

CABLINE-VSF plug
with CABLINE-VS receptacle

- ✓ Mechanical locking bar prevents incomplete mating and back-out/un-mating
- ✓ EMI shielding and multi-point ground design
- ✓ Multiple connector options with I-PEX VS series

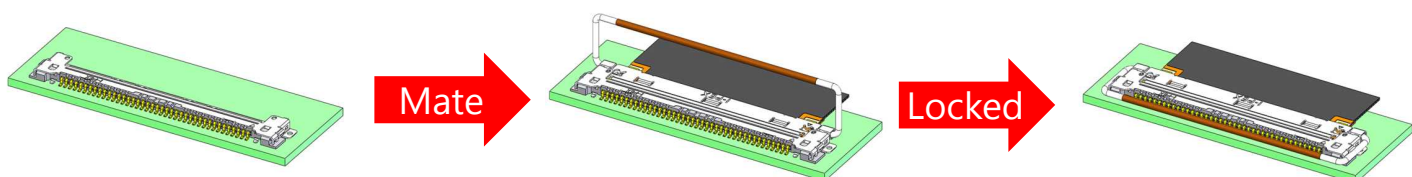
Pin counts:

Range	Up to 50
Available	30, 40

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

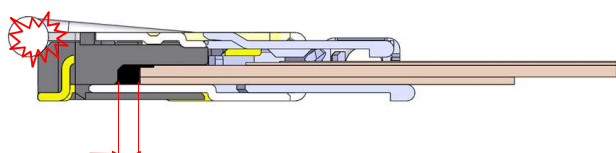
Mating type		Horizontal
Wire (FPC) pitch (mm)		0.5
Board pitch (mm)		0.5
Mated size (mm)	Height	1.0 +/- 0.1
	Width Formula	7.55 + (0.5*?p)
	Depth	5.97
Wiping length (mm)		0.62
FPC type		Shielded/Non-shielded FPC FPC thickness 0.28 + 0.02 / -0.03
Contact point		Top
Performance		Depends on FPC Impedance Controlled Design

Mechanical Locking Bar Prevents Incomplete Mating and Back-out/Un-mating

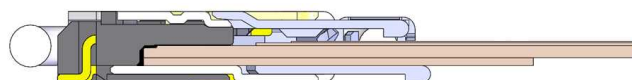


Interference

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

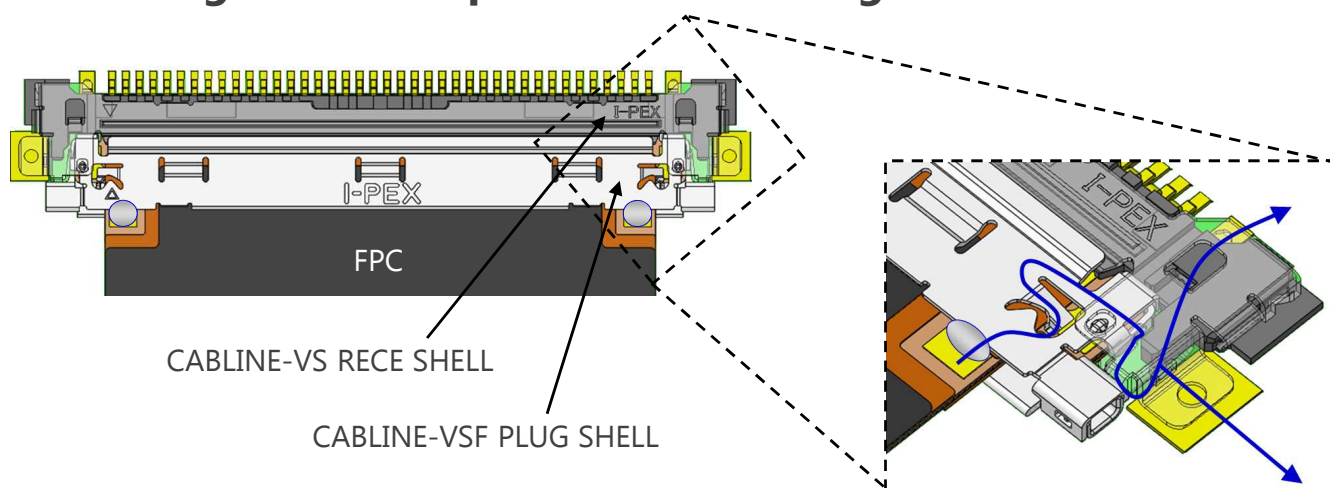


Incomplete mating



Complete mating

EMI Shielding and Multi-point Ground Design



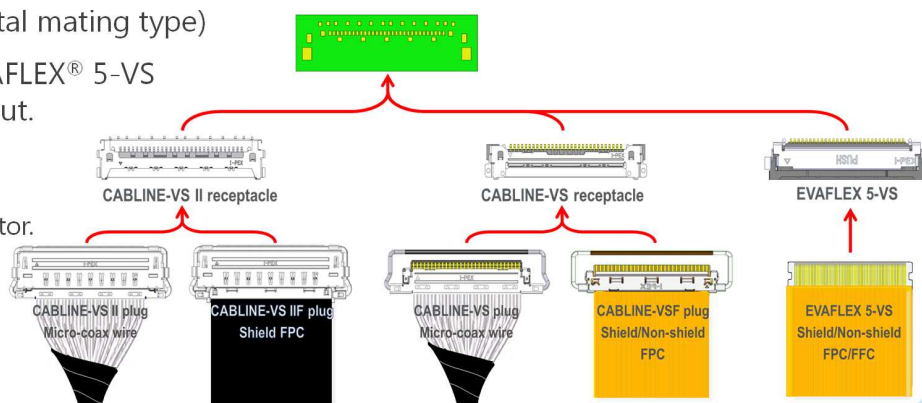
Multiple Connector Options with I-PEX VS Series

I-PEX VS series (0.5 mm pitch, horizontal mating type)

CABLINE-VS, VS II receptacles and EVAFLEX® 5-VS can be mounted to the same PCB layout.

CABLINE-VS Receptacle:

Has #1 share in the Notebook PC panel connector market as VESA standard connector.

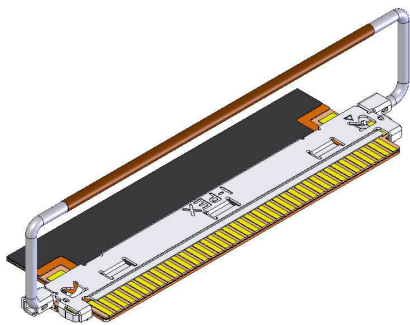


CABLINE[®]-VSF

Component Parts Detail

Product types:

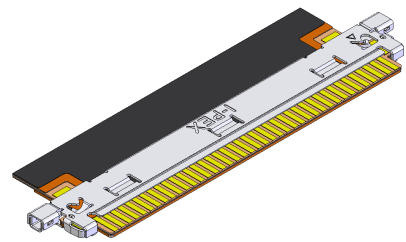
WITH LOCK BAR TYPE



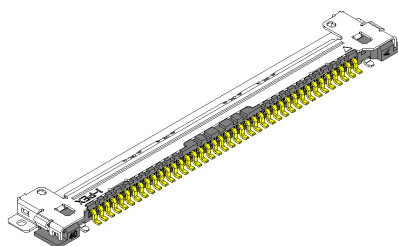
CABLINE-VSF SHELL ASS'Y PLUG with FPC

OR

WITHOUT LOCK BAR TYPE



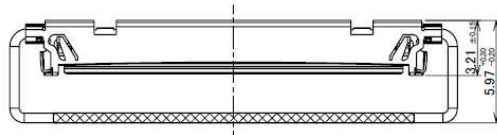
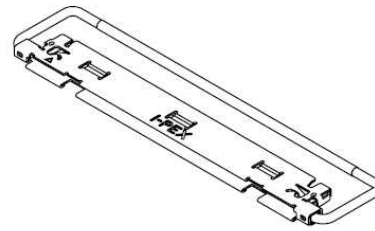
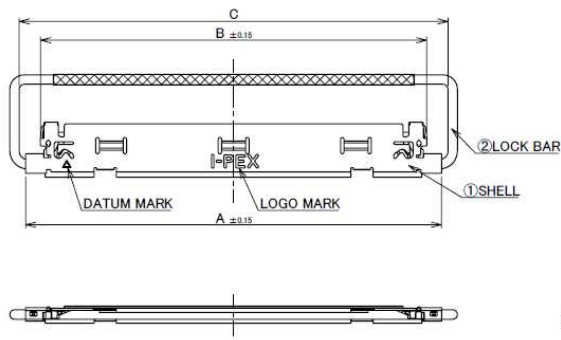
CABLINE-VSF SHELL PLUG with FPC



CABLINE-VS RECEPTACLE

Shell Assembly :

Recommended P/N		20645-0**T-01		
PART No.	A	B	C	
20645-030T-01	19.30	17.56	20.05	
20645-040T-01	24.30	22.56	25.05	

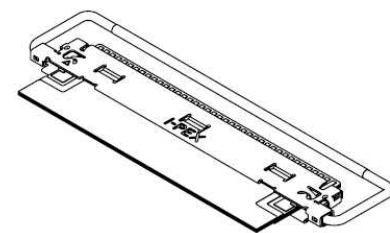
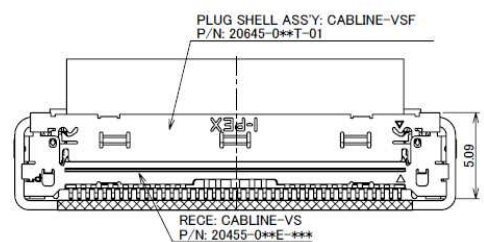
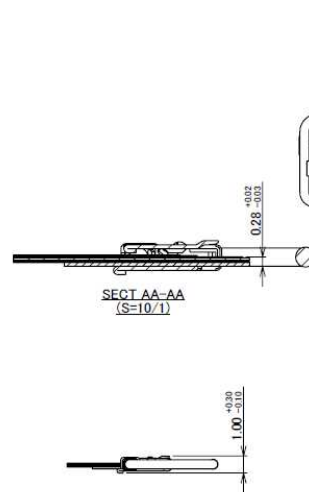
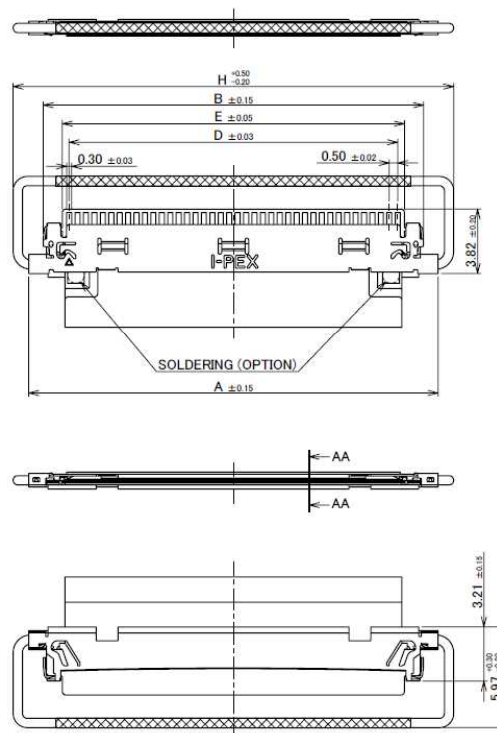


2	LOCK BAR	SUS	
1	SHELL	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μ m MIN. CONTACT & SOLDERING AREA : Au 0.01 μ m MIN.
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

Rev.9

POS.	A	B	D	E	H
30	19.30	17.56	14.50	15.30	21.15
40	24.30	22.56	19.50	20.30	26.15

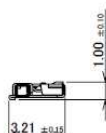
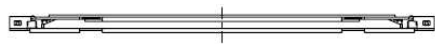
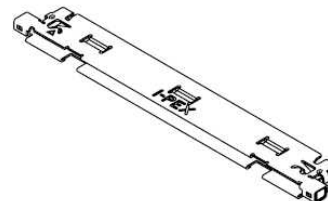
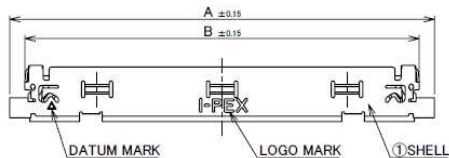
FPC ASS'Y STATE



Rev.9

Shell :

Recommended P/N		3049-0**1	
PART No.	A	B	
3049-0301	19.30	17.56	
3049-0401	24.30	22.56	

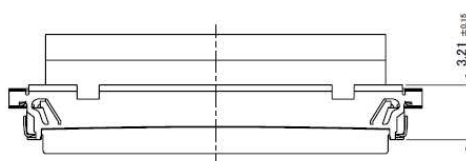
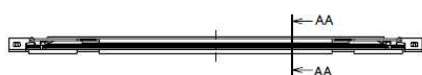
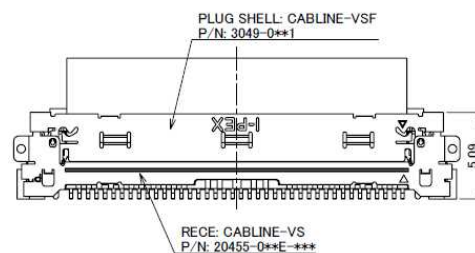
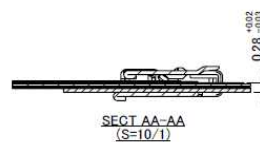
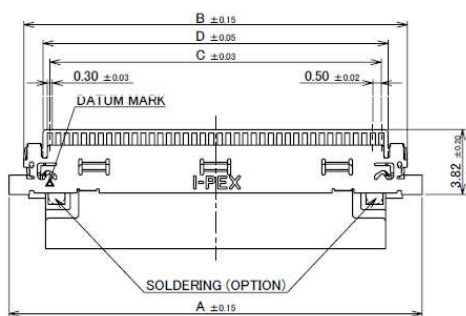


1	SHELL	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μ m MIN. CONTACT & SOLDERING AREA : Au 0.01 μ m MIN.
NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS

Rev.7

POS.	A	B	C	D
30	19.30	17.56	14.50	15.30
40	24.30	22.56	19.50	20.30

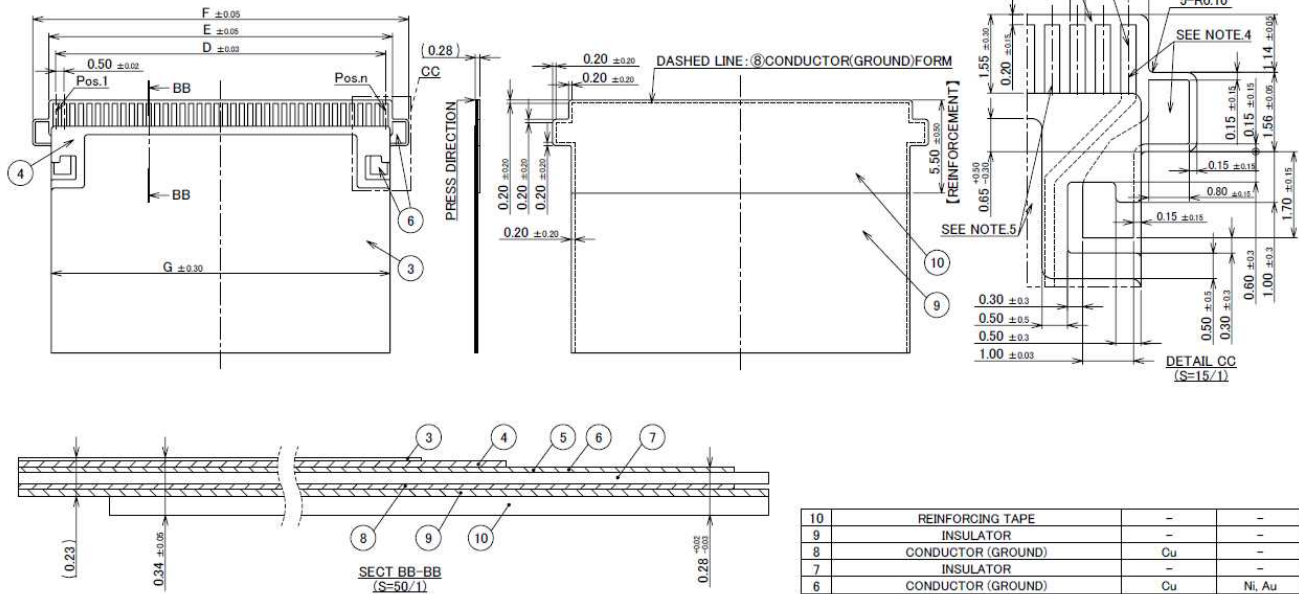
FPC ASS'Y STATE



Rev.7

POS.	D	E	F	G
30	14.50	15.30	17.20	15.00
40	19.50	20.30	22.20	20.00

RECOMMENDED FPC LAYOUT **[SHIELDED TYPE]**

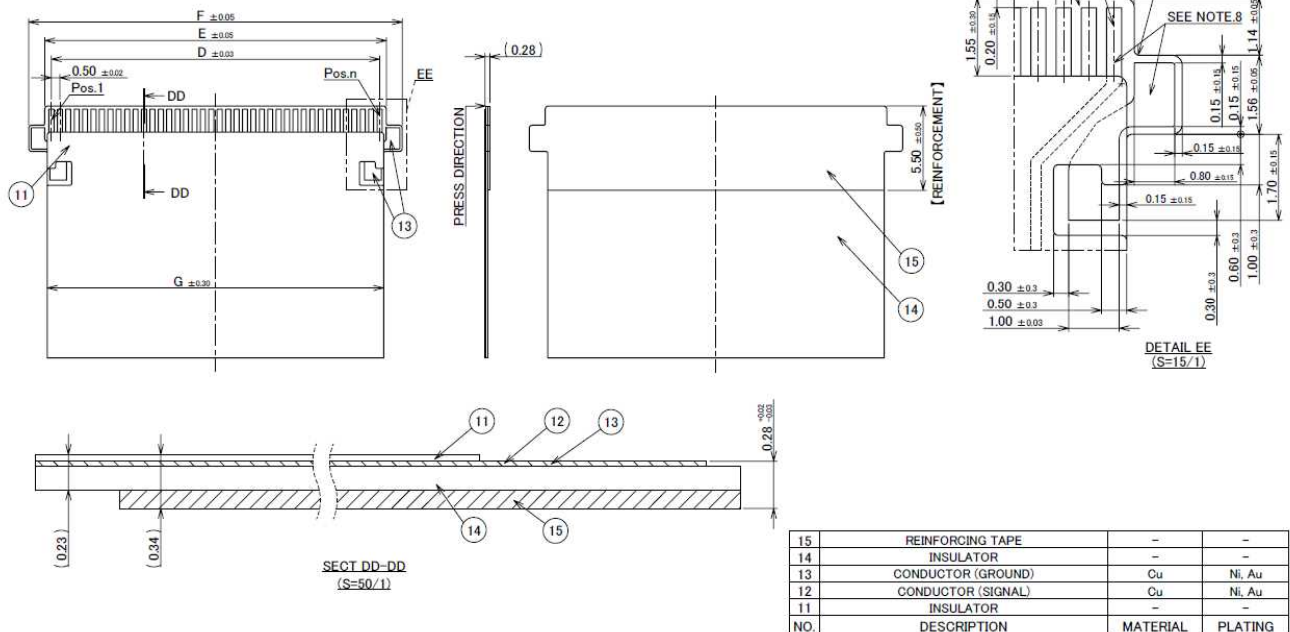


- NOTES.
- ADHESIVE SHOULD USE THERMOSETTING.
 - No.6: CONDUCTOR(GROUND) AND No.8: CONDUCTOR(GROUND) ARE CARRYING OUT THE ELECTRICAL CONNECTION.
 - No.3: SHIELD FILM AND No.8: CONDUCTOR(GROUND) ARE CARRYING OUT THE ELECTRICAL CONNECTION.
 - No.5: CONDUCTOR(SIGNAL) AND No.6.8: CONDUCTOR(GROUND) ARE NOT CONTACTING.
 - No.5: CONDUCTOR(SIGNAL) AND No.3: SHIELD FILM ARE NOT CONTACTING.

Rev.9

POS.	D	E	F	G
30	14.50	15.30	17.20	15.00
40	19.50	20.30	22.20	20.00

RECOMMENDED FPC LAYOUT **[NON SHIELDED TYPE]**



- NOTES.
- ADHESIVE SHOULD USE THERMOSETTING.
 - No.12: CONDUCTOR(SIGNAL) AND No.13: CONDUCTOR(GROUND) ARE NOT CONTACTING.

Rev.9

ITEMS	SPECIFICATION
RATING VOLTAGE	100V AC (PER CONTACT)
RATING AMPERAGE (FOR SIGNAL CONTACT)	0.3A AC/DC (PER CONTACT)
OPERATING TEMPERATURE	233~358K(-40°C~+85°C)
OPERATING HUMIDITY	85% MAX.(NON-CONDENSING)
CONTACT RESISTANCE (FOR SIGNAL CONTACT)	INITIAL : 60mohm MAX. / AFTER TEST : \angle 40mohm MAX.
GROUND SHELL RESISTANCE	INITIAL : 60mohm MAX. / AFTER TEST : \angle 40mohm MAX.
INSULATION RESISTANCE	INITIAL : 1000Mohm MIN. / AFTER TEST : 500Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	AC250V 1min
DURABILITY	30 CYCLES
MATING FORCE (INITIAL / AFTER TEST)	30P : 24.0N MAX. / 40P : 32.0N MAX.
UNMATING FORCE (INITIAL / AFTER TEST)	30P : 1.1N MIN. / 40P : 1.4N MIN.
PRODUCT SPECIFICATION	PRS-1878
TEST REPORT	TR-14095, TR-17048
PACKING STANDARD	PST-14087
INSTRUCTION MANUAL	HIM-13010
ASSEMBLY MANUAL	ASM-13003
APPEARANCE CRITERIA No.	QLS-A***

Rev.9

Receptacle Assembly :

Recommended P/N		20455-0**E-99 (30P/40P/50P)				20455-A**E-99 (20P)	
PART NO.	Pos.	A	B	C	D	P/N:20455-0 ** E-## #	
20455-020E-#2#	20	9.50	11.30	16.25	14.47	— NOTHING : P	
20455-030E-###	30	14.50	16.30	21.25	19.47	— S : P	
20455-040E-###	40	19.50	21.30	26.25	24.47	— SEE TABLE 1	
20455-050E-###	50	24.50	26.30	31.25	29.47		

P/N:20455-0 ** E-## #
 NOTHING : PACKING QTY. IS 5000 IN REEL
 -S : PACKING QTY. IS 500 IN REEL
 SEE TABLE.1
 Pos.

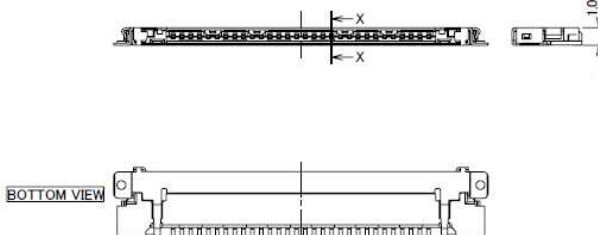
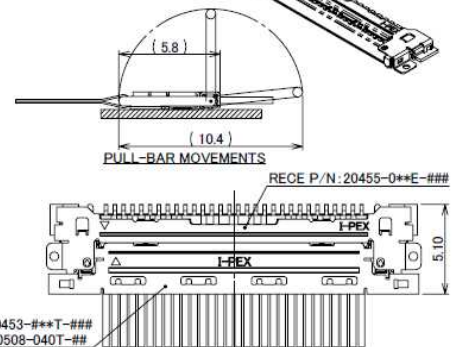
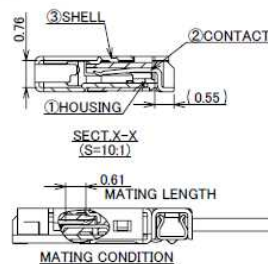
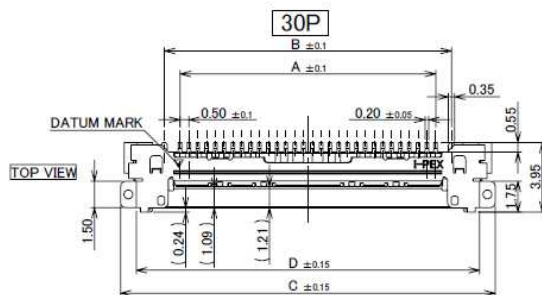


TABLE.1			
PART NO.	DATUM MARK	CONTACT FINISH	SHELL FINISH
20455-0**E-02#	WITH	CONTACT AREA Au 0.1 μ m MIN. OVER Ni 1.00 μ m MIN. SOLDERING AREA Au 0.05 μ m MIN. OVER Ni 1.00 μ m MIN.	Au 0.02 μ m MIN. OVER Ni 1.00 μ m MIN.
20455-0**E-12#	WITHOUT		
20455-0**E-66#	WITH	CONTACT AREA Au 0.1 μ m MIN. OVER Ni 1.00 μ m MIN. SOLDERING AREA Au 0.05 μ m MIN. OVER Ni 1.00 μ m MIN.	Au 0.01 μ m MIN. OVER Ni 1.00 μ m MIN.
20455-0**E-76#	WITHOUT		
20455-0**E-89#	WITH	CONTACT AREA Au 0.03 μ m MIN. OVER Ni 1.00 μ m MIN. SOLDERING AREA Au 0.03 μ m MIN. OVER Ni 1.00 μ m MIN.	ALL OVER Ni 1.00 μ m MIN. SOLDERING AREA Au 0.02 μ m MIN. OVER Ni 1.00 μ m MIN.
20455-0**E-99#	WITHOUT		

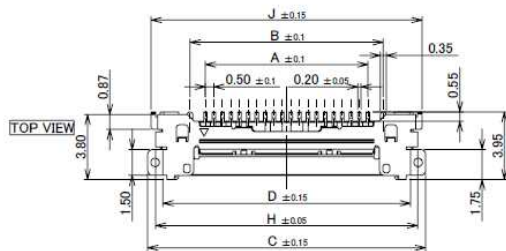
3	SHELL	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
2	CONTACT	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
1	HOUSING	LCP	UL94V-0, BLACK
NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS

Rev.27

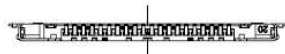
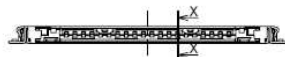
Recommended P/N 20455-0**E-99(30P/40P/50P) 20455-A**E-99(20P)

PART NO.	Pos.	A	B	C	D	H	J
20455-A20E-###	20	9.50	11.30	16.25	14.47	15.32	15.84

TYPE-A



BOTTOM VIEW



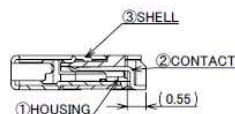
P/N:20455-A20E-###

A: TYPE-A

NOTHING: PACKING QTY. IS 5000 IN REEL

-S: PACKING QTY. IS 500 IN REEL

SEE TABLE.2

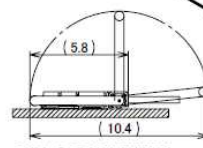


SECT X-X

S=10-1

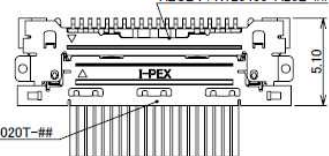


MATING CONDITION



PULL-BAR MOVEMENTS

RECE P/N: 20455-A20E-###



PLUG P/N: 20453-020T-###

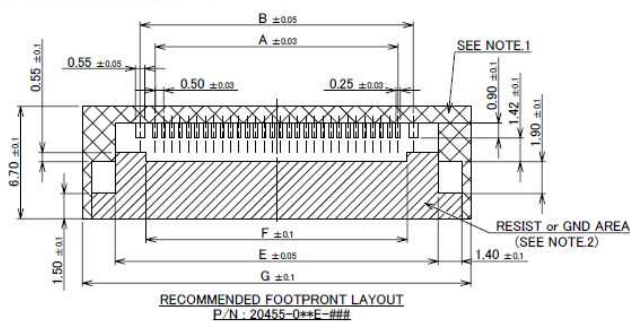
TABLE 2

PART NO.	DATUM MARK	CONTACT FINISH	SHELL FINISH
20455-A20E-02#	WITH	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.	Au 0.02 μm MIN. OVER Ni 1.00 μm MIN.
20455-A20E-12#	WITHOUT	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.	Au 0.01 μm MIN. OVER Ni 1.00 μm MIN.
20455-A20E-66#	WITH	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.	Au 0.01 μm MIN. OVER Ni 1.00 μm MIN.
20455-A20E-76#	WITHOUT	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.	Au 0.01 μm MIN. OVER Ni 1.00 μm MIN.
20455-A20E-89#	WITH	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. OVER Ni 1.00 μm MIN.
20455-A20E-99#	WITHOUT	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. OVER Ni 1.00 μm MIN.

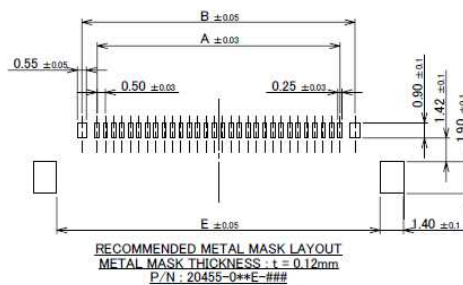
3	SHELL	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
2	CONTACT	PHOSPHOR BRONZE	SEE ABOVE TABLE.1
1	HOUSING	LCP	UL94V-0, BLACK
NO.	DISCRIPTION	MATERIAL	FINISH, REMARKS

Rev.27

PART NO.	Pos.	A	B	E	F	G	H	J	K
20455-#20E-###	20	9.50	11.30	14.30	10.60	18.20	15.32	15.84	14.84
20455-030E-###	30	14.50	16.30	19.30	15.60	23.20	-	-	-
20455-040E-###	40	19.50	21.30	24.30	20.60	28.20	-	-	-
20455-050E-###	50	24.50	26.30	29.30	25.60	33.20	-	-	-

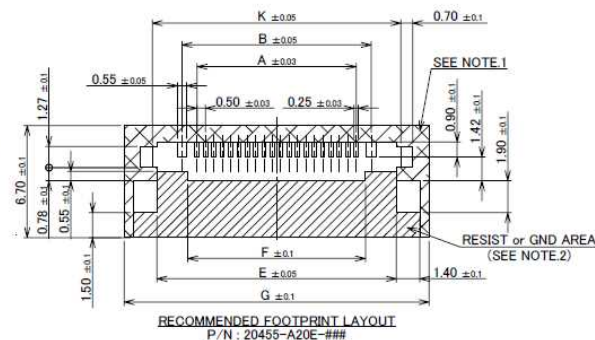


RECOMMENDED FOOTPRINT LAYOUT
P/N: 20455-0**E-###

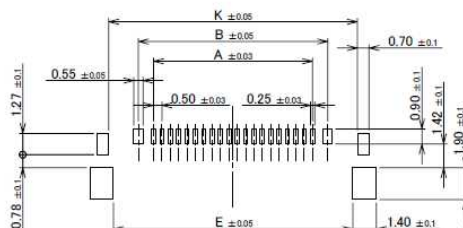


RECOMMENDED METAL MASK LAYOUT
METAL MASK THICKNESS: t = 0.12mm
P/N: 20455-0**E-###

TYPE-A



RECOMMENDED FOOTPRINT LAYOUT
P/N: 20455-A20E-###

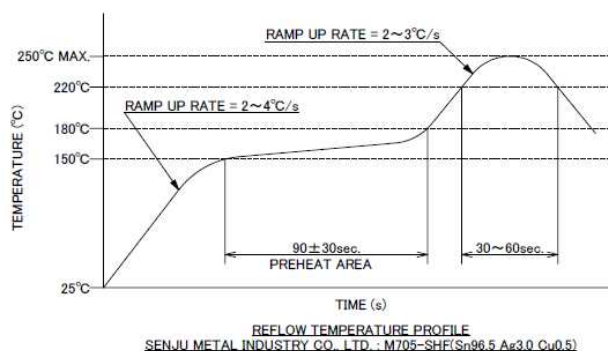
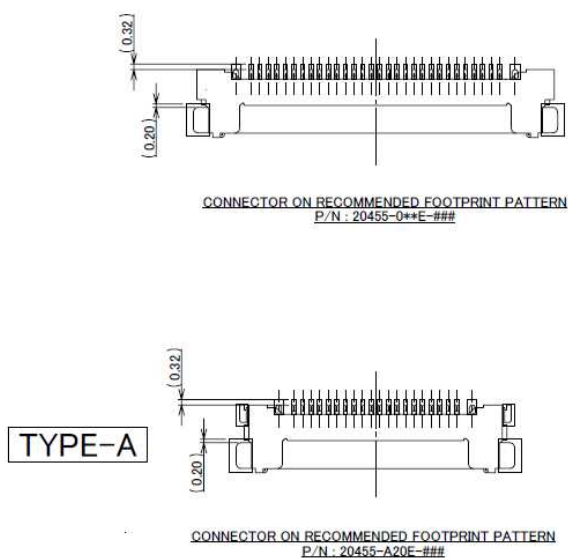


RECOMMENDED METAL MASK LAYOUT
METAL MASK THICKNESS: t = 0.12mm
P/N: 20455-A20E-###

NOTES

1. IN CASE OF PLUG WITH PULL-BAR.
THIS AREA CANNOT MOUNT ANOTHER COMPONENTS.
2. SOLDER RESIST SHALL BE APPLIED TO PREVENT SHORT CIRCUITS
WHEN PLACING SIGNAL LINES ON GROUND AREA.

Rev.27



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I-PEX

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