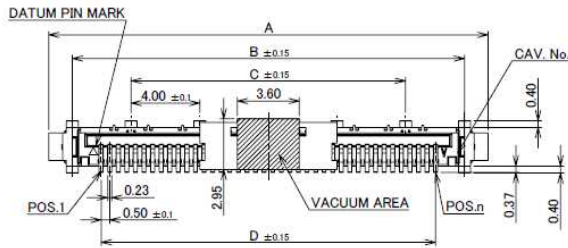
Rev.10

Receptacle Assembly

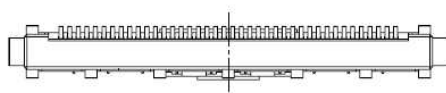
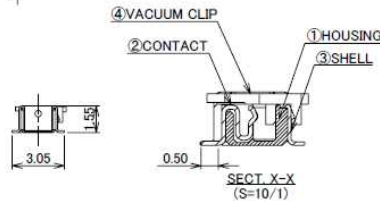
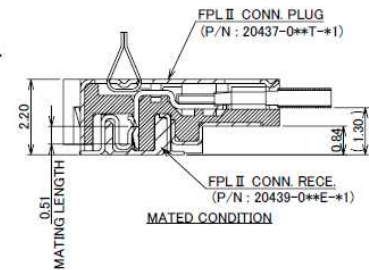
Recommended P/N		20439-0**E-01			
PART NO.	Pos.	A	B	C	D
20439-030E-*1	30	20.60	17.86	12.00	14.50
20439-040E-*1	40	25.60	22.86	16.00	19.50
20439-050E-*1	50	30.60	27.86	20.00	24.50



PART NO.	CONTACT FINISH (MATING SIDE)
20439-0**E-01	Au 0.1 μ m MIN.
20439-0**E-11	Au 0.3 μ m MIN.



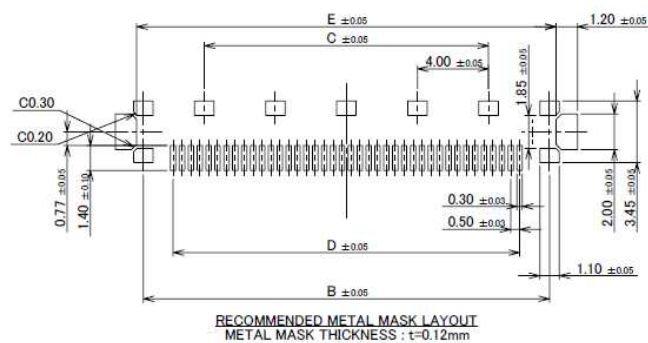
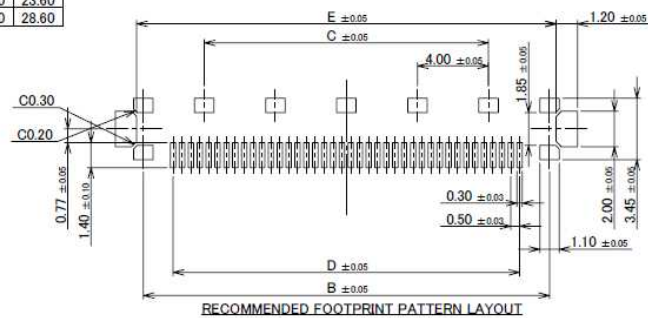
Pos.	PLUG PART NO.	RECE. PART NO.
30P	20437-030T-#1	20439-030E-#1
40P	20437-040T-#1	20439-040E-#1
50P	20437-050T-#1	20439-050E-#1



4	VACUUM CLIP	LCP	UL94V-0, BEIGE
3	SHELL	PHOSPHOR BRONZE	Sn(NO POLISH) 0.50 μ m MIN. OVER Ni 1.00 μ m MIN. <u>PART NO. 20439-0**E-0*</u> MATING AREA : Au 0.10 μ m MIN. OVER Ni 1.00 μ m MIN. OTHER AREA : Au 0.05 μ m MIN. OVER Ni 1.00 μ m MIN. <u>PART NO. 20439-0**E-1*</u> MATING AREA : Au 0.30 μ m MIN. OVER Ni 1.00 μ m MIN. OTHER AREA : Au 0.05 μ m MIN. OVER Ni 1.00 μ m MIN.
2	CONTACT	PHOSPHOR BRONZE	
1	HOUSING	LCP	UL94V-0, BLACK
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

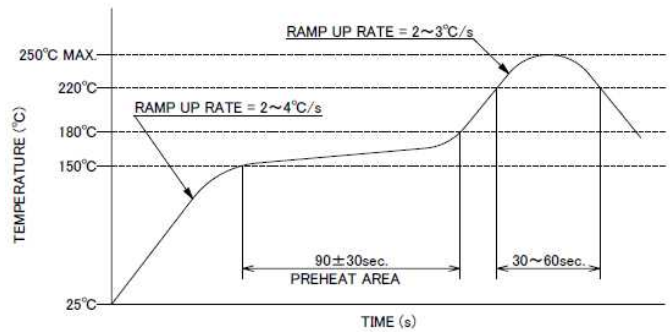
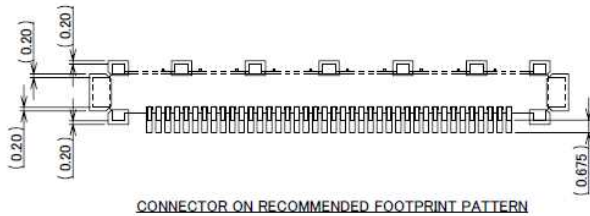
Rev.23

PART NO.	Pos.	B	C	D	E
20439-030E-#1	30	17.86	12.00	14.50	18.60
20439-040E-#1	40	22.86	16.00	19.50	23.60
20439-050E-#1	50	27.86	20.00	24.50	28.60



Rev.23

Receptacle Assembly



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

Rev.23

ITEMS	SPECIFICATION
APPLICABLE CABLE	MICRO-COAXIAL CABLE : AWG# 40, 38, 36, 34, 32 DISCRETE WIRE : AWG# 36, 34, 32 TWINAX CABLE : AWG# 40
RATING VOLTAGE	100V AC (PER CONTACT PIN)
RATING AMPERAGE (FOR CONTACT)	0.3A AC/DC [AWG#40] PER CONTACT PIN / UP TO 50 CONTACTS 0.6A AC/DC [AWG#38] PER CONTACT PIN / UP TO 6 CONTACTS 0.8A AC/DC [AWG#36] PER CONTACT PIN / UP TO 4 CONTACTS 1.0A AC/DC [AWG#34, 32] PER CONTACT PIN / UP TO 7 CONTACTS TESTING BY 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 : 145mohm MAX.(AWG#32) / AFTER TEST : <440mohm MAX. 185mohm MAX.(AWG#34) 210mohm MAX.(AWG#36) 335mohm MAX.(AWG#38) 575mohm MAX.(AWG#40)
GROUND SHELL RESISTANCE	INITIAL : 50mohm MAX. / AFTER TEST : <440mohm MAX.
INSULATION RESISTANCE	INITIAL : 1000Mohm MIN. / AFTER TEST : 500Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	30 CYCLES
MATING FORCE (INITIAL / AFTER TEST)	30P : 50.0N MAX. / 40P : 60.0N MAX. / 50P : 70.0N MAX.
UNMATING FORCE (INITIAL / AFTER TEST)	30P : 5.0N MIN. / 40P : 6.0N MIN. / 50P : 7.0N MIN.
CABLE RETENTION FORCE	30.0N MIN.
COPLANARITY	0.10 MAX.
PRODUCT SPECIFICATION	PRS-1383
TEST REPORT	TR-07048
PACKING STANDARD	PLUG HOUSING ASS'Y : 300-584 / PLUG SHELL-A : 300-585
INSTRUCTION MANUAL	HIM-09007
ASSEMBLY MANUAL	ASM-07005
APPEARANCE CRITERIA No.	QLS-A***

Rev.17

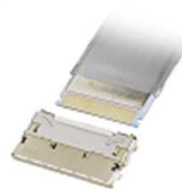
Board to
Board



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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