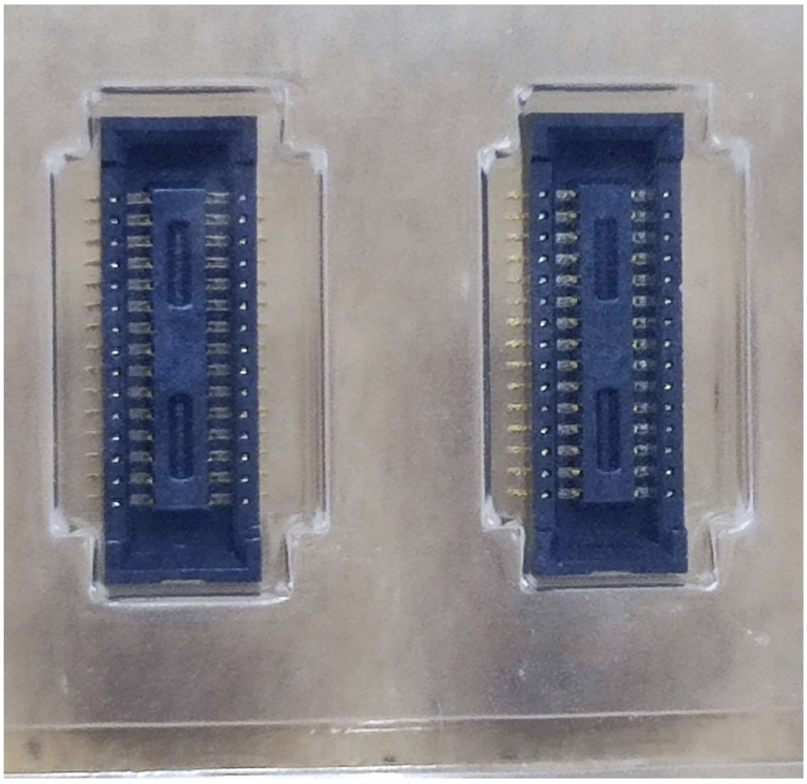
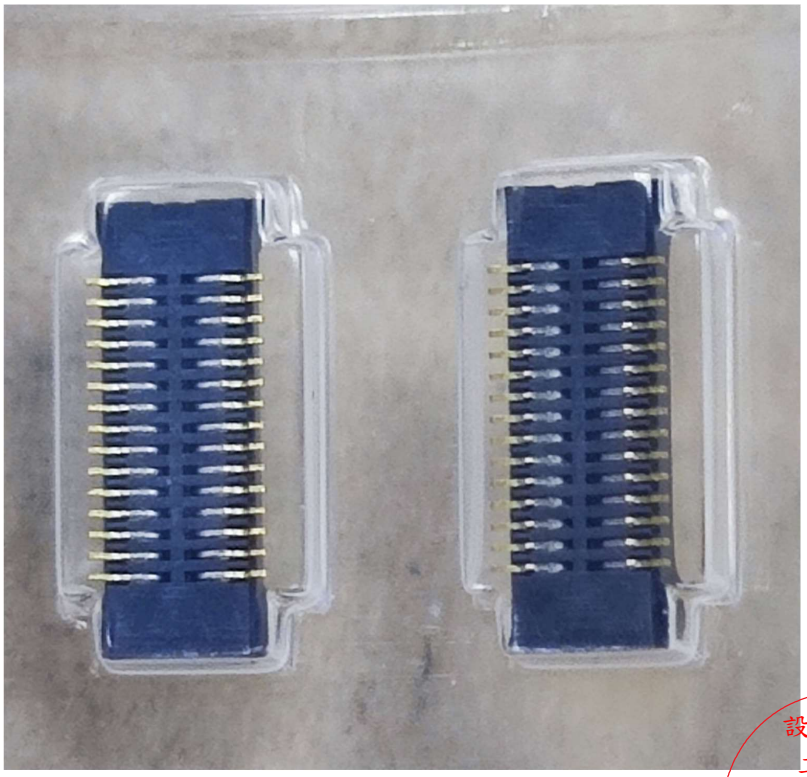




設計驗證
工程課
2024.01.23
發行
旺樂科技開發股份有限公司

HIROSE

承　認　書

客戶名稱：鈺緯科技開發股份有限公司

品　　名：DF40C-30DP-0.4V(51)

規　　格：CONN.F (30P,DF40C-30DP-0.4V(51),SMD,HRS)

適用機種：

客戶料號：3FF03014810 (F0296)

零件淨重：0.025 g

設計驗證 工程課 2024.01.23 發行 鈺緯科技開發股份有限公司

承　認　簽　章					
					Eva 佳普 林孝怡

株式會社　村田製作所總代理

株式會社　廣瀨電機台灣代理

佳 普 股 份 有 限 公 司

台北市信義路四段 184 號 4 樓

TEL:(02)27089155(代表四線)

FAX:(02)27068923　27021777

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APPLICABLE STANDARD				
RATING	OPERATING TEMPERATURE RANGE	-35°C TO 85°C(NOTE 1)	STORAGE TEMPERATURE RANGE	-10°C TO 60°C
	VOLTAGE	30V AC	APPLICABLE CONNECTOR	DF40*-*DS-0.4V
	CURRENT ⚠1	【100 contacts or less】 : 0.3A 【120 contacts】 : 0.25A		

SPECIFICATIONS

ITEM	TEST METHOD	REQUIREMENTS	QT	AT
CONSTRUCTION				
GENERAL EXAMINATION	VISUALLY AND BY MEASURING INSTRUMENT.	ACCORDING TO DRAWING.	X	X
MARKING	CONFIRMED VISUALLY.		X	X
ELECTRIC CHARACTERISTICS				
CONTACT RESISTANCE	20mV AC OR LESS 1khz,1m A .	90mΩ MAX.	X	—
INSULATION RESISTANCE	100V DC.	50MΩ MIN.	X	—
VOLTAGE PROOF	100V AC FOR 1 min.	NO FLASHOVER OR BREAKDOWN.	X	—
MECHANICAL CHARACTERISTICS				
MECHANICAL OPERATION	30TIMES INSERTIONS AND EXTRACTIONS.	① CONTACT RESISTANCE: 90mΩ MAX. ② NO DAMAGE, CRACK OR LOOSENESS OF PARTS.	X	–
VIBRATION	FREQUENCY 10 TO 55 TO 10 Hz,APPROX 5min, SINGLE AMPLITUDE 0.75 mm,10CYCLES, FOR 3 DIRECTIONS.	① NO ELECTRICAL DISCONTINUITY OF 1 μs. ② NO DAMAGE, CRACK OR LOOSENESS OF PARTS.	X	–
SHOCK	490 m/s^2 DURATION OF PULSE 11 ms AT 3 TIMES FOR 3 DIRECTIONS.	① NO ELECTRICAL DISCONTINUITY OF 1 μs. ② NO DAMAGE, CRACK OR LOOSENESS OF PARTS.	X	–
ENVIRONMENTAL CHARACTERISTICS				
RAPID CHANGE OF TEMPERATURE	TEMPERATURE -55→ 5 TO 35→85→ 5 TO 35 °C TIME 30→ 5 MAX → 30→ 5 MAX min UNDER 5 CYCLES.	① CONTACT RESISTANCE: 90mΩ MAX. ② INSULATION RESISTANCE: 50MΩ MIN. ③ NO DAMAGE, CRACK OR LOOSENESS OF PARTS.	X	–
DAMP HEAT (STEADY STATE)	EXPOSED AT 40 ± 2 °C, 90 TO 95 %, 96 h.	① CONTACT RESISTANCE: 90mΩ MAX. ② INSULATION RESISTANCE: 25MΩ MIN. ③ NO DAMAGE, CRACK OR LOOSENESS OF PARTS.	X	–
SULPHUR DIIOXIDE	EXPOSED IN 25 PPM FOR 96h,25℃,75%.	① CONTACT RESISTANCE: 180mΩ MAX. ② NO DAMAGE, CRACK OR LOOSENESS OF PARTS.	X	–
HEAT RESISTANCE OF SOLDERING	**RECOMMENDED TEMPERATURE PROFILE** **SOLDERING AREA** MAX 250℃, 220℃ FOR 60 SECONDS MAX. **PREHEATING AREA** 150 TO 180℃ 90 TO 120SECONDS. MAXIMUM TWICE ACTION IS ALLOWED UNDER THE SAME CONDITION. **RECOMMENDED MANUAL SOLDERING CONDITION** SOLDERING IRON TEMPERATURE 350℃. SOLDERING TIME: WIHTIN 3 SECONDS.	NO DEFORMATION OF CASE OF EXCESSIVE LOOSENESS OF THE TERMINASL.	X	–
⚠ SOLDERABILITY	SOLDERING TEMPERATURE: 245±5℃ DURATION OF IMMERSION: SOLDERING FOR 3 ±0.5 SECONDS.	A NEW UNIFORM COATING OF SOLDER SHALL COVER MINIMUM OF 95% OF THE SURFACE BEING IMMERSED.	X	–

	COUNT	DESCRIPTION OF REVISIONS	DESIGNED	CHECKED	DATE
⚠	3	DIS-H-00006247	RH. KAGAMI	WR. FUKUCHI	20200814

REMARKS
NOTE1: INCLUDE THE TEMPERATURE RISING BY CURRENT

Unless otherwise specified, refer to JIS C 5402, IEC 60512.

APPROVED	KH. IKEDA	20080627
CHECKED	AR. TAKAHASHI	20080627
DESIGNED	TK. SUZUKI	20080627
DRAWN	TK. SUZUKI	20080627

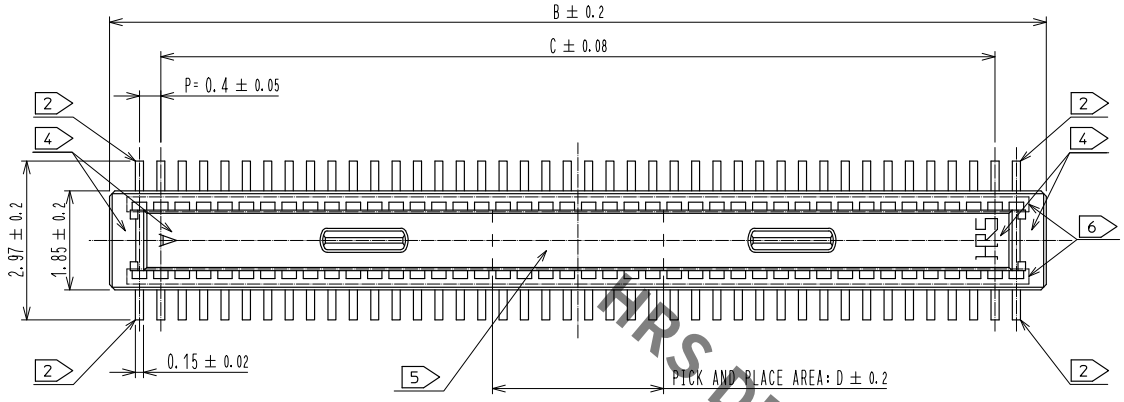
Note QT:Qualification Test AT:Assurance Test X:Applicable Test

DRAWING NO. ELC4-311351-01

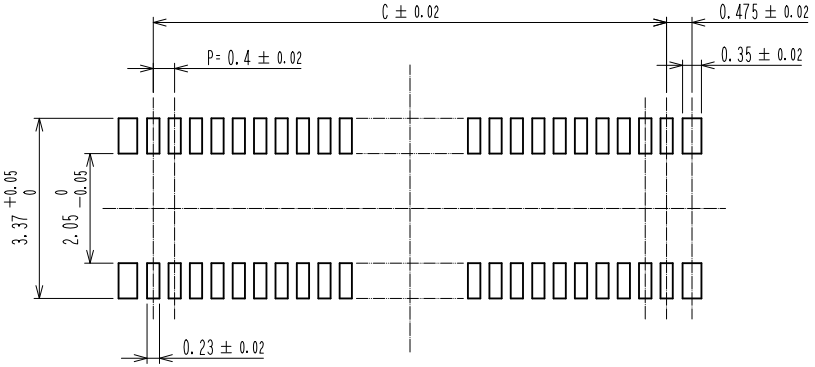
HRS	SPECIFICATION SHEET	PART NO.	DF40C-*DP-0.4V(51)	
	HIROSE ELECTRIC CO., LTD.	CODE NO.	CL684 ⚠1	1/1

FORM HD0011-2-1

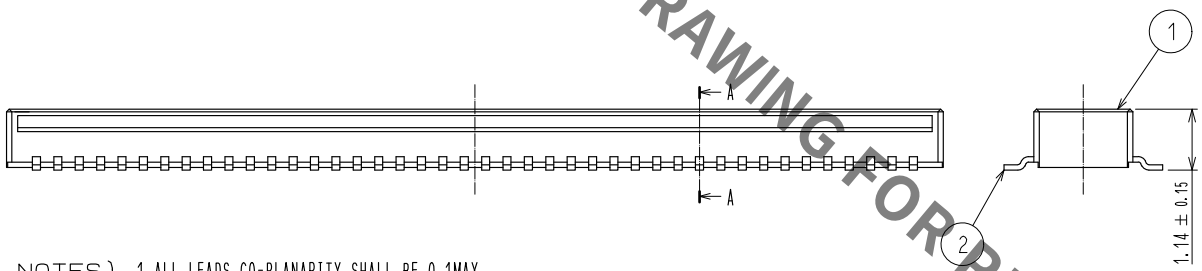
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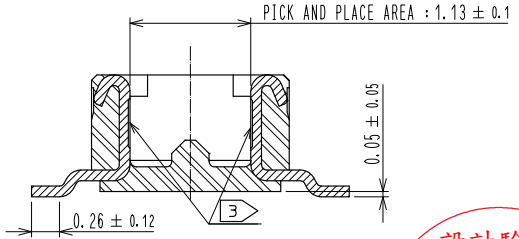
RECOMMENDED PATTERN



RECOMMENDED METAL MASK THICKNESS : 120μm
RECOMMENDED METAL MASK OPENING RATIO : 80% FOR LEAD PAD



A-A(20:1)



NOTES) 1. ALL LEADS CO-PLANARITY SHALL BE 0.1MAX.
2 EACH ONE CONTACT AT 4 CORNERS SHALL BE USED AS METAL HOLD DOWN.
3 10 TO 50 POSITIONS HAVE LOCKING SYSTEM BY CONCAVE DESIGN ON CONTACTS.
60 TO 120 POSITIONS HAVE NO CONCAVE DESIGN ON CONTACTS.
4 HRS MARK AND CAV NO. ARE LOCATED IN APPROXIMAL AREA.
THE INDICATION COULD BE ON THE UPPER SURFACE OF DESIGN ON THE CONNECTOR.
5 90 TO 120 POSITIONS HAVE CONCAVE PORTION.
6 THERE IS A POSSIBILITY THAT THE RESIN WILL BE EXPOSED AT THIS AREA.
BUT THIS WILL NOT AFFECT THE CONTACT RELIABILITY.

PART NO.	CODE NO.	B	C	D
DF40C-10DP-0.4V(51)	CL684-4035-0-51	3.52	1.6	1.0
DF40C-12DP-0.4V(51)	CL684-4149-9-51	3.92	2.0	1.0
DF40C-20DP-0.4V(51)	CL684-4010-9-51	5.52	3.6	1.0
DF40C-24DP-0.4V(51)	CL684-4011-1-51	6.32	4.4	1.2
✓ DF40C-30DP-0.4V(51)	CL684-4012-4-51	7.52	5.6	1.5
DF40C-34DP-0.4V(51)	CL684-4024-3-51	8.32	6.4	2.3
DF40C-40DP-0.4V(51)	CL684-4013-7-51	9.52	7.6	3.2
DF40C-44DP-0.4V(51)	CL684-4077-0-51	10.32	8.4	3.2
DF40C-50DP-0.4V(51)	CL684-4014-0-51	11.52	9.6	3.2
DF40C-60DP-0.4V(51)	CL684-4003-3-51	13.52	11.6	3.2
DF40C-70DP-0.4V(51)	CL684-4015-2-51	15.52	13.6	3.2
DF40C-80DP-0.4V(51)	CL684-4001-8-51	17.52	15.6	3.2
DF40C-90DP-0.4V(51)	CL684-4125-0-51	19.52	17.6	3.2
DF40C-100DP-0.4V(51)	CL684-4032-1-51	21.52	19.6	3.2
DF40C-120DP-0.4V(51)	CL684-4107-9-51	25.52	23.6	3.2

HRS DRAWING FOR REFERENCE

設計驗證 工程課 2024.01.23 發行 (旺鍾科技開發股份有限公司)

3FF03014810(F0296)

NO.	MATERIAL	FINISH . REMARKS	NO.	MATERIAL	FINISH . REMARKS
2	PHOSPHOR BRONZE	CONTACT AREA:GOLD 0.05μm MIN	6	PS	CLEAR, REINFORCEMENT COLLAR
		SMT LEAD:GOLD 0.05μm MIN	5	PS	BLACK
		UNDERPLATING:NICKEL 1μm MIN	4	POLYESTER	CLEAR, COVER TAPE
1	LCP	BLACK, UL94V-0	3	PS	CLEAR, EMBOSSED CARRIER TAPE

UNITS	SCALE	COUNT	DESCRIPTION OF REVISIONS	DESIGNED	CHECKED	DATE
mm	10 : 1	2	DIS-H-00015007	TY. MORISHITA	RT. SHIMIZU	20220901

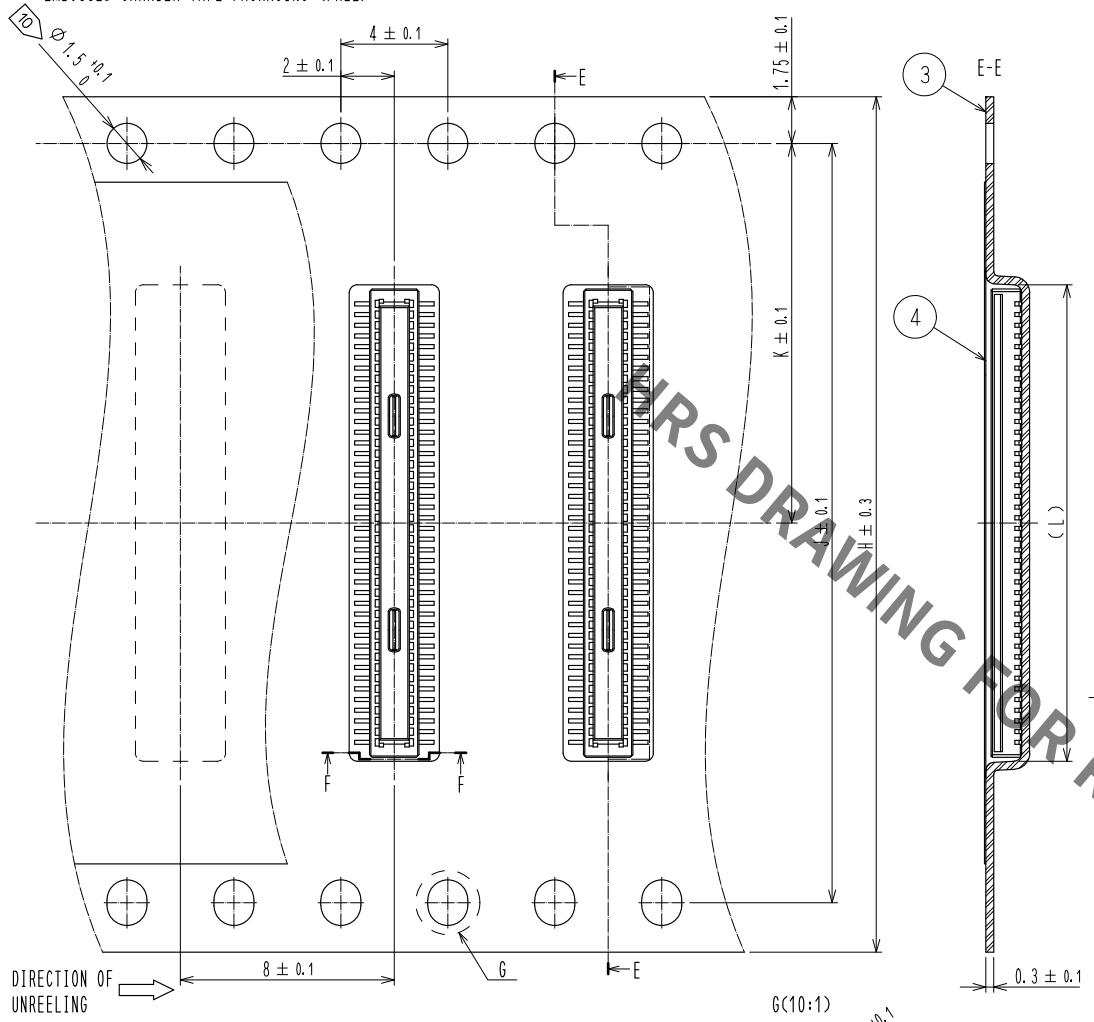
HIROSE ELECTRIC CO., LTD.

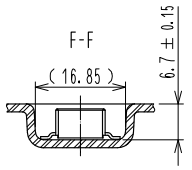
APPROVED	MO. NAKAMURA	20051209
CHECED	KH. IKEDA	20051209
DESIGNED	MY. GOTO	20051209
DRAWN	MY. GOTO	20051209

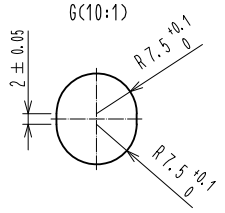
DRAWING NO.	EDC3-311351-00
PART NO.	DF40C-*DP-0.4V(51)
CODE NO.	CL684

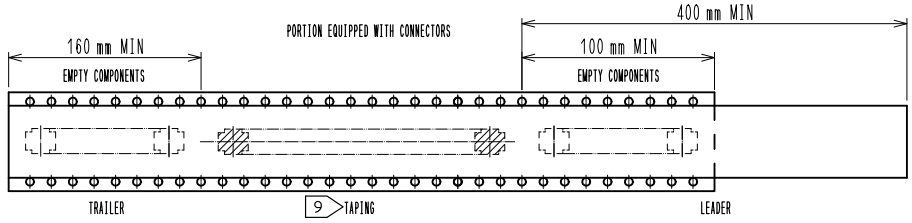
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EMBOSSED CARRIER TAPE PACKAGING (FREE)

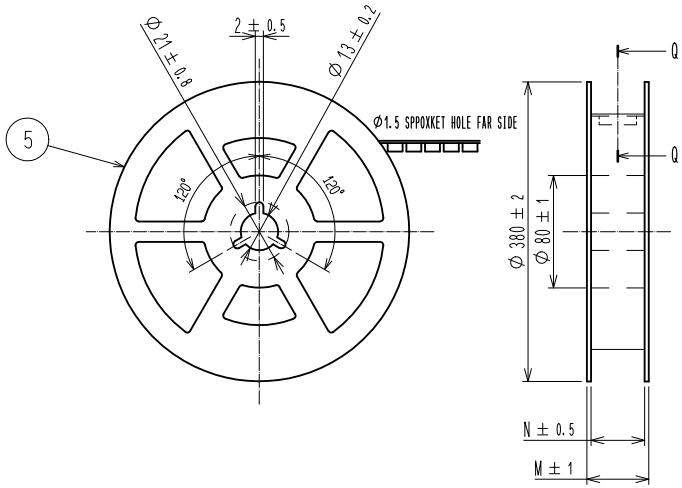




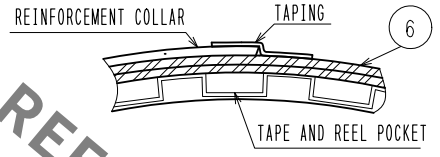




STYLE AND DIMENSION OF REEL(FREE)



11 Q-Q (FREE)



PART NO.	H	J	K	L	M	N
DF40C-10DP-0.4V(51)	12	—	5.5	3.82	17.5	13.5
DF40C-12DP-0.4V(51)	12	—	5.5	4.22	17.5	13.5
DF40C-20DP-0.4V(51)	16	—	7.5	5.82	21.5	17.5
DF40C-24DP-0.4V(51)	16	—	7.5	6.62	21.5	17.5
DF40C-30DP-0.4V(51)	16	—	7.5	7.82	21.5	17.5
DF40C-34DP-0.4V(51)	24	—	11.5	9.82	29.5	25.5
DF40C-40DP-0.4V(51)	24	—	11.5	9.82	29.5	25.5
DF40C-44DP-0.4V(51)	24	—	11.5	10.62	29.5	25.5
DF40C-50DP-0.4V(51)	24	—	11.5	11.82	29.5	25.5
DF40C-60DP-0.4V(51)	24	—	11.5	13.82	29.5	25.5
DF40C-70DP-0.4V(51)	32	28.4	14.2	15.82	37.5	33.5
DF40C-80DP-0.4V(51)	32	28.4	14.2	17.82	37.5	33.5
DF40C-90DP-0.4V(51)	44	40.4	20.2	19.82	49.5	45.5
DF40C-100DP-0.4V(51)	44	40.4	20.2	21.82	49.5	45.5
DF40C-120DP-0.4V(51)	44	40.4	20.2	25.82	49.5	45.5

HIRS DRAWING FOR REFERENCE

NOTES
7. PER REEL 5000 CONNECTORS.
8. THE DIMENSIONS IN PARENTHESES ARE FOR REFERENCE.
9 REFER TO JIS C 0806(IEC 60286-3)
(PACKING OF COMPONENTS FOR AUTOMATIC HANDLING)
10 10 TO 60 POSITIONS EMBOSSED CARRIER TAPE HAS THE SPROCKET HOLE ON ONE SIDES.
11 AFTER PACKAGING, ROLL 2 METERS OF THE REINFORCEMENT COLLAR TO OUTER CIRCUMFERENCE OF TAPE AND REEL POCKET, AND TAPE DOWN AT THE END THE COLLAR.
△9 12. PRODUCT REELS AND PACKAGING WILL BE CLEARLY LABELED WITH THE PART NUMBER. LOT NUMBER AND QUANTITY.

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HRS	DRAWING NO.	EDC3-311351-00
	PART NO.	DF40C-*DP-0.4V(51)
	CODE NO.	CL684

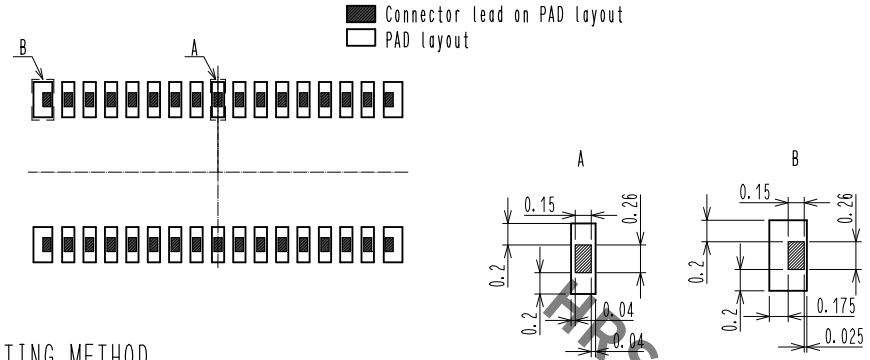
△9 2/3

FORM HC0011-5-8

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⚠9 13. PLEASE REFER TO THE PRODUCT GUIDELINE ETAD-H1015 FOR DETAIL OF CONNECTOR HANDLING.

THE POSITION BETWEEN THE CONNECTOR AND PAD

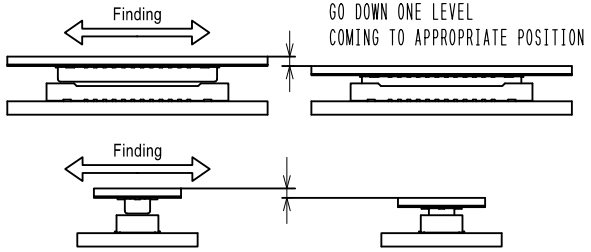


MATING METHOD

PLEASE MATE THE CONNECTOR BY HAND.

MATING PROCEDURE

(1) FIND THE ALIGNMENT AREA TO THE CONNECTOR IN THE APPROPRIATE MATING POSITION.
THIS CONNECTOR HAS AN ALIGNMENT CHAMBER(GUIDANCE RIBS) ON RECEPTACLE SIDE AND 'R' ON PLUG SIDE,
SO THAT THE CONNECTOR WILL BE SELF-ALIGNED.
WHEN THE CONNECTOR COMES TO THE APPROPRIATE POSITION, THE CONNECTOR GOES INTO THE ALIGNED POSITION.
WHEN ALIGNED, IT CAN BE FELT BY HAND.



(2) WHEN GUIDING, THE CONNECTORS ARE ALIGNED PARALLEL TO EACH OTHER, WITH LONGITUDINAL AND LATERAL MOVEMENTS RESTRICTED. MATE THEM PROPERLY BY APPLYING FORCE IN THIS CONDITION.

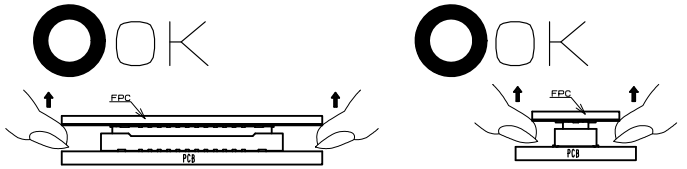


(3) MAKE SURE THE CONNECTORS ARE MATED CORRECTLY. IF ONE SIDE IS FLOATING OR THE CONNECTORS ARE MATED IN ONE DIRECTION, UN-MATE THEM ONCE, AND THEN MATE THEM AGAIN. FOLLOWING THE PROCEDURES ABOVE FROM THE BEGINNING.

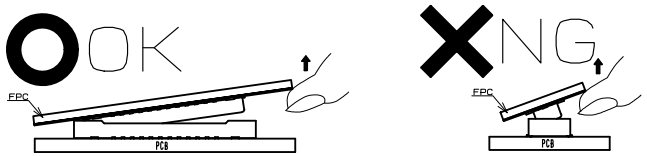
UN-MATING METHOD

PLEASE UN-MATE THE CONNECTOR BY HAND

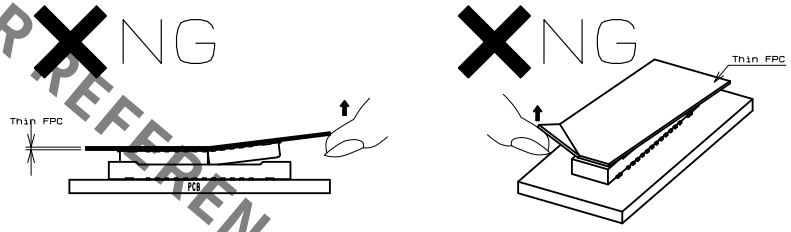
(1) UN-MATE THE CONNECTORS PARALLEL TO EACH OTHER. HOWEVER, IF THE CONNECTORS HAVE HIGH PIN COUNTS OR THINNER FPC AND STIFFENER, IT BECOMES MORE DIFFICULT TO DO SO.



(2) IF THE CONNECTOR CANNOT BE UN-MATED PARALLEL IT CAN BE REMOVED DIAGONALLY FROM THE PITCH DIRECTION. BE CAREFUL TO DO SO SINCE THIS ACTION APPLIES STRESS ON THE CONTACT.

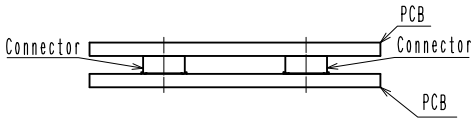


(3) IF THE FPC IS NOT RIGID, THE CONNECTOR CAN BE BROKEN. PLEASE CHECK THE ACTION OF THE FPC TO BE USED REPEATEDLY AT THE TIME OF TRIAL PRODUCTION. BE CAREFUL TO UN-MATE THEM FROM THE PITCH DIRECTION. PULLING IT FROM THE CORNER CAN ALSO RISK TO PUTTING STRESS ON CONTACTS.

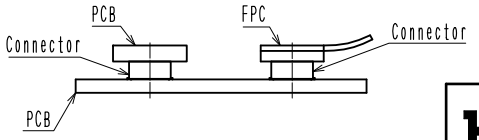


(4) Caution for using multiple connectors.

Please avoid using more than a single mated pair of connectors between two sandwiched PCBs.
like the picture on the below.
Due to possible misalignment, connector breakage while and after mating may occur.



If using more than a single mated pair, please use divided boards for each connection.



HRS DRAWING FOR REFFRENCE

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3FF03014810(F0296)

DRAWING NO.	EDC3-311351-00
PART NO.	DF40C-*DP-0.4V(51)
CODE NO.	CL684-4001-8-51

⚠9 3/3