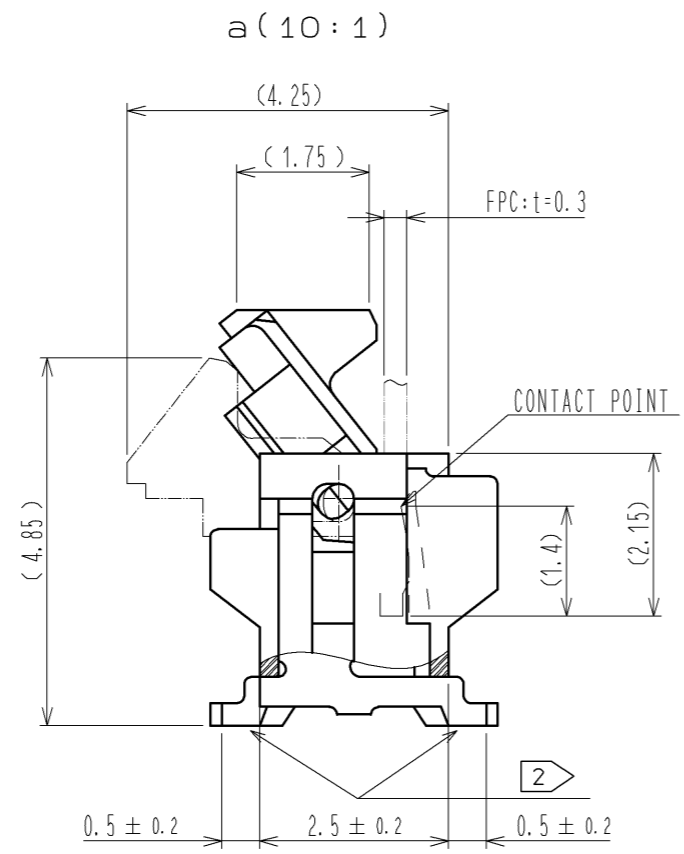
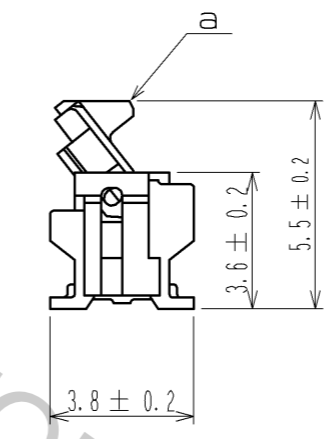
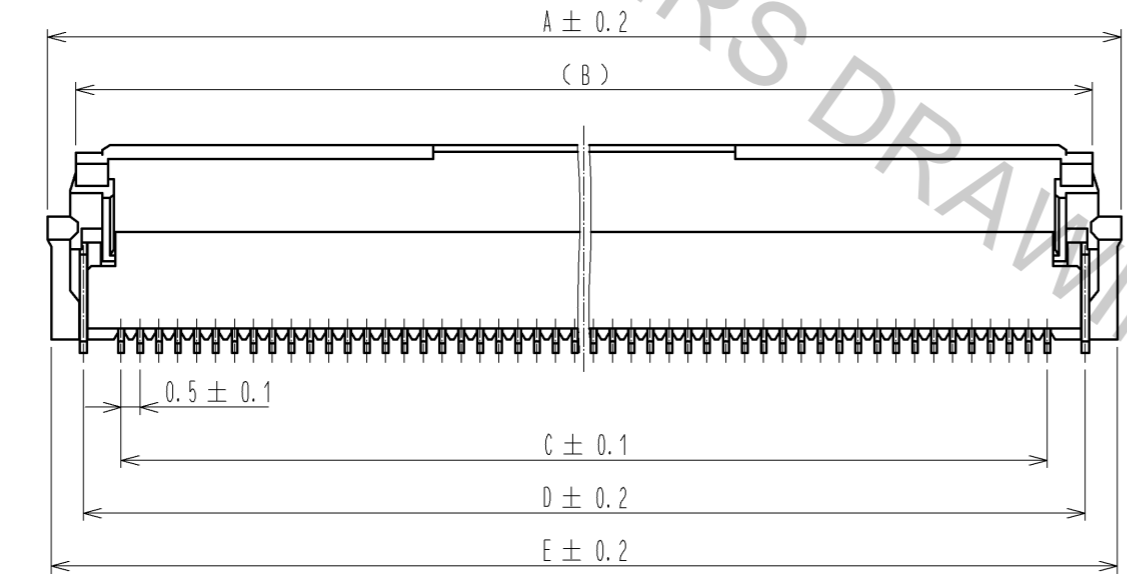
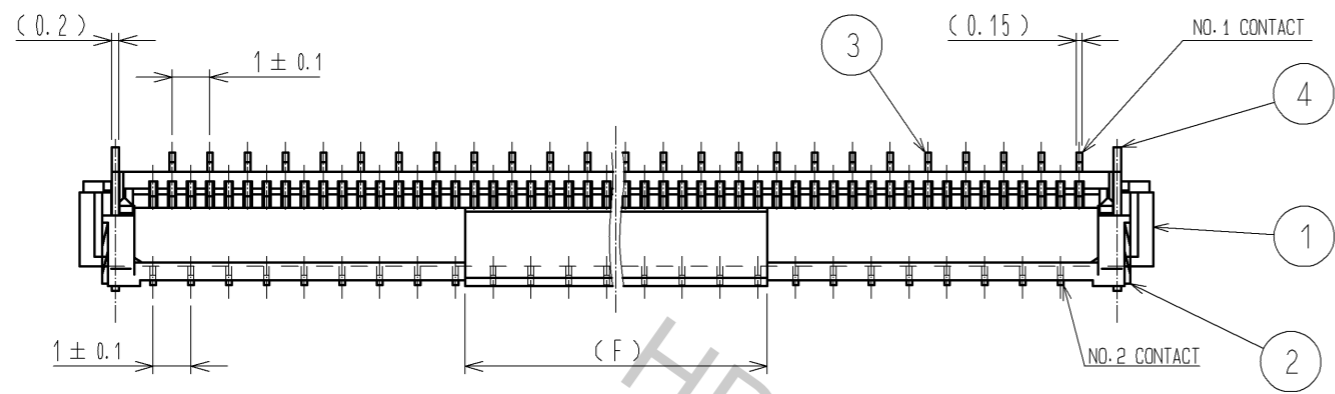


Apr.1.2017 Copyright 2017 HIROSE ELECTRIC CO., LTD. All Rights Reserved.



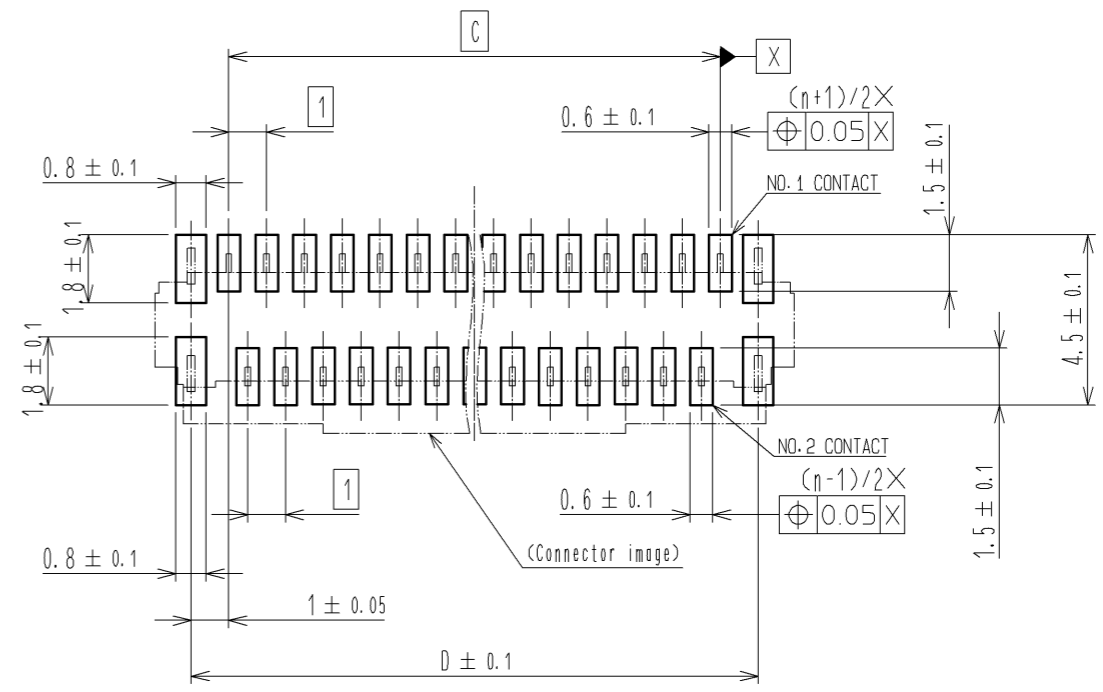
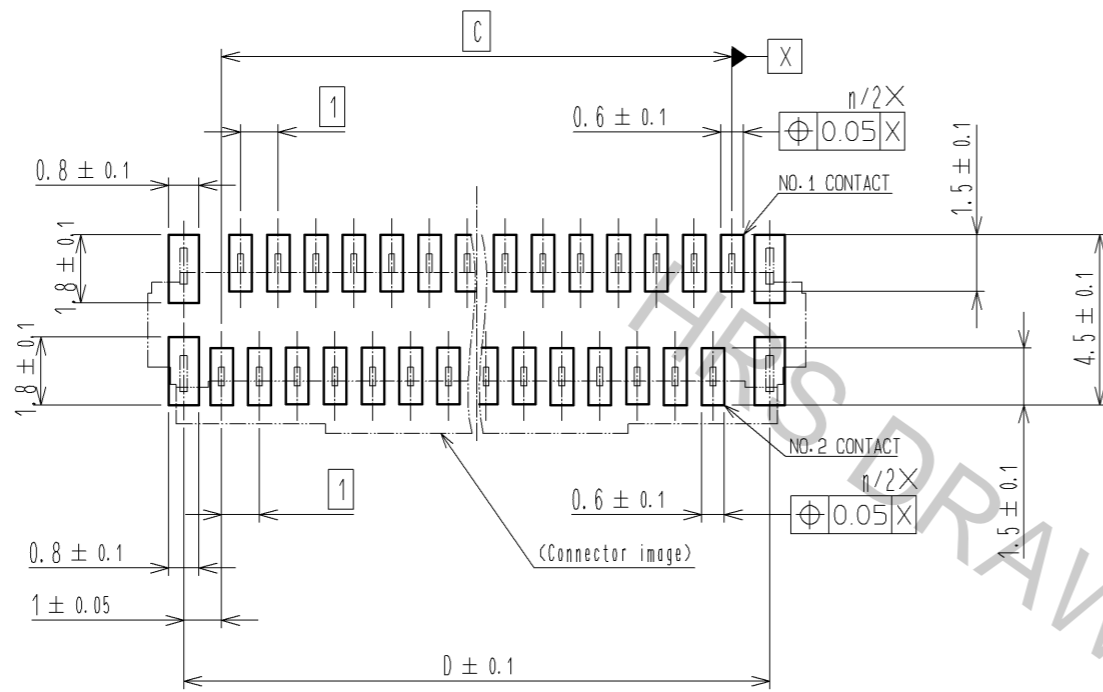
- NOTE 1 THE DIMENSIONS IN PARENTHESES ARE FOR REFERENCE.  
 2 LEAD CO-PLANARITY SHALL BE 0.1 MAX.  
 3 SEE DIMENSION TABLE IN THE APPENDIX.  
 4 MATERIAL
- | NUMBER OF CONTACTS | MATERIAL  |
|--------------------|-----------|
| 60                 | LCP       |
| OTHER              | POLYAMIDE |
- 5 DIFFERENCES OF THE GOLD PLATED AREA DO NOT INFLUENCE ON THE PRODUCT PERFORMANCE.  
 6 'n' REPRESENTS THE NUMBER OF CONTACTS.

|                                      |                 |   |            |                          |                         |         |      |
|--------------------------------------|-----------------|---|------------|--------------------------|-------------------------|---------|------|
| 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 | 8          | (CONNECTOR)              |                         |         |      |
| 2                                    | PPS             | (DEEP BROWN) UL94V-0  | 6          | POLYESTER                |                         |         |      |
| 1                                    | 4               | (BEIGE) UL94V-0   | 5          | POLYSTYRENE              |                         |         |      |
| NO.                                  | MATERIAL        | FINISH . REMARKS  | NO.        | MATERIAL                 | FINISH . REMARKS        |         |      |
| UNITS<br>mm                          |                 | SCALE<br>5 : 1  | COUNT<br>△ | DESCRIPTION OF REVISIONS | DESIGNED                | CHECKED | DATE |
| <b>HRS</b> HIROSE ELECTRIC CO., LTD. |                 | 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 |                          | △ 1/5                   |         |      |

RECOMMENDED PCB MOUNTING PATTERN

NUMBER OF CONTACTS: EVEN NUMBER

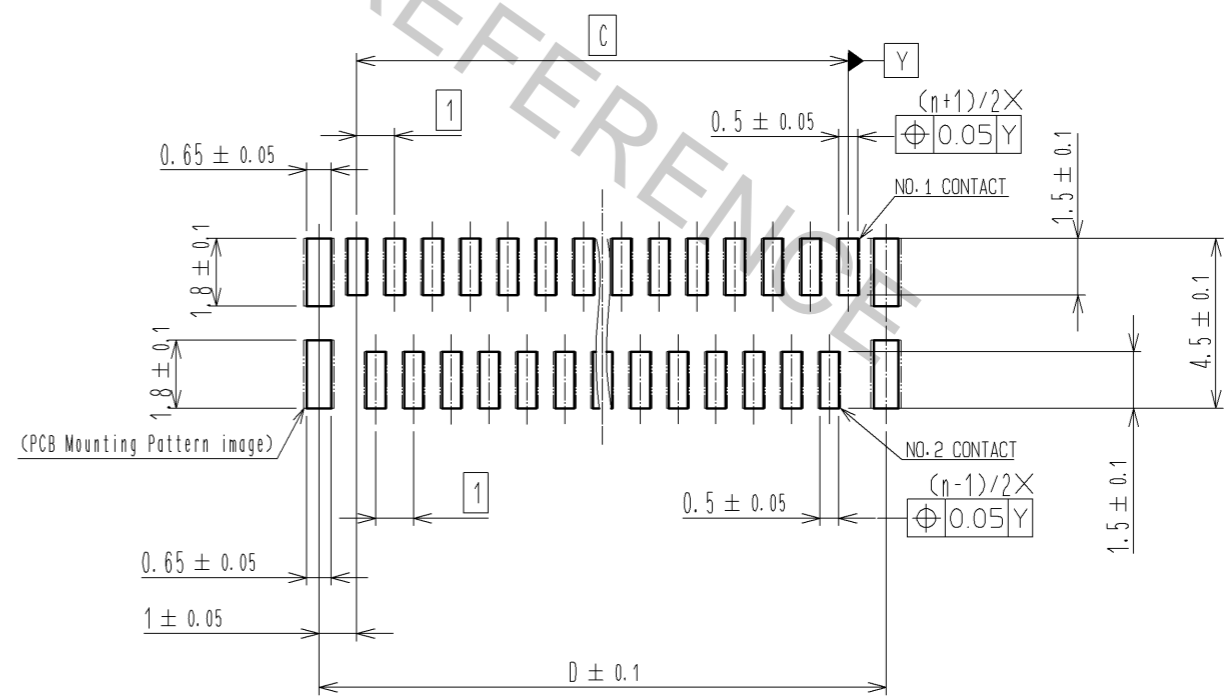
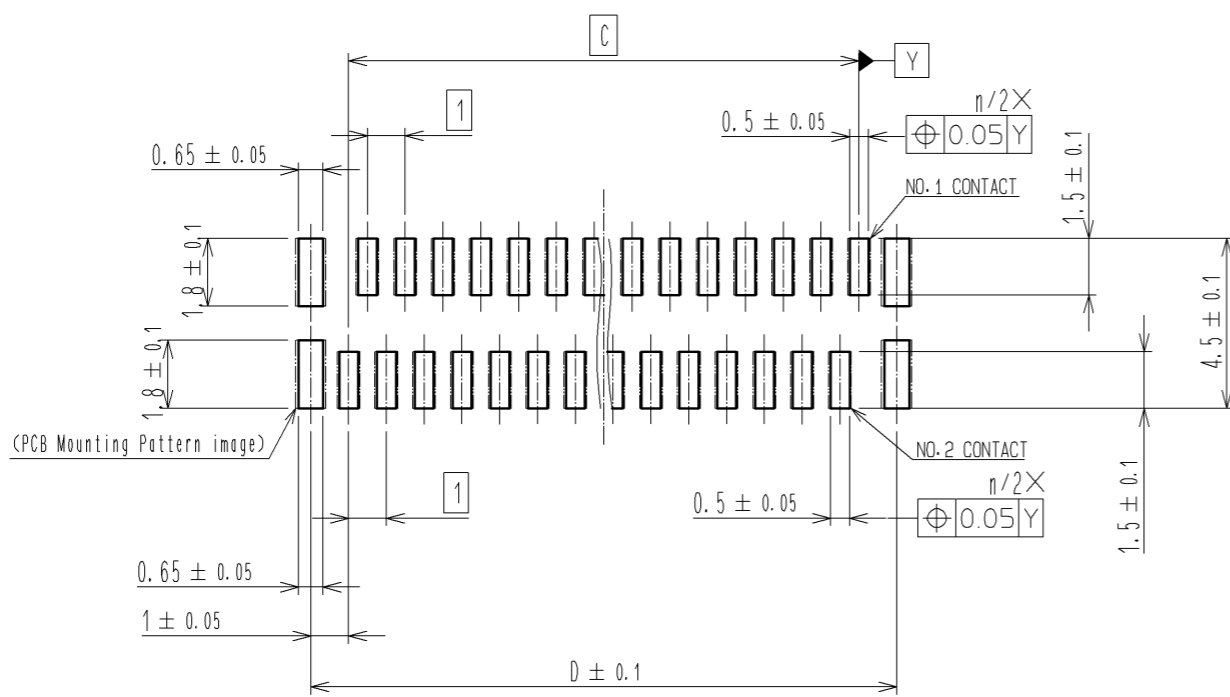
NUMBER OF CONTACTS: ODD NUMBER



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

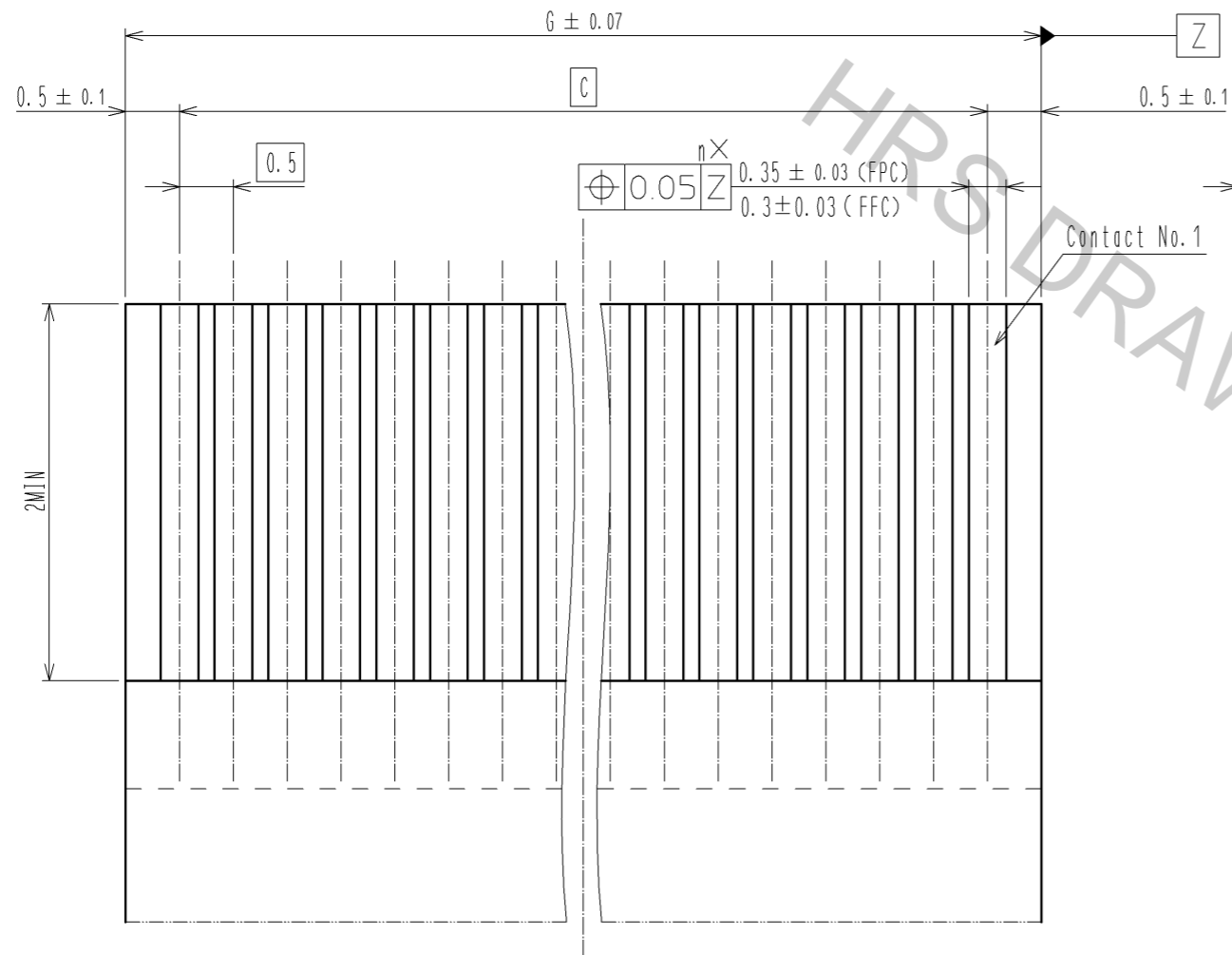
NUMBER OF CONTACTS: EVEN NUMBER

NUMBER OF CONTACTS: ODD NUMBER



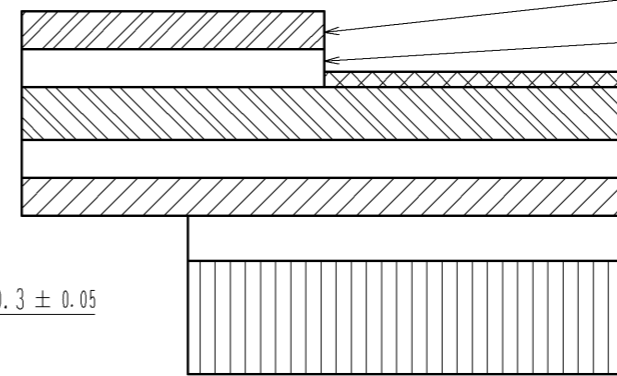
|            |             |                     |
|------------|-------------|---------------------|
| <b>HRS</b> | DRAWING NO. | EDC3-159266-03      |
|            | PART NO.    | FH12-**S-0.5SVA(54) |
|            | CODE NO.    | CL586               |
|            |             | △ 2/5               |

RECOMMENDED FPC/FFC (15:1)



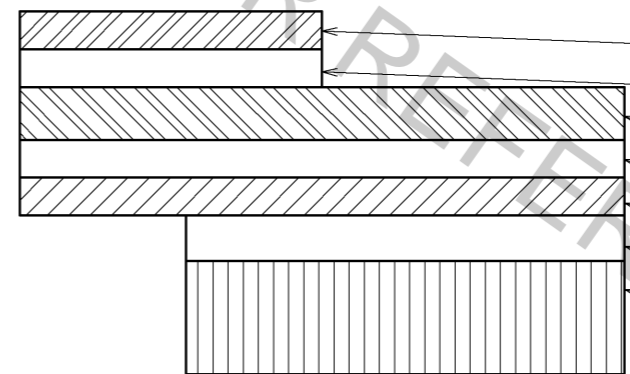
7 THICKNESS OF SUPPORTING TAPE SHALL BE 0.188(7.5MIL) MIN.

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**

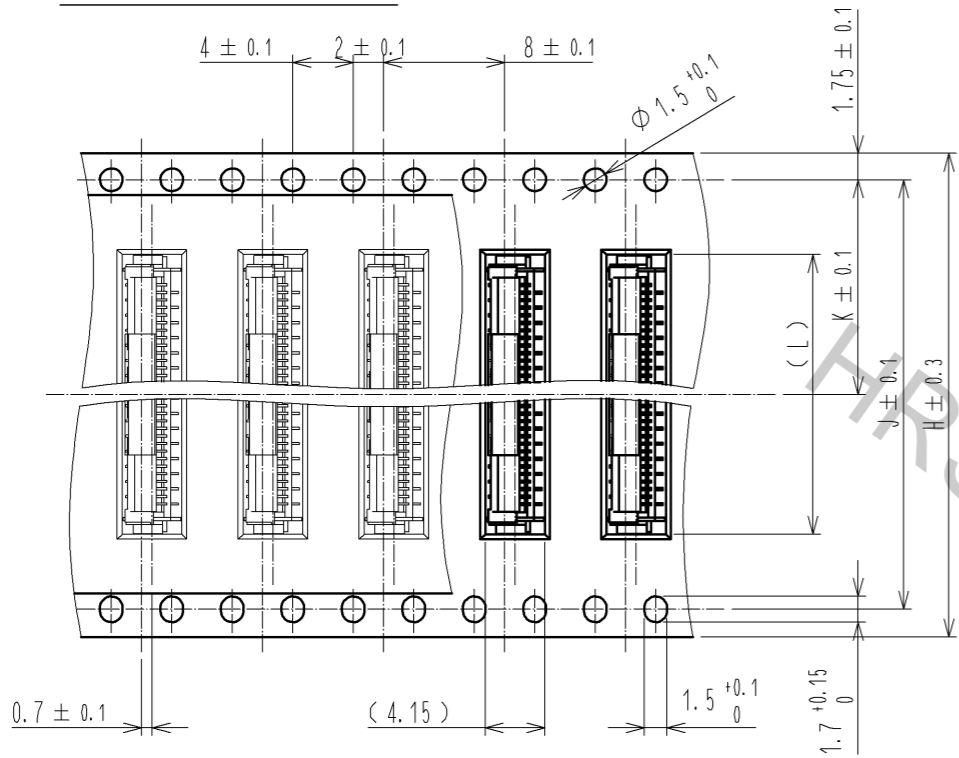
|             |                     |
|-------------|---------------------|
| DRAWING NO. | EDC3-159266-03      |
| PART NO.    | FH12-**S-0.5SVA(54) |
| CODE NO.    | CL586               |

3/5

Apr.1.2017 Copyright 2017 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

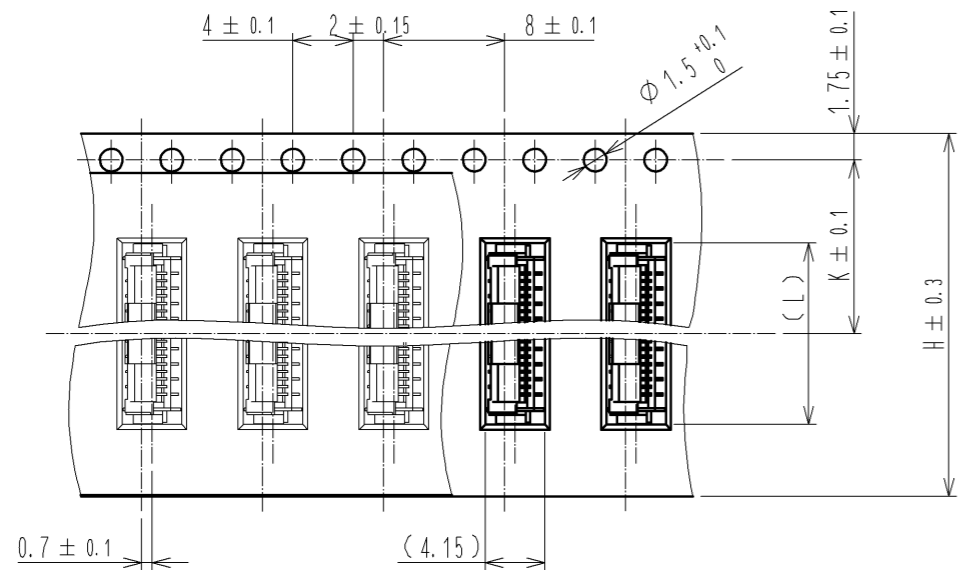
EMBOSSED CARRIER TAPE DIMENSION (2:1)

TAPE WIDTH : 32mm MIN

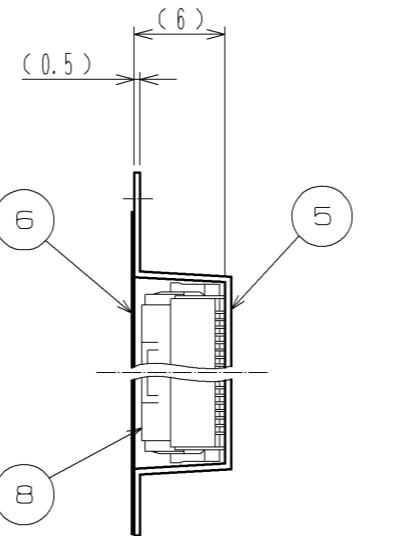
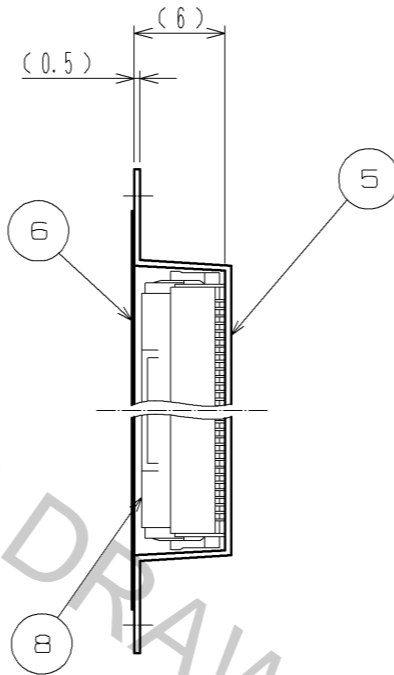


DIRECTION OF UNREELING

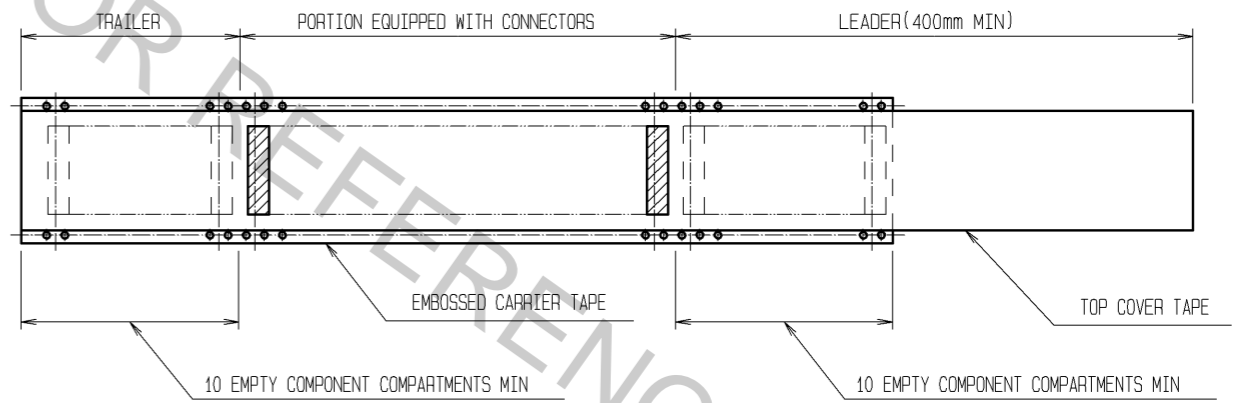
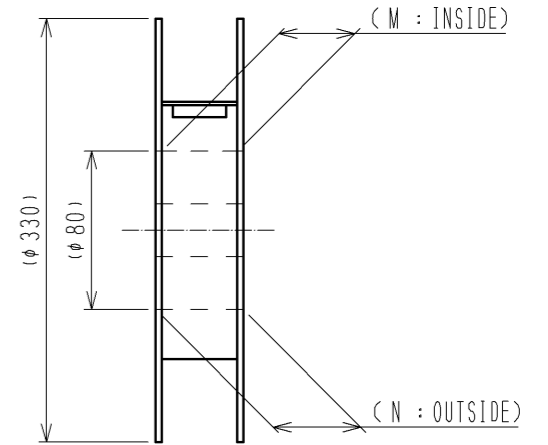
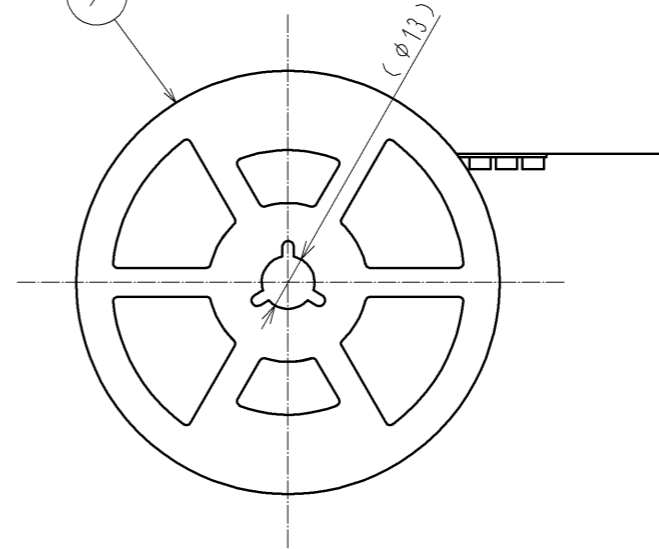
TAPE WIDTH : 24mm MAX



DIRECTION OF UNREELING



REEL DIMENSION(SHOW AS BELOW)(FREE)



NOTE 8 1REEL : 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               |

Apr.1.2017 Copyright 2017 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

| PART NO.            | CODE NO.        | NUMBER OF CONTACTS | DIMENSION TABLE OF CONNECTOR, FPC, FFC, 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               |
|            |             | △ 5/5               |