

APPLICABLE STANDARD						
Rating	Operating Temperature Range	-55 °C to 85 °C <sup>(1)</sup>		Storage Temperature Range	-10 °C to 60 °C <sup>(2)</sup>	
	Voltage	△ <sub>1</sub>	Signal Contact : 50 V AC Power Contact : 200 V AC		Storage Humidity Range	Relative humidity 85% max (Not dewed)
	Current		Signal Contact : 0.5 A Power Contact : 3.0A		Operating Humidity Range	
SPECIFICATIONS						
ITEM	TEST METHOD			REQUIREMENTS	QT	AT
<b>CONSTRUCTION</b>						
General Examination	Visually and by measuring instrument.			According to drawing.	x	x
Marking	Confirmed visually.				x	x
<b>ELECTRIC CHARACTERISTICS</b>						
Contact Resistance	100 mA(DC or 1000Hz)			Signal Contact : 70m Ω MAX. Power Contact : 20m Ω MAX. △ <sub>1</sub>	x	—
Insulation Resistance	Signal Contact : 100 V DC. Power Contact : 250 V DC △ <sub>1</sub>			Signal Contact : 100 MΩ MIN. Power Contact : 1000 MΩ MIN. △ <sub>1</sub>	x	—
Voltage Proof	Signal Contact : 150 V AC for 1 min.			No flashover or breakdown.	x	x
	Power Contact : 600 V AC for 1 min. △ <sub>1</sub>				x	—
<b>MECHANICAL CHARACTERISTICS</b>						
Insertion and Withdrawal Forces	Measured by applicable connector.			Insertion Force: 54 N MAX. △ <sub>1</sub> Withdrawal Force: 6 N MIN.	x	—
Mechanical Operation	100 times insertions and extractions.			① Contact Resistance: Signal Contact : 80m Ω MAX. △ <sub>1</sub> Power Contact : 30m Ω MAX. ② No damage, crack and looseness of parts.	x	—
Vibration	Frequency 10 to 55 to 10Hz, approx 5min Single amplitude : 0.75 mm, 10 cycles for 3 axial directions.			① No electrical discontinuity of 1 μs. ② No damage, crack and looseness of parts.	x	—
Shock	490 m/s <sup>2</sup> , duration of pulse 11 ms at 3 times for 3 both axial directions.				x	—
<b>ENVIRONMENTAL CHARACTERISTICS</b>						
Damp Heat (Steady state)	Exposed at 40±2 °C, 90 ~ 95 %, 96 h.			① Contact Resistance: Signal Contact : 80m Ω MAX. △ <sub>1</sub> Power Contact : 30m Ω MAX.	x	—
Rapid Change of Temperature	Temperature -55 → +85 °C Time 30 → 30 min. under 5 cycles. (Relocation time to chamber : within 2~3 MIN)			② Insulation Resistance: Signal Contact : 100 MΩ MIN. △ <sub>1</sub> Power Contact : 1000 MΩ MIN. ③ No damage, crack and looseness of parts.	x	—
Cold	Exposed at -55°C, 96 h			① Contact Resistance: Signal Contact : 80m Ω MAX. △ <sub>1</sub> Power Contact : 30m Ω MAX.	x	—
Dry Heat	Exposed at 85°C, 96 h			② No damage, crack and looseness of parts.	x	—
Sulfur Dioxide	Exposed at 25±2°C, 75±5%RH, 25 PPM for 96 h. (Test standard: IEC 68) △ <sub>1</sub>			① No defect such as corrosion which impairs the function of connector. ② Contact Resistance: Signal Contact : 80m Ω MAX. △ <sub>1</sub> Power Contact : 30m Ω MAX.	x	—
Resistance to Soldering Heat	1)Reflow soldering : Peak TMP : 260°C MAX Reflow TMP: 220°C MIN for 60sec 2) Soldering irons : 360°C MAX. for 5 sec.			No deformation of case of excessive looseness of the terminal.	x	—
Solderability	Soldered at solder temperature 240±3°C for immersion duration, 3 sec.			A new uniform coating of solder shall cover a minimum of 95 % of the surface being immersed.	x	—
	COUNT	DESCRIPTION OF REVISIONS		DESIGNED	CHECKED	DATE
△ <sub>1</sub>	13	DIS-F-00000640		TS. 00N0	KN. SHIBUYA	15. 09. 09
REMARKS <sup>(1)</sup> Include temperature rise caused by current-carrying. <sup>(2)</sup> "STORAGE" means a long-term storage state for the unused product before assembly to PCB.				APPROVED	HS. OKAWA	14. 09. 02
				CHECKED	KN. SHIBUYA	14. 09. 02
				DESIGNED	TS. 00N0	14. 09. 02
Unless otherwise specified, refer to IEC 60512. △ <sub>1</sub>				DRAWN	TS. 00N0	14. 09. 02
Note QT:Qualification Test AT:Assurance Test X:Applicable Test				DRAWING NO.		ELC-353549-00-00
<b>HRS</b>	SPECIFICATION SHEET			PART NO.	FX23-120P-0. 5SV20	
	HIROSE ELECTRIC CO., LTD.			CODE NO.	CL573-3106-9-00	△ <sub>1</sub> 1/1

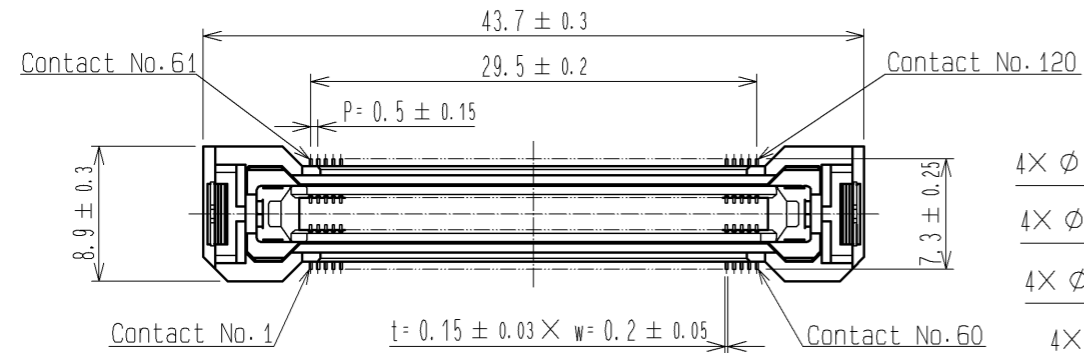
RECOMMENDED LAND PATTERN DIMENSION OF PCB

△(PCB THICKNESS: t=1.6mm)

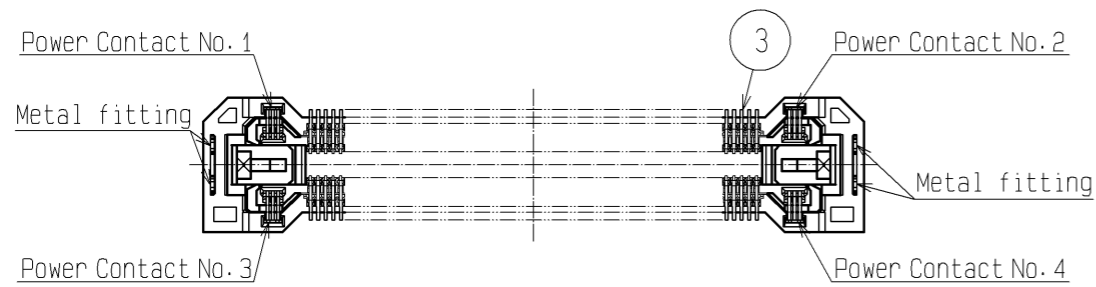
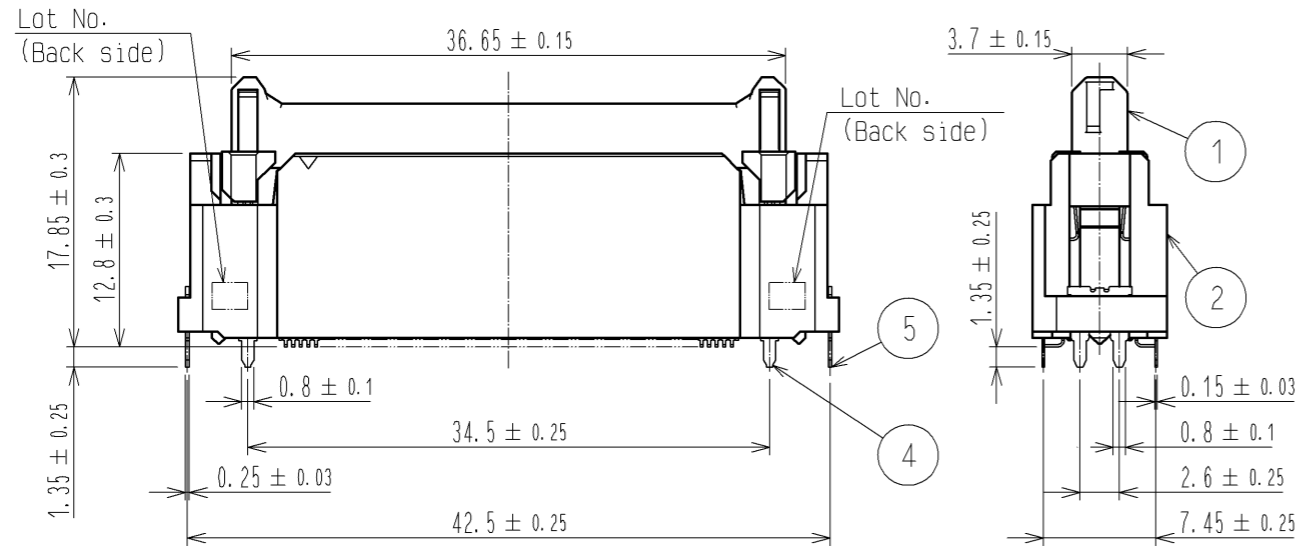
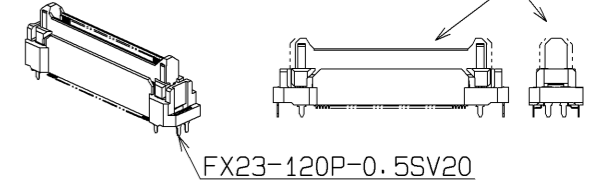
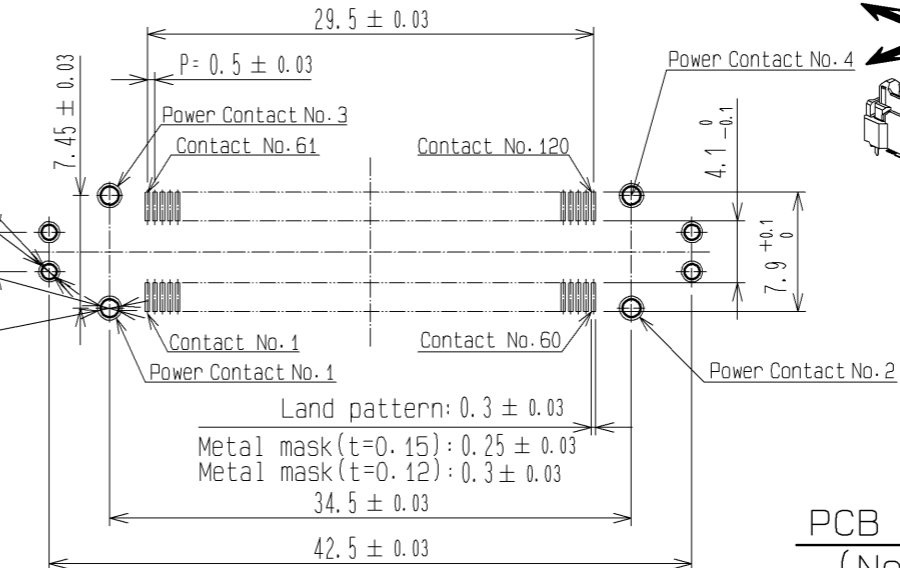
③ FLOATING RANGE

Y DIRECTION: ±0.6mm

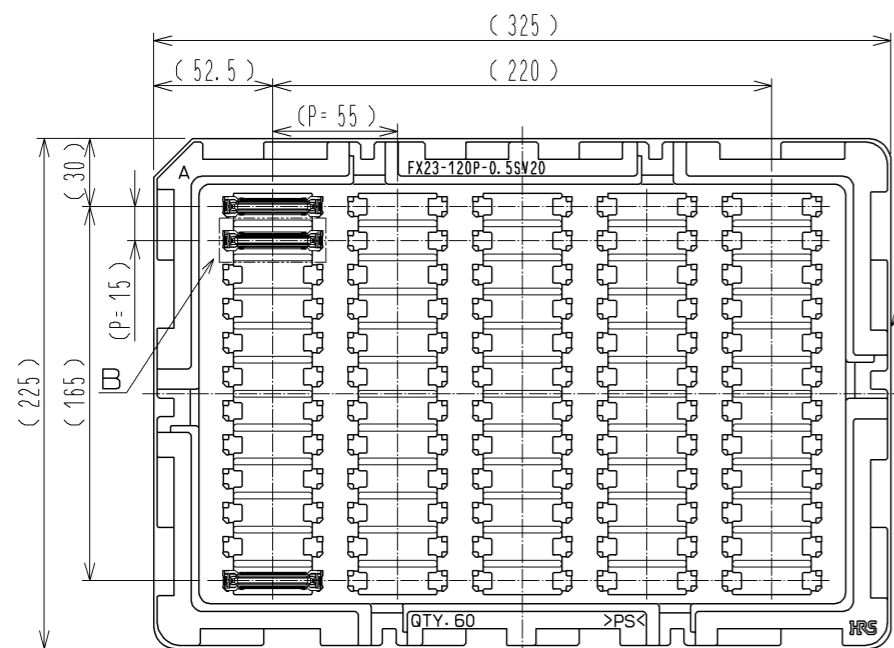
X DIRECTION: ±0.6mm



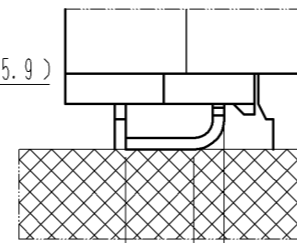
- 4 ×  $\phi 1^{+0.1}_0$  (Through-hole)
- 4 ×  $\phi 1.4^{+0.2}_0$  (Land pattern)
- 4 ×  $\phi 1.2^{+0.1}_0$  (Through-hole)
- 4 ×  $\phi 1.6^{+0.2}_0$  (Land pattern)



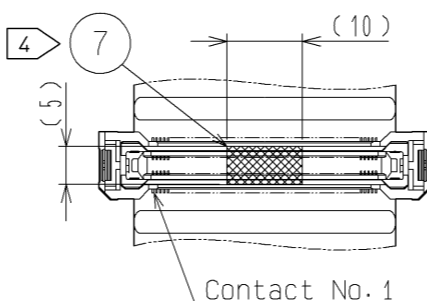
② DRAWING FOR PACKING (No scale)



C (10 : 1)



B (1 : 1)



- 1 Lead CO-Planarity is 0.1mm MAX.
- 2 This is packaged in tray. (60pcs/tray)
- 3 Floating range of this connector is ±0.6mm MAX.
- 4 It shows the vacuum pickup area. Remove the mylar tape before mating connectors.
- 5 Blemish and hit mark can be occurred through out the manufacturing process which doesn't affect quality level.
- 6 The dimensions in parentheses are for references.
- 7 Please use the connectors within the specified PCB distance.

3	COPPER ALLOY	CONTACT AREA: GOLD 0.1 μm LEAD AREA: GOLD 0.03 μm UNDER PLATING: NICKEL 1.3 μm	7	POLYIMIDE	(TAPE FOR VACUUM PICKUP)
2	POLYAMIDE	BLACK UL94V-0	6	POLYSTYRENE	(TRAY)
1	POLYAMIDE	BLACK UL94V-0	5	BRASS	LEAD AREA: TIN-PLATING 3 μm UNDER PLATING: NICKEL 1 μm
NO.	MATERIAL	FINISH . REMARKS	NO.	MATERIAL	FINISH . REMARKS
			4	COPPER ALLOY	CONTACT AREA: GOLD 0.1 μm LEAD AREA: TIN-PLATING 1 μm UNDER PLATING: NICKEL 1.3 μm

UNITS	mm	SCALE	2 : 1	COUNT	1	DESCRIPTION OF REVISIONS	DESIGNED	CHECKED	DATE
						DIS-F-007547	TS.00NO	HS.OKAWA	14.09.04
APPROVED : HS. OKAWA		14.07.25		DRAWING NO.		EDC3-353549-00			
CHECKED : KN. SHIBUYA		14.07.25		PART NO.		FX23-120P-0.5SV20			
DESIGNED : TS.00NO		14.07.25		CODE NO.		CL573-3106-9-00			
DRAWN : TS.00NO		14.07.25							