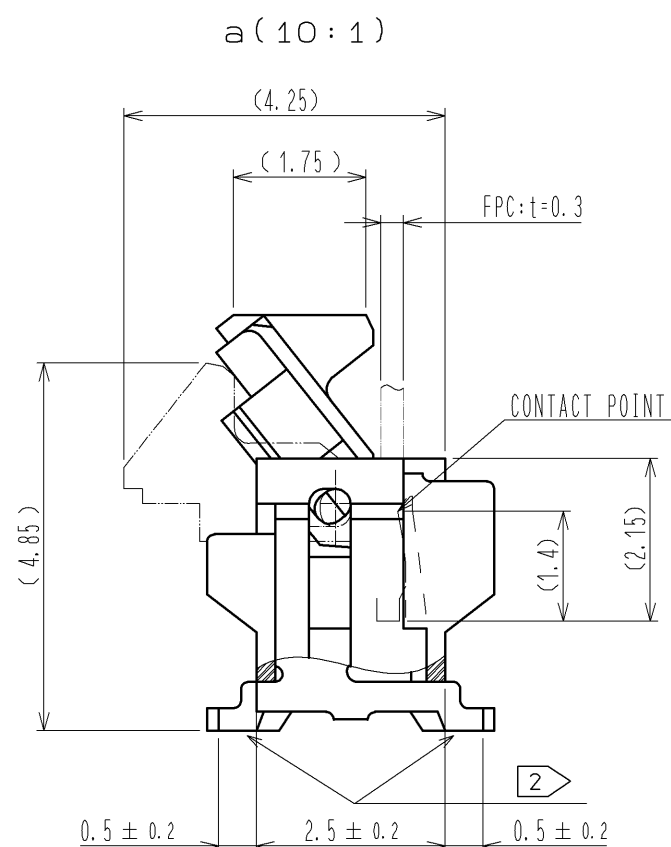




NOTE 1 THE DIMENSIONS IN PARENTHESES ARE FOR REFERENCE.

2 LEAD CO-PLANARITY SHALL BE 0.1 MAX.

3 SEE DIMENSION TABLE IN THE APPENDIX.

4 MATERIAL

| NUMBER OF CONTACTS | MATERIAL  |
|--------------------|-----------|
| 60                 | LCP       |
| OTHER              | POLYAMIDE |

5 DIFFERENCES OF THE GOLD PLATED AREA DO NOT INFLUENCE ON THE PRODUCT PERFORMANCE.

6 'n' REPRESENTS THE NUMBER OF CONTACTS.

| NUMBER OF CONTACTS | MATERIAL  |
|--------------------|-----------|
| 60                 | LCP       |
| OTHER              | POLYAMIDE |

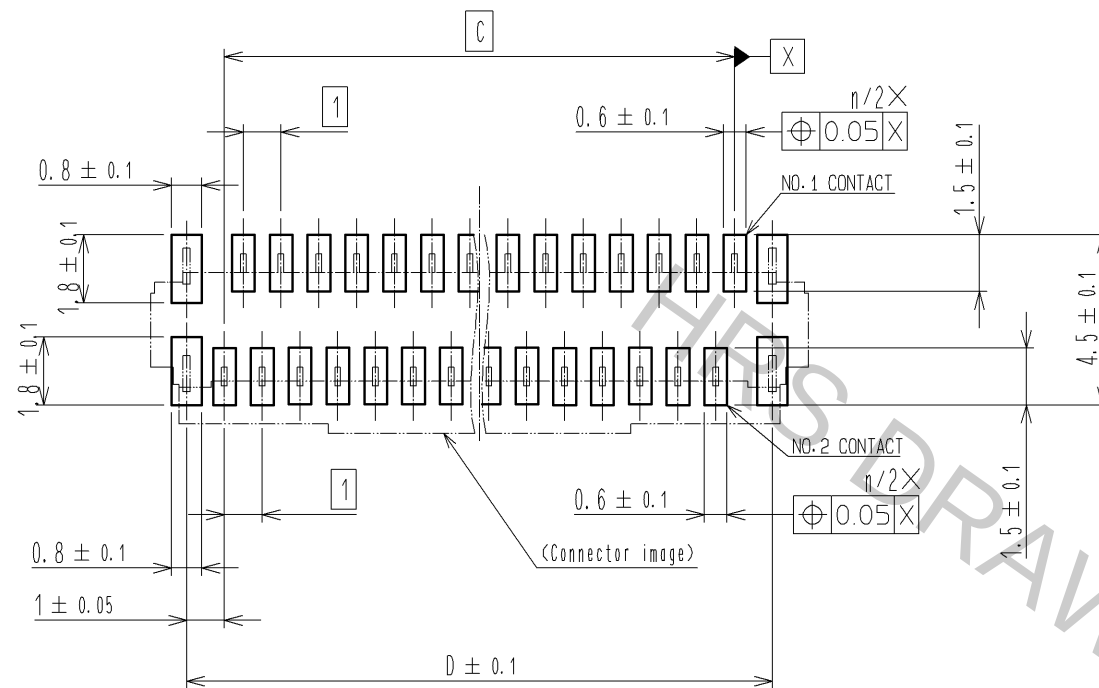
|     |                 |                                                                                                       |              |     |             |                  |
|-----|-----------------|-------------------------------------------------------------------------------------------------------|--------------|-----|-------------|------------------|
| 4   | BRASS           | TIN PLATING 1μm MIN-OVER NICKEL 1μm MIN.                                                              |              |     |             |                  |
| 3   | PHOSPHOR BRONZE | (CONTACT AREA, LEAD)<br>GOLD PLATING 0.05μmMIN OVER NICKEL 1μmMIN<br>(OTHER)<br>NICKEL PLATING 1μmMIN | <div>5</div> | 8   | (CONNECTOR) |                  |
|     |                 |                                                                                                       |              | 7   | POLYSTYRENE |                  |
| 2   | PPS             | (DEEP BROWN)                                                                                          | UL94V-0      | 6   | POLYESTER   |                  |
| 1   | <div>4</div>    | (BEIGE)                                                                                               | UL94V-0      | 5   | POLYSTYRENE |                  |
| NO. | MATERIAL        | FINISH , REMARKS                                                                                      |              | NO. | MATERIAL    | FINISH , REMARKS |

|             |  |       |  |       |                          |          |         |      |
|-------------|--|-------|--|-------|--------------------------|----------|---------|------|
| UNITS<br>mm |  | SCALE |  | COUNT | DESCRIPTION OF REVISIONS | DESIGNED | CHECKED | DATE |
|             |  | 5 : 1 |  |       |                          |          |         |      |

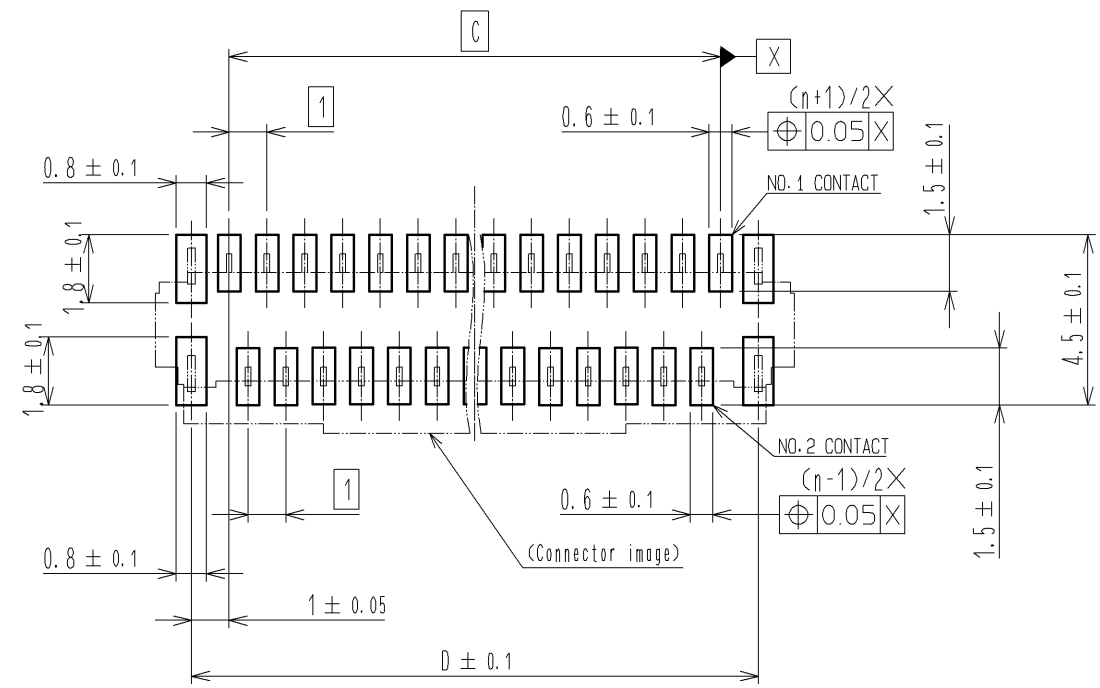
|                                                     |                         |            |             |                         |                |
|-----------------------------------------------------|-------------------------|------------|-------------|-------------------------|----------------|
| <div>HR5</div> <div>HIROSE ELECTRIC CO., LTD.</div> | APPROVED : HS. SAKAMOTO | 14. 02. 15 | DRAWING NO. | EDC3-159266-03          |                |
|                                                     | CHECKED : HS. SAKAMOTO  | 14. 02. 15 | PART NO.    | FH12- * * S-0. 5SVA(54) |                |
|                                                     | DESIGNED : RT. IKEDA    | 14. 02. 13 | CODE NO.    | CL586                   |                |
|                                                     | DRAWN : NM. SANPEI      | 14. 02. 12 |             | <div></div>             | <div>1/5</div> |

## RECOMMENDED PCB MOUNTING PATTERN

NUMBER OF CONTACTS: EVEN NUMBER

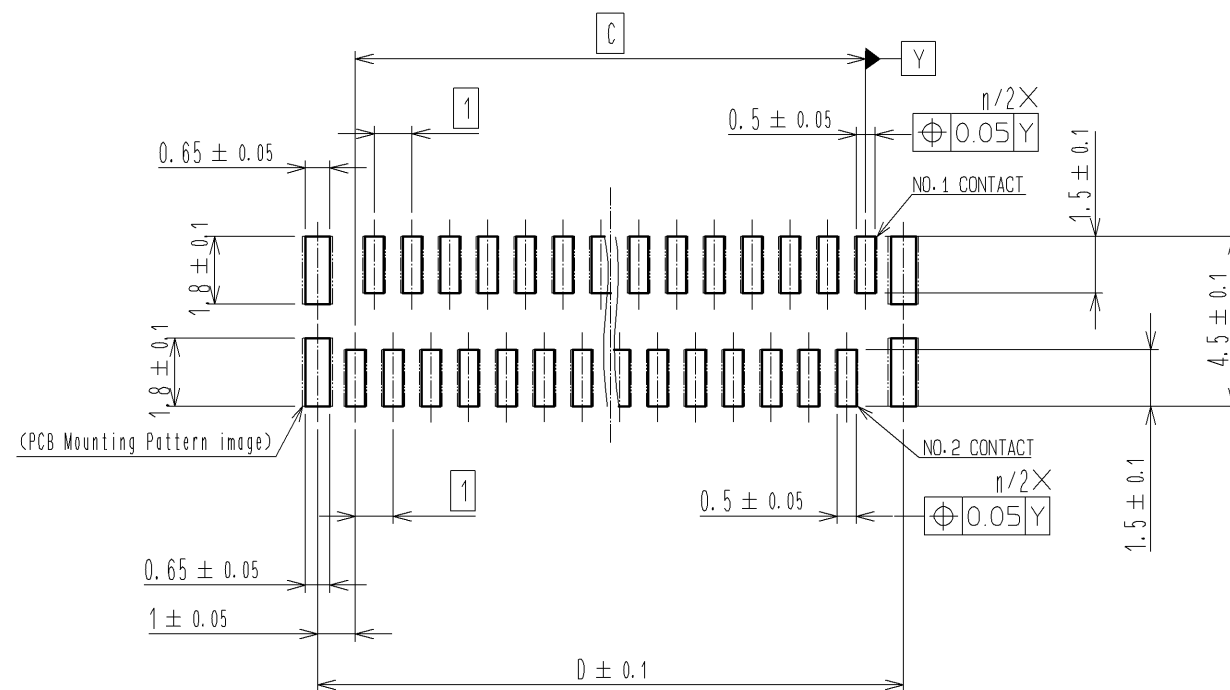


NUMBER OF CONTACTS: ODD NUMBER

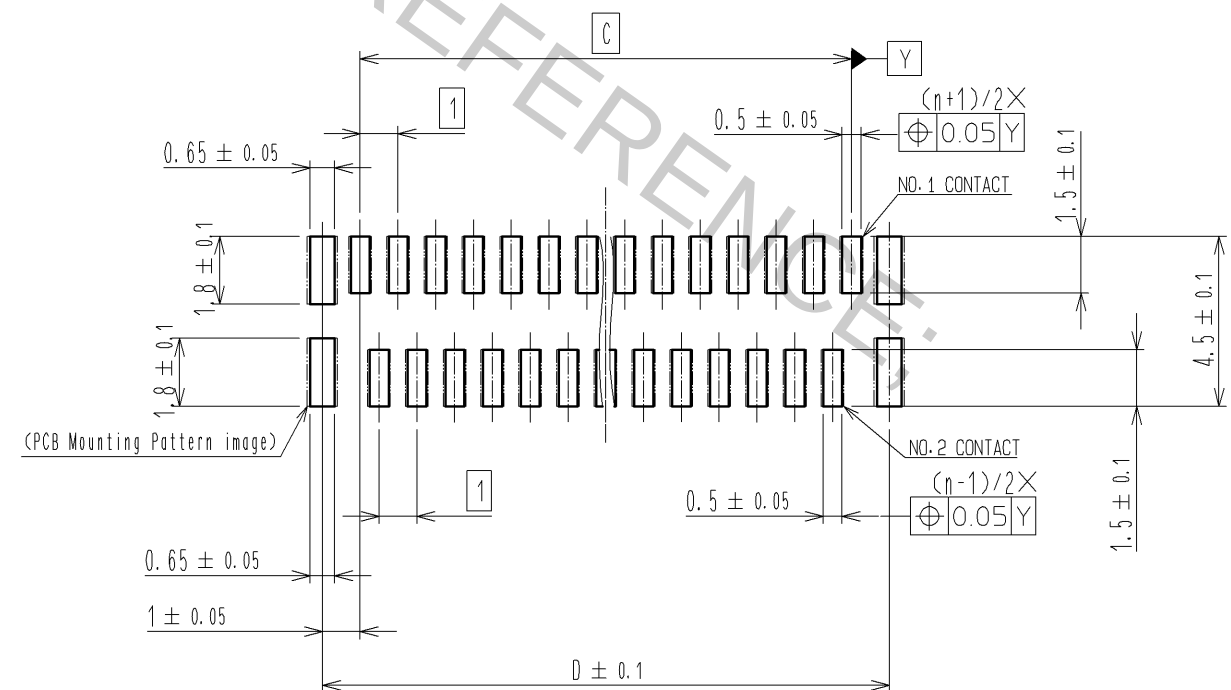


RECOMMENDED STENCIL PATTERN  
(RECOMMENDED STENCIL THICKNESS :  $t=0.15$ )

NUMBER OF CONTACTS: EVEN NUMBER

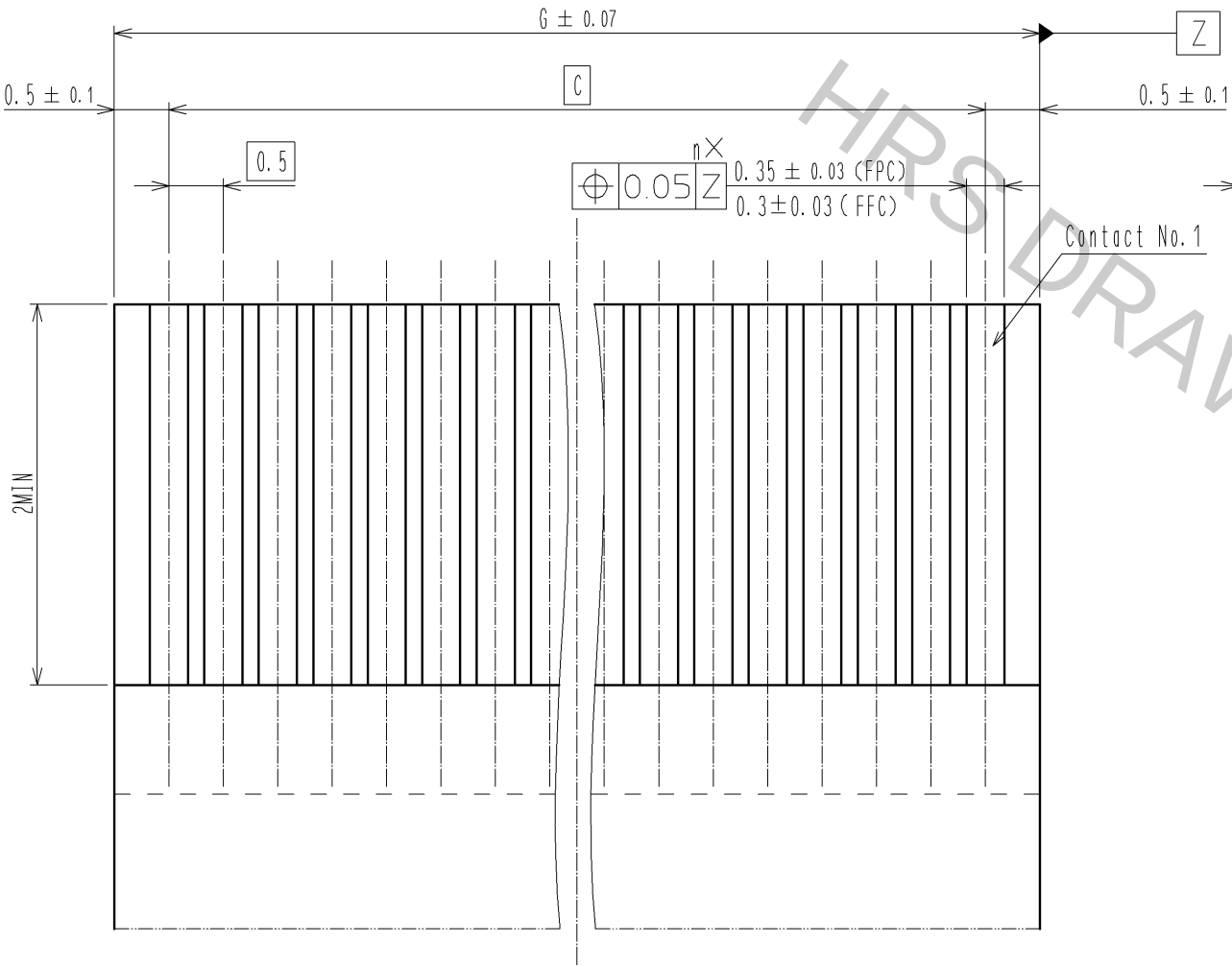


NUMBER OF CONTACTS: ODD NUMBER



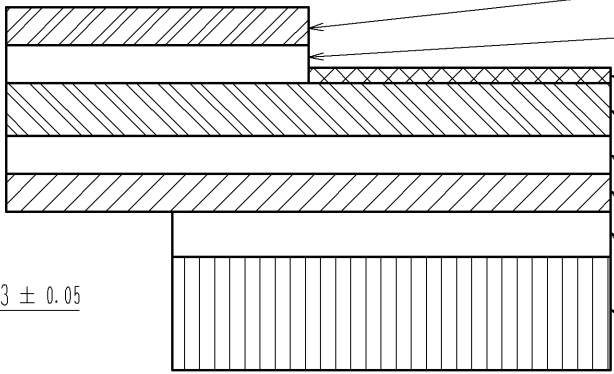
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RECOMMENDED FPC/FFC (15:1)



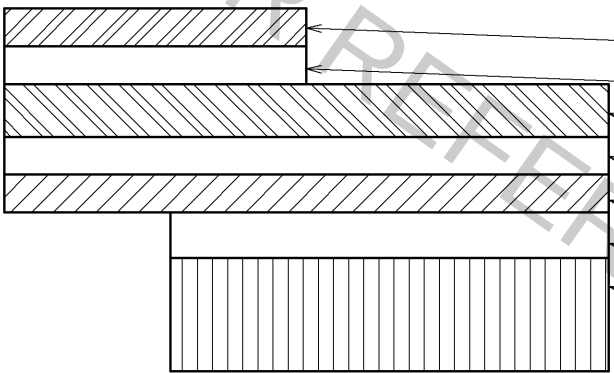
7 THICKNESS OF SUPPORTING TAPE SHALL BE 0.188(7.5MIL) MIN.

FPC CONFIGURATION (REFERENCE EXAMPLE) (SCALE:FREE)



| MATERIAL NAME                   | MATERIAL                                       | THICKNESS(μm) |
|---------------------------------|------------------------------------------------|---------------|
| COVERING FILM LAYER             | POLYIMIDE 1mil thick.                          | (25)          |
| COVER ADHESIVE                  |                                                | (25)          |
| SURFACE TREATMENT               | NICKEL UNDERCOAT 1 to 5μm + GOLD PLATING 0.2μm | 3             |
| COPPER FOIL                     | CU 1 oz                                        | 35            |
| BASE ADHESIVE                   | HEAT-HARDENED ADHESIVE                         | 25            |
| BASE FILM                       | POLYIMIDE 1mil thick                           | 25            |
| REINFORCEMENT MATERIAL ADHESIVE | HEAT-HARDENED ADHESIVE                         | 30            |
| STIFFENER FILM                  | POLYIMIDE 7mil thick                           | 175           |

FFC CONFIGURATION (REFERENCE EXAMPLE) (SCALE:FREE)



| MATERIAL NAME                | MATERIAL                | THICKNESS(μm) |
|------------------------------|-------------------------|---------------|
| POLYESTER FILM               |                         | (12)          |
| ADHESIVE                     | THERMOPLASTIC POLYESTER | (30)          |
| GOLD PLATED SOFT COPPER FILM |                         | 35            |
| ADHESIVE                     | POLYESTER               | 30            |
| POLYESTER                    |                         | 12            |
| ADHESIVE                     | POLYESTER               | 30            |
| STIFFENER FILM               | POLYESTER               | 188           |

HRS

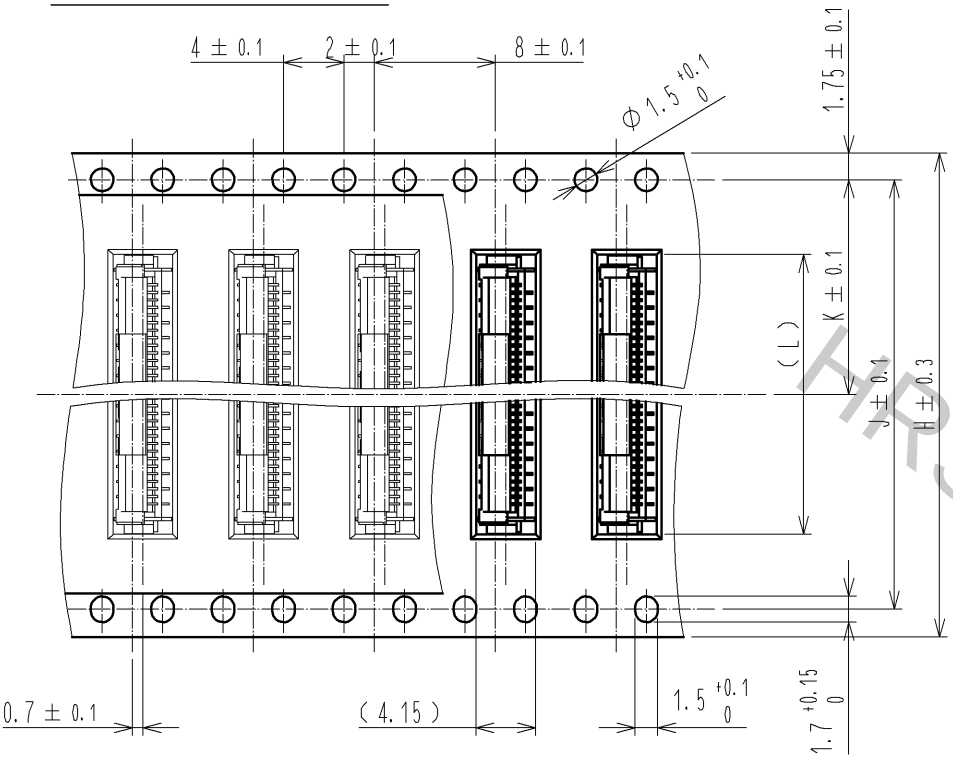
|             |                     |
|-------------|---------------------|
| DRAWING NO. | EDC3-159266-03      |
| PART NO.    | FH12-**S-0.5SVA(54) |
| CODE NO.    | CL586               |

3/5

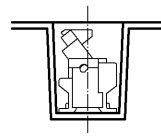
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EMBOSSED CARRIER TAPE DIMENSION (2:1)

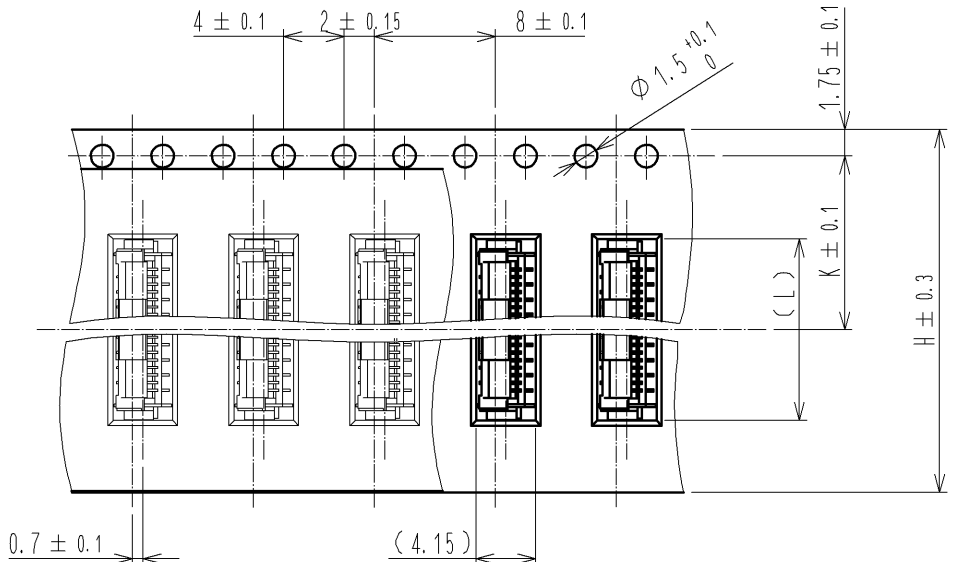
TAPE WIDTH : 32mm MIN



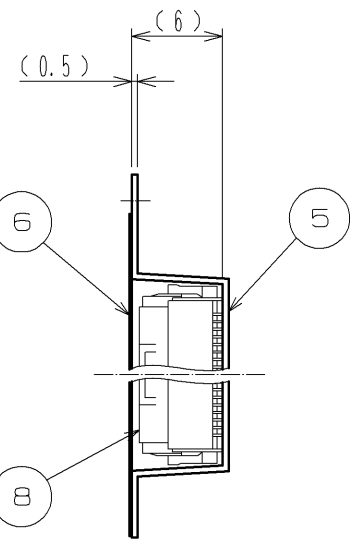
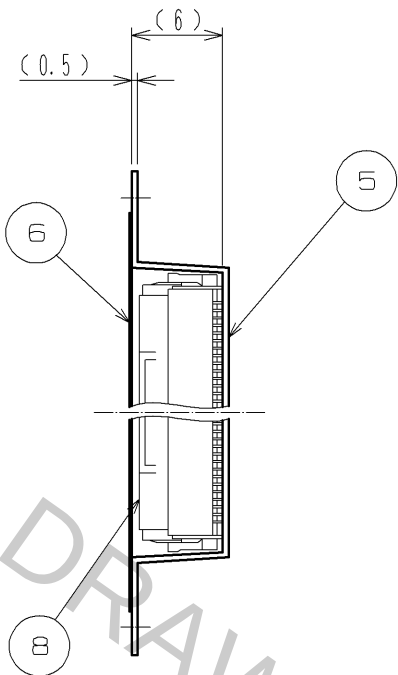
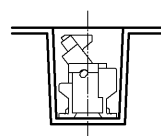
DIRECTION OF UNREELING



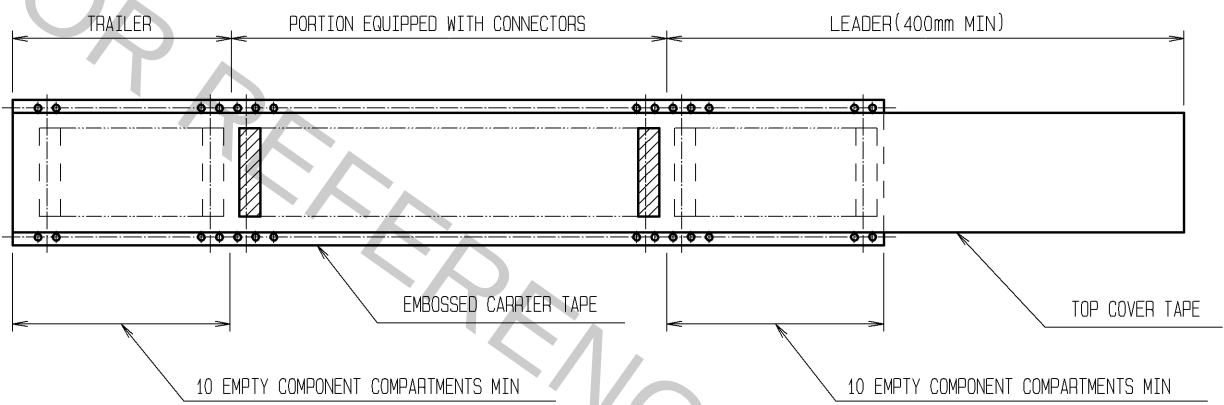
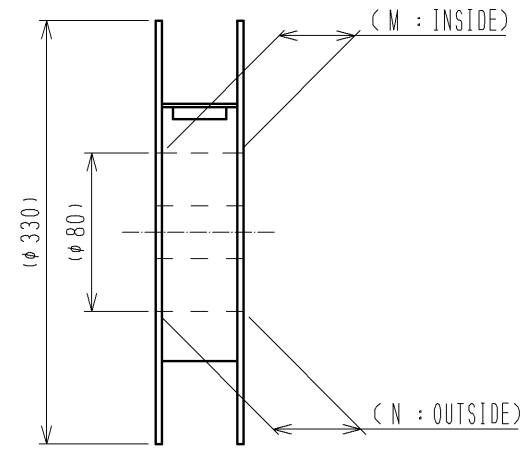
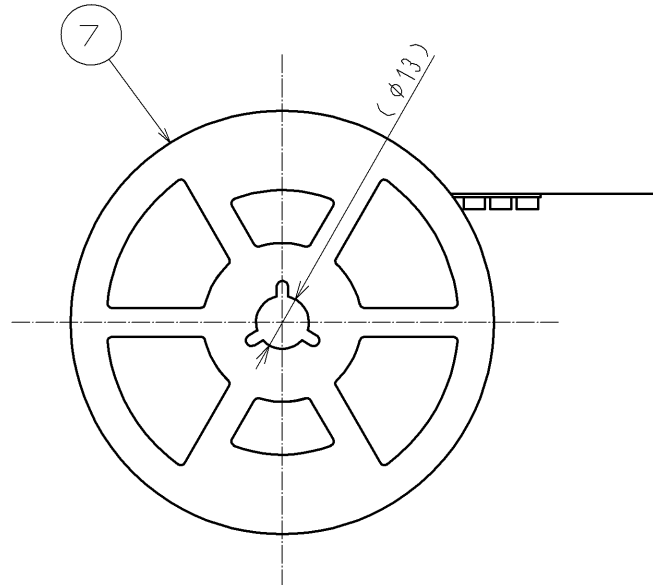
TAPE WIDTH : 24mm MAX



DIRECTION OF UNREELING



REEL DIMENSION(SHOW AS BELOW)(FREE)



NOTE 8 1 REEL : 1000 CONNECTORS.

DRAWING FOR PACKING

|            |             |                     |
|------------|-------------|---------------------|
| <b>HRS</b> | DRAWING NO. | EDC3-159266-03      |
|            | PART NO.    | FH12-**S-0.5SVA(54) |
|            | CODE NO.    | CL586               |
|            |             | △ 4/5               |

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| PART NO.            | CODE NO.        | NUMBER<br>OF<br>CONTACTS | DIMENSION TABLE OF CONNECTOR, FPC, FFC,<br>PCB MOUNTING PATTERN AND STENCIL PATTERN |      |      |      |      |   |      |    | DIMENSION TABLE OF DRAWING FOR PACKING |      |      |      |      |  |
|---------------------|-----------------|--------------------------|-------------------------------------------------------------------------------------|------|------|------|------|---|------|----|----------------------------------------|------|------|------|------|--|
|                     |                 |                          | A                                                                                   | B    | C    | D    | E    | F | G    | H  | J                                      | K    | L    | M    | N    |  |
| FH12- 6S-0.5SVA(54) | CL586-0756-4-54 | 6                        | 6.4                                                                                 | 4.9  | 2.5  | 4.5  | 6.2  | 2 | 3.5  | 16 | —                                      | 7.5  | 6.5  | 17.4 | 21.4 |  |
| FH12-10S-0.5SVA(54) | CL586-0806-0-54 | 10                       | 8.4                                                                                 | 6.9  | 4.5  | 6.5  | 8.2  | 4 | 5.5  | 16 | —                                      | 7.5  | 8.5  | 17.4 | 21.4 |  |
| FH12-12S-0.5SVA(54) | CL586-0757-7-54 | 12                       | 9.4                                                                                 | 7.9  | 5.5  | 7.5  | 9.2  | 4 | 6.5  | 16 | —                                      | 7.5  | 9.5  | 17.4 | 21.4 |  |
| FH12-13S-0.5SVA(54) | CL586-0807-3-54 | 13                       | 9.9                                                                                 | 8.4  | 6    | 8    | 9.7  | 4 | 7    | 24 | —                                      | 11.5 | 10   | 25.4 | 29.4 |  |
| FH12-15S-0.5SVA(54) | CL586-0808-6-54 | 15                       | 10.9                                                                                | 9.4  | 7    | 9    | 10.7 | 4 | 8    | 24 | —                                      | 11.5 | 11   | 25.4 | 29.4 |  |
| FH12-16S-0.5SVA(54) | CL586-0809-9-54 | 16                       | 11.4                                                                                | 9.9  | 7.5  | 9.5  | 11.2 | 4 | 8.5  | 24 | —                                      | 11.5 | 11.5 | 25.4 | 29.4 |  |
| FH12-17S-0.5SVA(54) | CL586-0810-8-54 | 17                       | 11.9                                                                                | 10.4 | 8    | 10   | 11.7 | 4 | 9    | 24 | —                                      | 11.5 | 12   | 25.4 | 29.4 |  |
| FH12-18S-0.5SVA(54) | CL586-0811-0-54 | 18                       | 12.4                                                                                | 10.9 | 8.5  | 10.5 | 12.2 | 4 | 9.5  | 24 | —                                      | 11.5 | 12.5 | 25.4 | 29.4 |  |
| FH12-20S-0.5SVA(54) | CL586-0812-3-54 | 20                       | 13.4                                                                                | 11.9 | 9.5  | 11.5 | 13.2 | 4 | 10.5 | 24 | —                                      | 11.5 | 13.5 | 25.4 | 29.4 |  |
| FH12-22S-0.5SVA(54) | CL586-0813-6-54 | 22                       | 14.4                                                                                | 12.9 | 10.5 | 12.5 | 14.2 | 8 | 11.5 | 24 | —                                      | 11.5 | 14.5 | 25.4 | 29.4 |  |
| FH12-24S-0.5SVA(54) | CL586-0814-9-54 | 24                       | 15.4                                                                                | 13.9 | 11.5 | 13.5 | 15.2 | 8 | 12.5 | 24 | —                                      | 11.5 | 15.5 | 25.4 | 29.4 |  |
| FH12-26S-0.5SVA(54) | CL586-0815-1-54 | 26                       | 16.4                                                                                | 14.9 | 12.5 | 14.5 | 16.2 | 8 | 13.5 | 24 | —                                      | 11.5 | 16.5 | 25.4 | 29.4 |  |
| FH12-30S-0.5SVA(54) | CL586-0750-8-54 | 30                       | 18.4                                                                                | 16.9 | 14.5 | 16.5 | 18.2 | 8 | 15.5 | 32 | 28.4                                   | 14.2 | 18.5 | 33.4 | 37.4 |  |
| FH12-32S-0.5SVA(54) | CL586-0816-4-54 | 32                       | 19.4                                                                                | 17.9 | 15.5 | 17.5 | 19.2 | 8 | 16.5 | 32 | 28.4                                   | 14.2 | 19.5 | 33.4 | 37.4 |  |
| FH12-33S-0.5SVA(54) | CL586-0818-0-54 | 33                       | 19.9                                                                                | 18.4 | 16   | 18   | 19.7 | 8 | 17   | 32 | 28.4                                   | 14.2 | 20   | 33.4 | 37.4 |  |
| FH12-34S-0.5SVA(54) | CL586-0817-7-54 | 34                       | 20.4                                                                                | 18.9 | 16.5 | 18.5 | 20.2 | 8 | 17.5 | 44 | 40.4                                   | 20.2 | 20.5 | 45.4 | 49.4 |  |
| FH12-36S-0.5SVA(54) | CL586-0819-2-54 | 36                       | 21.4                                                                                | 19.9 | 17.5 | 19.5 | 21.2 | 8 | 18.5 | 44 | 40.4                                   | 20.2 | 21.5 | 45.4 | 49.4 |  |
| FH12-40S-0.5SVA(54) | CL586-0804-5-54 | 40                       | 23.4                                                                                | 21.9 | 19.5 | 21.5 | 23.2 | 8 | 20.5 | 44 | 40.4                                   | 20.2 | 23.5 | 45.4 | 49.4 |  |
| FH12-45S-0.5SVA(54) | CL586-0820-1-54 | 45                       | 25.9                                                                                | 24.4 | 22   | 24   | 25.7 | 8 | 23   | 44 | 40.4                                   | 20.2 | 26   | 45.4 | 49.4 |  |
| FH12-49S-0.5SVA(54) | CL586-0821-4-54 | 49                       | 27.9                                                                                | 26.4 | 24   | 26   | 27.7 | 8 | 25   | 44 | 40.4                                   | 20.2 | 28   | 45.4 | 49.4 |  |
| FH12-50S-0.5SVA(54) | CL586-0805-8-54 | 50                       | 28.4                                                                                | 26.9 | 24.5 | 26.5 | 28.2 | 8 | 25.5 | 44 | 40.4                                   | 20.2 | 28.5 | 45.4 | 49.4 |  |
| FH12-60S-0.5SVA(54) | CL586-0749-9-54 | 60                       | 33.4                                                                                | 31.9 | 29.5 | 31.5 | 33.2 | 8 | 30.5 | 56 | 52.4                                   | 26.2 | 33.5 | 57.4 | 61.4 |  |

|            |             |                       |                                                 |
|------------|-------------|-----------------------|-------------------------------------------------|
| <b>HRS</b> | DRAWING NO. | EDC3-159266-03        |                                                 |
|            | PART NO.    | FH12- ** S-0.5SVA(54) |                                                 |
|            | CODE NO.    | CL586                 | <div><div>△</div><div>5</div><div>5</div></div> |