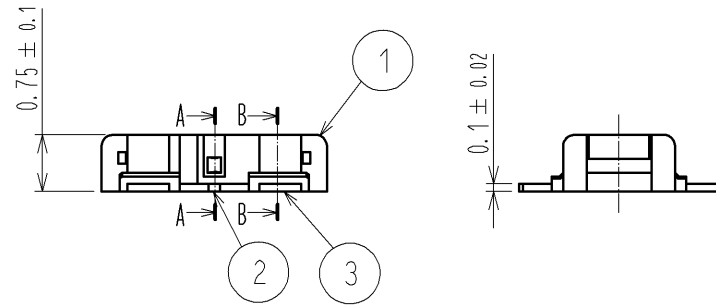
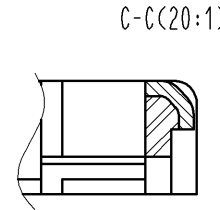
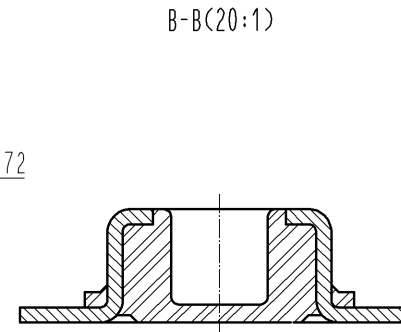
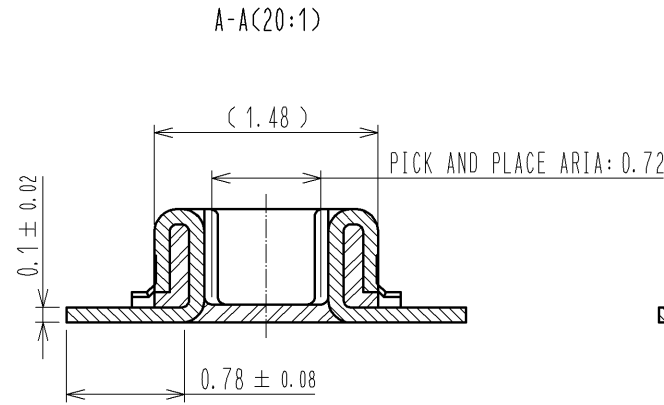
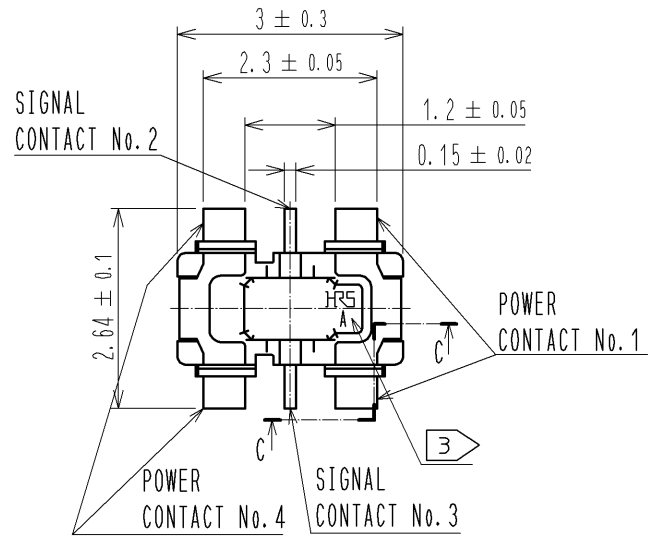
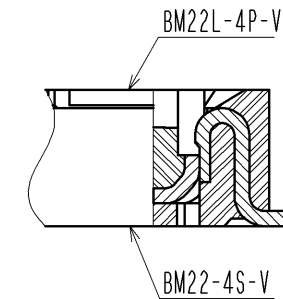
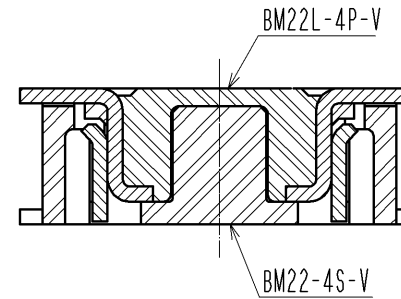
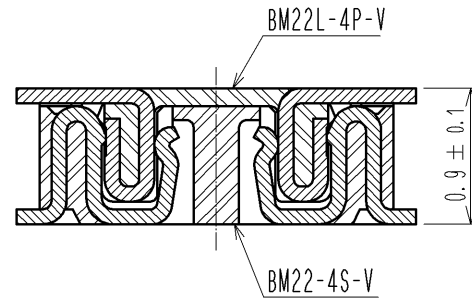


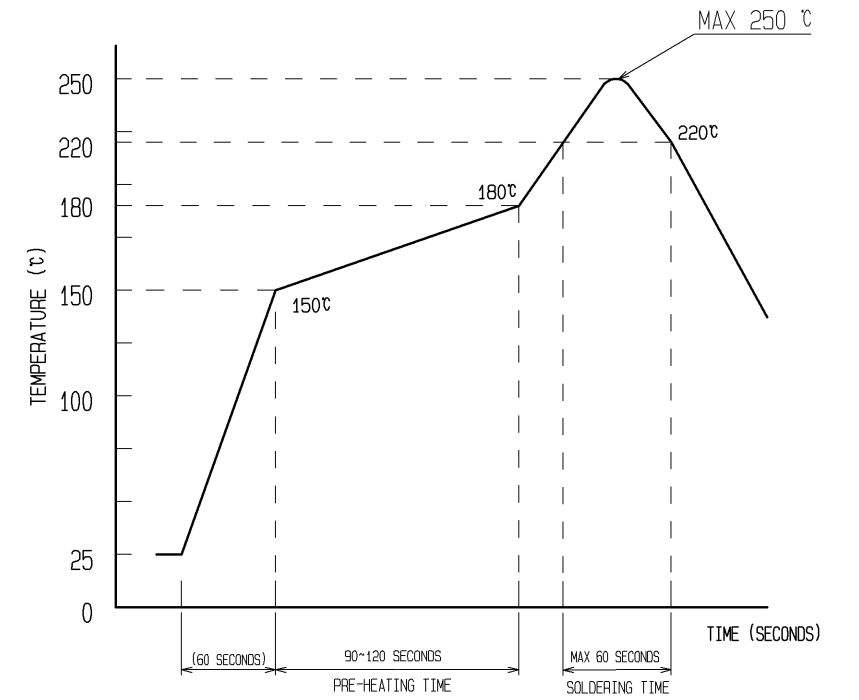
APPLICABLE STANDARD				
RATING	OPERATING TEMPERATURE RANGE	-35°C TO 85°C (NOTE 1)	STORAGE TEMPERATURE RANGE	-10°C TO 60°C
	VOLTAGE	50V AC/DC	APPLICABLE CONNECTOR	BM22-4S-V (**)
	CURRENT	SIGNAL CONTACT : 0.3A POWER CONTACT : 4.0A		
SPECIFICATIONS				
ITEM	TEST METHOD	REQUIREMENTS	QT	AT
CONSTRUCTION				
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, 1mA.	Signal contact resistance: 50 mΩ MAX. Power contact resistance: 30 mΩ MAX.	X	-
INSULATION RESISTANCE	100V DC.	100MΩ MIN.	X	-
VOLTAGE PROOF	150V AC FOR 1 min.	NO FLASHOVER OR BREAKDOWN.	X	-
MECHANICAL CHARACTERISTICS				
MECHANICAL OPERATION	10TIMES INSERTIONS AND EXTRACTIONS.	① Signal contact resistance: 50 mΩ MAX. Power contact resistance: 30 mΩ 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 <sup>2</sup> 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 → +85°C TIME 30 → 30 min UNDER 5 CYCLES. (RELOCATION TIME TO CHAMBER : WITHIN 2-3 min)	① Signal contact resistance: 50 mΩ MAX. Power contact resistance: 30 mΩ MAX. ② INSULATION RESISTANCE: 100MΩ 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 Signal contact resistance: 50 mΩ MAX. Power contact resistance: 30 mΩ MAX. ② INSULATION RESISTANCE: 50MΩ MIN. ③ NO DAMAGE, CRACK OR LOOSENESS OF PARTS.	X	-
SULPHUR DIOXIDE	EXPOSED IN 25 PPM FOR 96h, 25°C, 75%. (REFER TO JIS C 60068)	① Signal contact resistance: 50 mΩ MAX. Power contact resistance: 30 mΩ MAX. ② NO EVIDENCE OF CORROSION WHICH AFFECTS TO OPERATION OF CONNECTOR.	X	-
COUNT	DESCRIPTION OF REVISIONS	DESIGNED	CHECKED	DATE
△				
REMARKS		APPROVED	KH. IKEDA	13.12.18
NOTE1: INCLUDE THE TEMPERATURE RISING BY CURRENT		CHECKED	TS. MIYAZAKI	13.12.17
		DESIGNED	YK. SATAKE	13.12.17
Unless otherwise specified, refer to JIS C 5402 and IEC 60512.		DRAWN	KR. AJITO	13.12.17
Note QT:Qualification Test AT:Assurance Test X:Applicable Test		DRAWING NO.		ELC4-354825-02
<b>HRS</b>	SPECIFICATION SHEET	PART NO.	BM22L-4P-V (51)	
	HIROSE ELECTRIC CO., LTD.	CODE NO.	CL677-1006-7-51	△ 1/1



ENGAGEMENT FIGURE (20:1)



4 RECOMMENDED REFLOW TEMPERATURE PROFILE USING LEAD-FREE SOLDER PASTE.

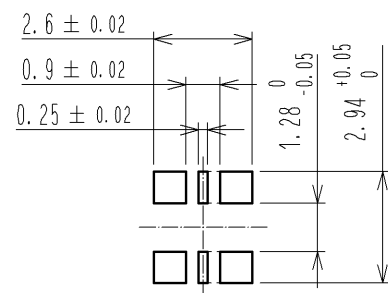


REFLOW METHOD: IR REFLOW  
 NUMBER OF REFLOW CYCLES: 2 CYCLES MAX.  
 1) REFLOW TIME  
 DURATION ABOVE 220°C, 60 SEC MAX.  
 (PEAK TEMPERATURE: 250°C MAX)  
 2) PRE-HEAT TIME  
 PRE-HEAT TEMPERATURE (MIN): 150°C  
 PRE-HEAT TEMPERATURE (MAX): 180°C  
 PRE-HEAT TIME: 90-120 SEC.

4 THIS TEMPERATURE PROFILE IS PER THE CONDITIONS SHOWN ABOVE. ADDITIONAL FACTORS, SUCH AS SOLDER PASTE TYPE, PCB SIZE AND OTHER MOUNTED COMPONENTS COULD AFFECT THE PROFILE. THEREFORE, A THOROUGH EVALUATION OF MOUNTING COONDITION IS REQUIRED PRIOR TO PRODUCTION. TEPERATURE IS MEASURED AT CONTACT LEAD.

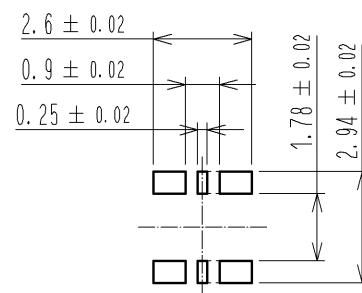
- NOTE 1. ALL LEAD CO-PLANARITY SHALL BE 0.08mm MAX  
 2 CONTACT PLATING SPECIFICATIONS  
 CONTACT AREA : GOLD 0.05 μm MIN  
 SMT LEAD : GOLD 0.01 μm MIN  
 UNDER PLATING : NICKEL 1 μm MIN  
 (SURFACE : SEALING)  
 3 HRS MARK AND CAV No. ARE INDICATED IN APPROX POSITION SHOWN.

◆ RECOMMENDED PCB LAYOUT (5:1)



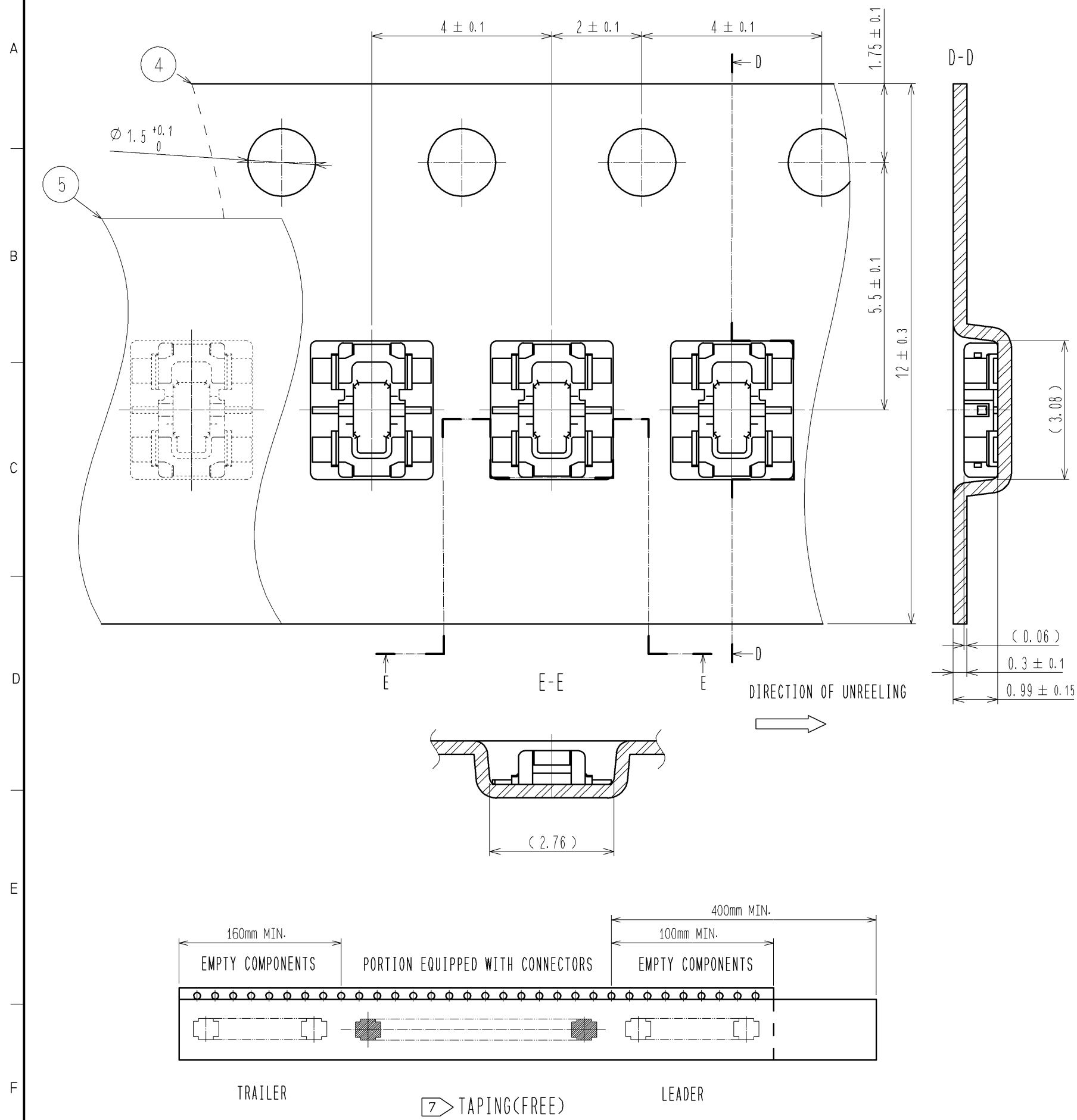
◆ RECOMMENDED METAL MASK DIMENSIONS (5:1)

METAL MASK THICKNESS : 100 μm

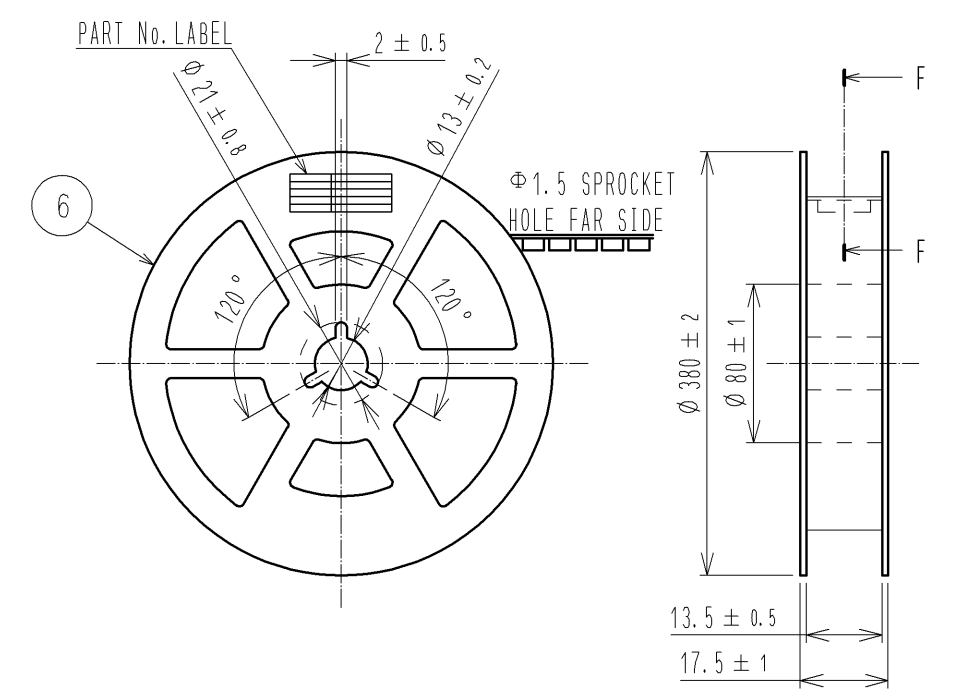


4	PS	CLEAR (EMBOSSED CARRIER TAPE)	7	PS	CLEAR (REINFORCEMENT COLLAR)
3	COPPER ALLOY	2	6	PS	BLACK (PLASTIC REEL)
2	COPPER ALLOY	2	5	POLYESTER	CLEAR (COVER TAPE)
1	LCP	UL94 V-0, BLACK			
NO.	MATERIAL	FINISH, REMARKS	NO.	MATERIAL	FINISH, REMARKS
UNITS mm		SCALE 10:1	COUNT		DESCRIPTION OF REVISIONS
DESIGNED		CHECKED		DATE	
APPROVED : KH. IKEDA		13.12.18		DRAWING NO. EDC3-354825-02	
CHECKED : TS. MIYAZAKI		13.12.17		PART NO. BM22L-4P-V(51)	
DESIGNED : YK. SATAKE		13.12.17		CODE NO. CL677-1006-7-51	
DRAWN : KR. AJITO		13.12.17		1/3	

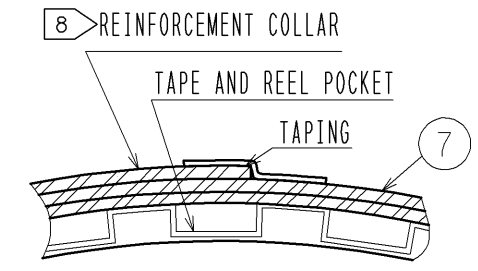
EMBOSSED CARRIER TAPE PACKAGING



STYLE AND DIMENTION OF REEL (FREE)



F-F (FREE)



DETAIL OF PART No. LABEL

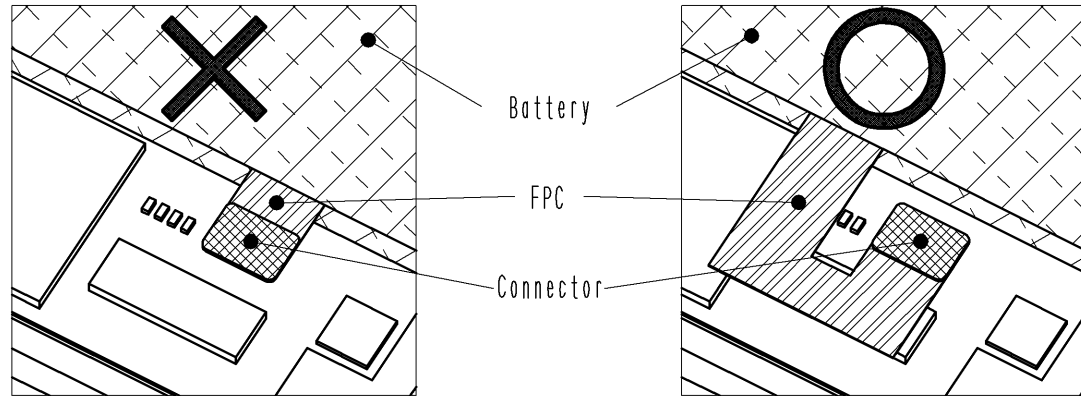
製造年月日	** ** *	DATE OF MANUFACTURED
製品コード	CL0677-1006-7-51	CODE No.
製品名	BM22L-4P-V(51)	PART No.
数量	10,000	QUANTITY
納入者	ヒロセ電機(株)	SUPPLIER

- 5. PER REEL 10,000 CONNECTORS.
- 6. THE DIMENTION IN PARENTHESSES ARE FOR REFERENCE.
- 7 REFER TO JIS C 0806-3(IEC 60286-3)(PACKAGING OF COMPONENTS FOR AUTOMATIC HANDLING)
- 8 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.

<b>HRS</b>	DRAWING NO.	EDC3-354825-02
	PART NO.	BM22L-4P-V(51)
	CODE NO.	CL677-1006-7-51
		△ 2/3

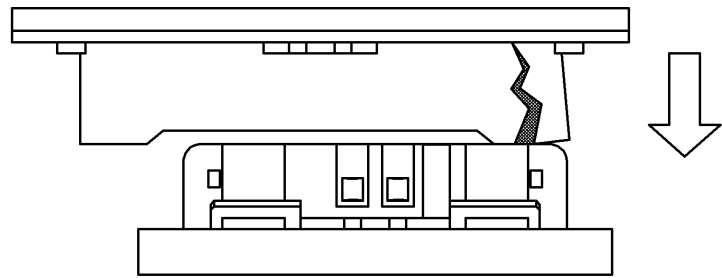
How to draw the FPC

BM22 series connector is intended to carry 3A to 4A electrical current for battery application. FPC may have less flexibility than usual, since the copper foil becomes wider and thicker to carry current of 3A.  
 Please design the FPC to have a flexibility to absorb the displacement\* of the connector case by fixing PCB and battery.

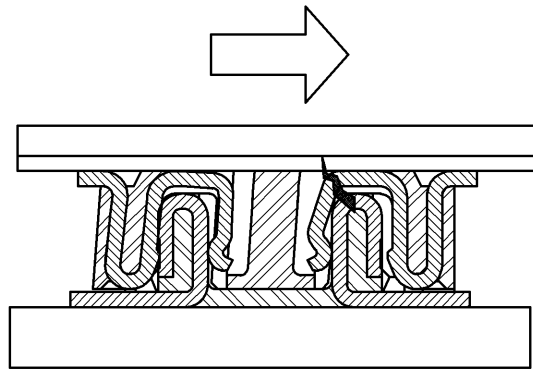


\*Possible problems caused by connector mating in incorrect positioning.  
 Mating the connector in incorrect positioning could lose the function of the connector.

① Insulator could be broken.

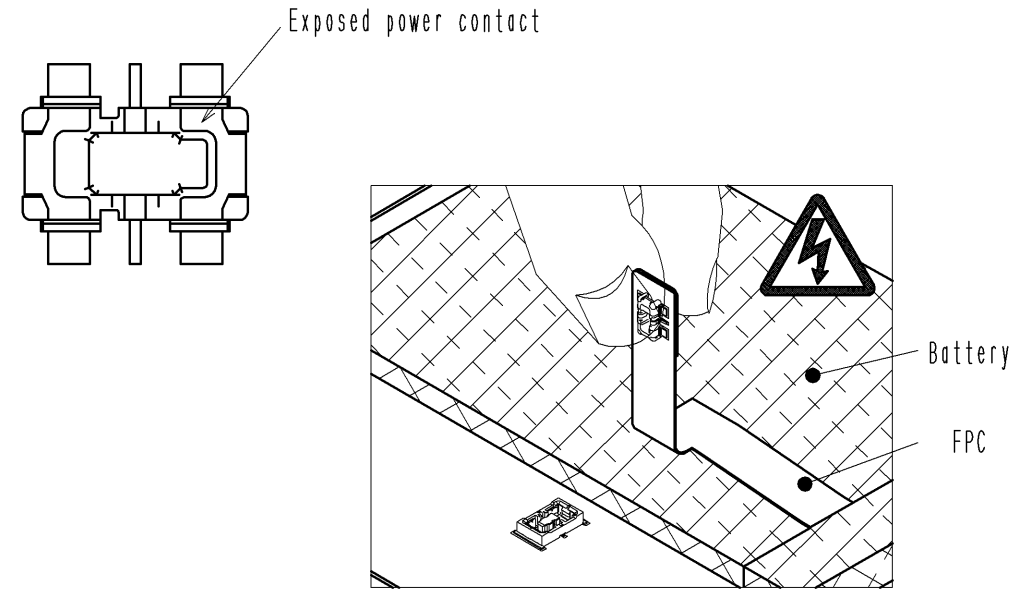


② It could apply excessive mechanical stress to single side of the contact.



Electric shock hazard

Since power contact of header side is exposed, the battery may short out if you touch the contact with finger during mating operation. To avoid this accident, mounting a header on main PWB and mounting a receptacle on battery side is recommended.



<b>HRS</b>	DRAWING NO.	EDC3-354825-02	3/3
	PART NO.	BM22L-4P-V(51)	
	CODE NO.	CL677-1006-7-51	