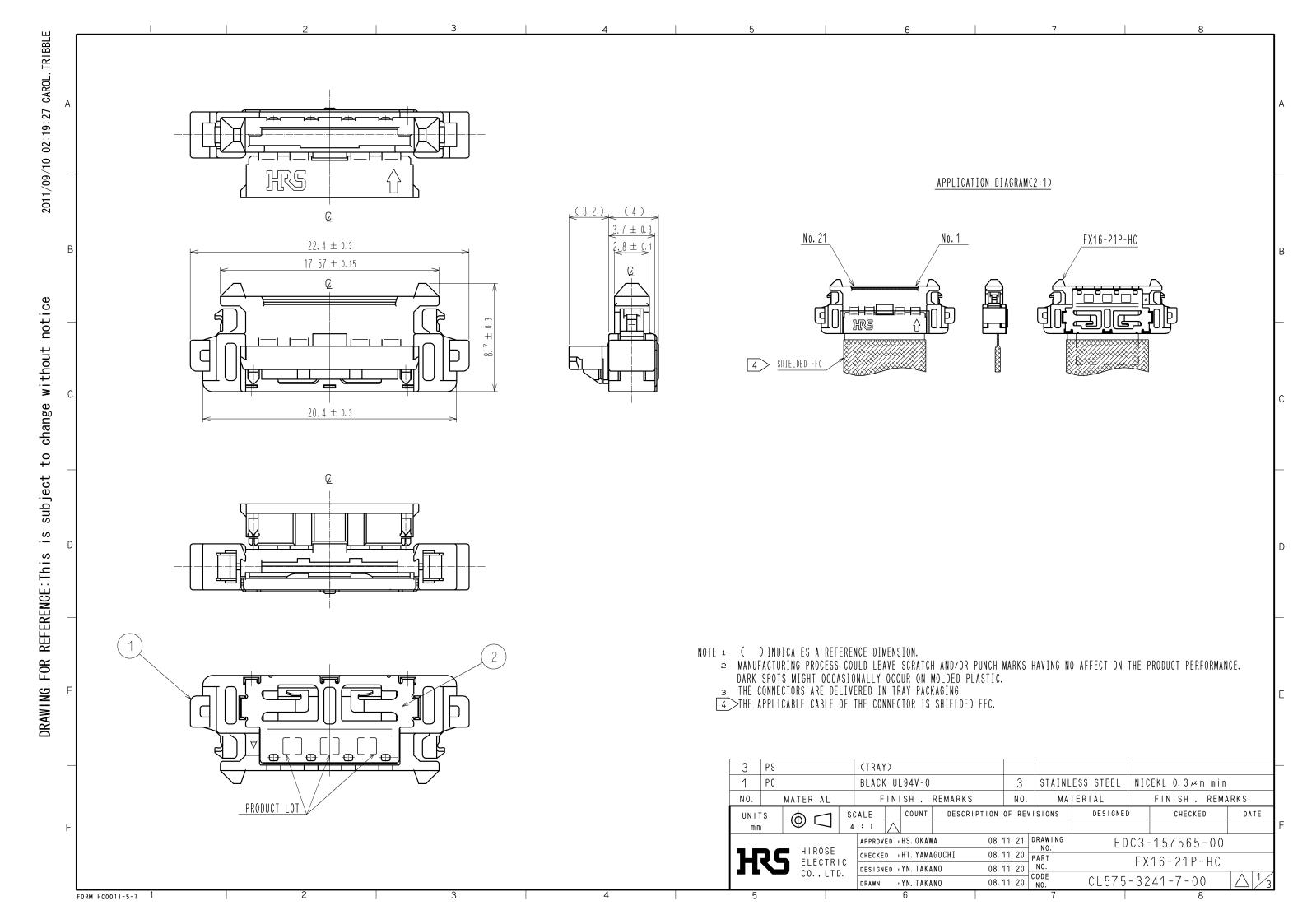
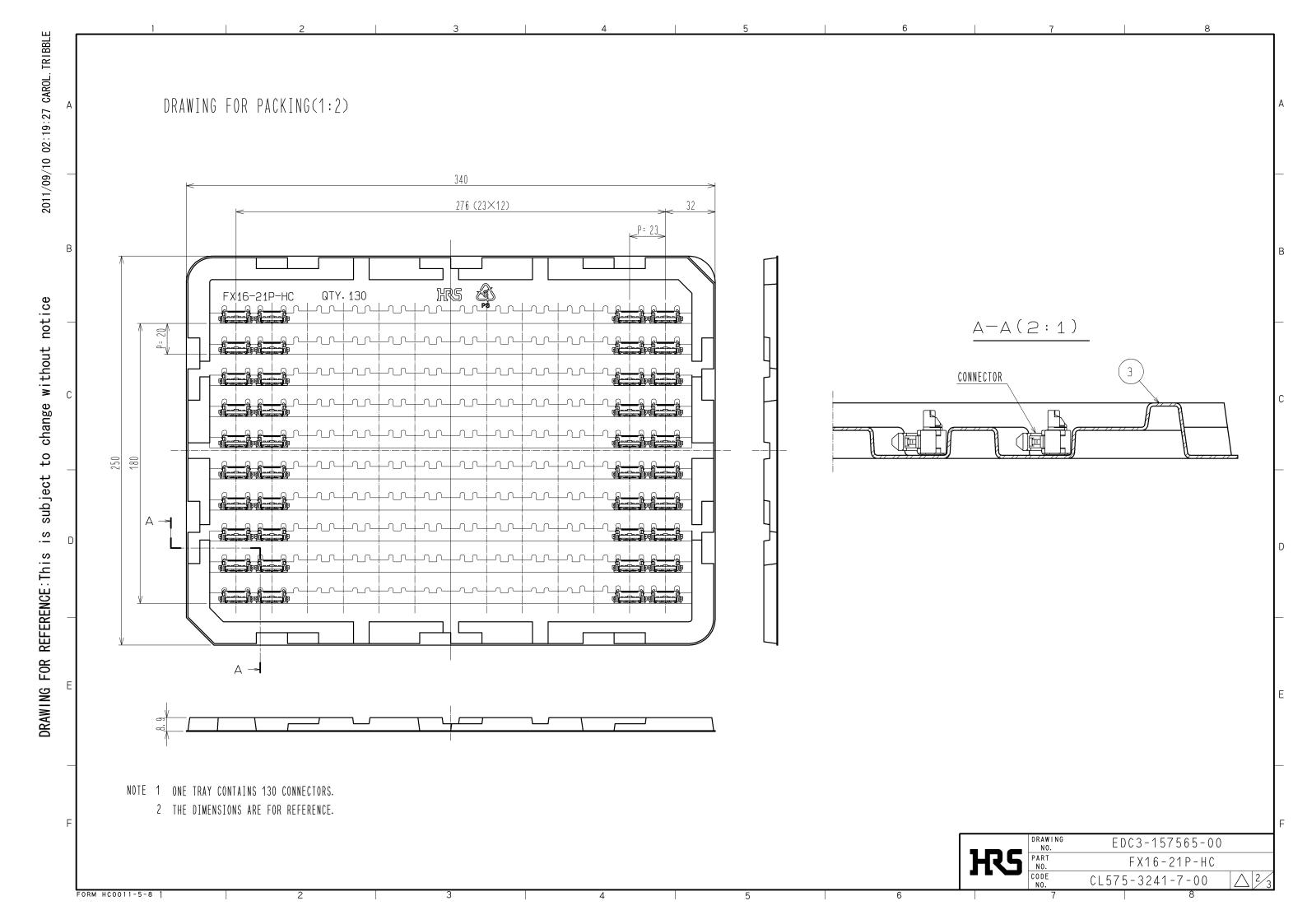
|   | OPERATING                                  |   | FE 00 TO 05:5   | (1) (2)  | STORA  |  |   | 10.00                          | TO 00.00         | (2)         |          |
|---|--|---|---|----------|--|--|---|--------------------------------|------------------|-------------|----------|
| A<br>RATING   | TEMPERATURE RANGE OPERATING HUMIDITY RANGE |   | RH 85 % MAX <sup>(2) (4)</sup>  |          | TEMPERATURE RAN STORAGE HUMIDITY                                     |  |   | -10 °C TO 60 °C (3)            |                  |             |          |
| RATING  |  |   |   |          | RANGE  | E  |   | RH 70 % MAX <sup>(3) (4)</sup> |                  |             |          |
|   | VOLTAGE                                    |   | 60 V AC (5) CURI  |          | CURR   | RRENT 0.5A (5)   |   | 0.5A <sup>(5)</sup>            |                  |             |          |
|   | APPLICABLE C                               | CABLE   | E FFC® SPECIFICATION  |          |  |  |   |                                |                  |             |          |
|   |  |   | SPEC  | IFICA    | LION   | <u>IS</u>  |   |                                |                  |             |          |
|   | ΓEM  |   | TEST METHOD   |          |  |  | REQI  | JIREMEN                        | TS               | QT          | AT       |
| CONSTR  |  |   |   |          |  | I  |   |                                |                  | _           |          |
| MARKING   |  | CONFIRI   | Y AND BY MEASURING INS<br>MED VISUALLY.                               | STRUMEN  | IT.  | ACCO   | RDING TO D  | RAWING.                        |                  | ×           | ×        |
|   | C CHARAC                                   |   |   |          |  |  |   |                                |                  |             |          |
| CONTACT F   | RESISTANCE                                 | 20 mV MAX, 1 mA(DC OR 1000Hz)   |   |          |  | 80 mΩ MAX. <sup>(7)</sup>                                  |   |                                |                  | ×           |          |
| INSULATION  |  | 100 V DC.   |   |          |  |  | 500 MΩ MIN.   |                                |                  |             | $\vdash$ |
| RESISTANC   |  |   |   |          |  | NO FLASHOVER OR BREAKDOWN.                                 |   |                                |                  |             |          |
| VOLTAGE F   |  |   | V AC FOR 1 min.   |          |  | NO FL  | ASHOVER C   | R BREAKD                       | OWN.             | ×           |          |
|   | IICAL CHAF                                 |   |   | FOTOD    |  | livioen:   | TION FORO   | - 10.5                         | NI BAAN          |             | _        |
| NSERTION<br>WITHDRAW  | VAL FORCES                                 | MEASUR  | MEASURED BY APPLICABLE CONNECTOR.                                     |          |  | INSERTION FORCE: 10.5 N MAX. WITHDRAWAL FORCE: 1.05 N MIN. |   |                                | ×                |             |          |
| MECHANIC  |  | 50 TIMES INSERTIONS AND EXTRACTIONS.  |   |          |  | ① CONTACT RESISTANCE:                                      |   |                                |                  | ×           | $\vdash$ |
| OPERATIOI   | N  |   |   |          |  | NO VARIATION OF 20 m $\Omega$ OR MORE FROM INITIAL VALUE.  |   |                                |                  |             |          |
|   |  |   |   |          |  |  | NO DAMAGE, CRACK AND LOOSENESS OF PARTS.  |                                |                  |             |          |
| VIBRATION   |  |   | FREQUENCY 10 TO 55 Hz,  |          |  | ① NO ELECTRICAL DISCONTINUITY OF                           |   |                                |                  | ×           |          |
|   |  | SINGL AMPLITUDE: 0.75 mm,<br>AT 2 h FOR 3 DIRECTION.  |   |          |  | 1 με   |   |                                | LOCCENECO        |             |          |
| SHOCK   |  | 490 m/s <sup>2</sup> , DURATION OF PULSE 11 ms  |   |          | ② NO DAMAGE, CRACK AND LOOSENESS OF PARTS.                           |  |   | ×                              | 1                |             |          |
|   |  | AT 3 TIMES FOR 3 DIRECTIONS.  |   |          |  | •  |   |                                |                  |             |          |
| LOCK STRE   | ENGTH                                      | MATE TO APPLICABLE CONNECTOR AND APPLY PULL FORCE HORIZONTALLY.                                   |   |          | PPLY   |  | 30 N MIN.   |                                |                  | ×           |          |
| FFC RETEN   | ITION FORCE                                | ASSEMB  | ASSEMBLE APPLICABLE FFC AND PULL HORIZONTALLY WITH 10mm/min IN MATING |          |  | 10 N MIN. <sup>(6)</sup>                                   |   |                                | ×                |             |          |
|   |  | DIRECTI   |   | IVIATING |  |  |   |                                |                  |             |          |
| ENVIRON   | MENTAL C                                   | CHARAC  | TERISTICS   |          |  | •  |   |                                |                  | •           |          |
| DAMP HEA  |  | EXPOSED AT 40±2 °C, 90 ~ 95 %, 96 h.  |   |          |  | ① CONTACT RESISTANCE:                                      |   |                                |                  | ×           |          |
| (STEADY STATE)  |  |   |   |          |  | NO VARIATION OF 20 mΩ OR MORE FROM INITIAL VALUE.          |   |                                |                  |             |          |
| DRY HEAT  |  | EXPOSED AT 85±2 °C, 96 h  |   |          | FROM INITIAL VALUE.  -(2) INSULATION RESISTANCE: 500 M $\Omega$ MIN. |  |   |                                |                  |             |          |
| RAPID CHA   |  |   | TEMPERATURE -55→+5~+35→+85→+5~+35°C                                   |          |  | ③ NO DAMAGE, CRACK AND LOOSENESS                           |   |                                |                  | ×           |          |
| TEMPERAT  | URE  | TIME $30 \rightarrow 5 \text{ MAX} \rightarrow 30 \rightarrow 5 \text{ MAX min.}$ UNDER 5 CYCLES. |   |          |  | OF PARTS.  |   |                                |                  |             |          |
| CORROSION SALT MIST   |  | EXPOSED IN 5 % SALT WATER SPRAY FOR 48 h.   |   |          |  | ① CONTACT RESISTANCE:                                      |   |                                |                  | ×           | +        |
| SULFUR DIOXIDE  |  | EXPOSE  | DIN 25 PPM FOR 96 h.  |          |  | 1  | NO VARIATION OF 20 mΩ OR MORE   |                                |                  | ×           |          |
|   |  | (TEST STANDARD: JIS C 60068)  |   |          |  |  | FROM INITIAL VALUE.  ② NO DEFECT SUCH AS CORROSION  WHICH IMPAIRS THE FUNCTION OF  CONNECTOR. |                                |                  |             |          |
|   |  |   |   |          |  |  |   |                                |                  |             |          |
|   |  |   |   |          |  | l  |   |                                |                  |             |          |
|   |  |   |   |          |  |  |   |                                |                  |             |          |
|   |  | ON OF REVISIONS   |   | DESIGNED |  |  | CHECKED   |                                | D/               | \TE         |          |
| <u>/</u> 2\ 2   |  | DIS   | DIS-F-004353  |          | KN. SHIBU  |  |   | HT. YAM                        | HT. YAMAGUCHI 09 |             | 12. 15   |
| REMARKS   |  |   |   |          |  |  | APPROVE   | D HS. OKAWA                    |                  | 08. 1       | 11. 21   |
| (1) INCLUDE TEMPERATURE RISE CAUSED BY CURRENT-CARRYING. (2) OPERATING TEMPERATURE SHOULD BE -55 TO 40°C WHEN HUMIDITY EXCEEDS 80% RH.                  |  |   |   |          |  |  |   | - No. orumn                    |                  |             |          |
| (3) THE SPECIFICATION IS APPLIED TO THE PRE-ASSEMBLED COMPONENT AND THE CABLE ASSEMBLED PRODU<br>BOTH IN DELIVERY AND STORAGE, BEFORE ASSEMBLED TO PCB. |  |   |   |          |  |  | CHECKED   | ED HT. YAMAGUCHI               |                  | 08. 1       | 11. 20   |
| (5) IT IS THE MA<br>(6) ONLY FFC TI   | HAT PROCESSES THI                          | E TERMINAL THA  |   |          |  | DESIGNED   | ) YN  | . TAKANO                       | 08. 1            | 11. 17      |          |
| (7) DON'T INCLUDE CONDUCTOR RESISTANCE OF CABLE.  |  |   |   |          |  |  | DRAWN   | YN                             | . TAKANO         | 08. 1       | 11, 17   |
| Unless otherwise specified, refer to JIS-C-5402.  Note QT:Qualification Test AT:Assurance Test X:Applicable Test  |  |   |   |          |  | DRAWING NO. ELC4-157                                       |   | -                              | <br>}5-00        |             |          |
|   | SPECIFICATION SHEET                        |   |   |          |  |  | -21P-HC   |                                |                  |             |          |
| ПСЭ   |  |   |   |          | _  |  | 01.55   |                                |                  | <u>/</u> 2\ | 1/1      |
|   |  | ROSE ELECTRIC CO., LTD.   |   |          | CODE NO.   |  | CL575-3241-7-00   |                                |                  |             |          |

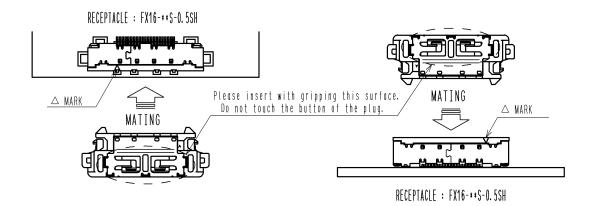




# HANDLING INSTRUCTIONS

#### [1] Insertion to on-board connector

The connector mating is keyed. Align the marks as shown in the fibure for mating. Insert the connector completely until they are locked at both ends.



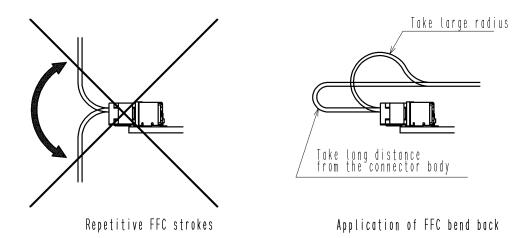
The connectors have a reverse-insertion prevention structure. However, the connectors may be damaged when inserted reversely with the force of 25N or more. Avoid a forceful insertion and make sure to confirm that the connectors are aligned with the marks before the mating operation.

### [2] After mating

Carefully wire FFC, so that excessive force will not be applied to the mated connector. Pulling the FFC with the force of 20N or more may damage the connector. It may also cause FFC breakage. Take a caution to avoid pulling the FFC.

Repetitive FFC strokes could also cause FFC breakage as well. Do not use the connector under the environment of repetitive FFC strokes.

Take enough bend radius and/or distance from the connector for FFC not to apply stress to the connector base when the application requires FFC bend back.



#### [3] Withdrawal from on-board connector

The connectors are locked while they are mated.

In order to unmate the connectors, pull out straight with the button pushed to release the lock.

At this time, do not pull the FFC.

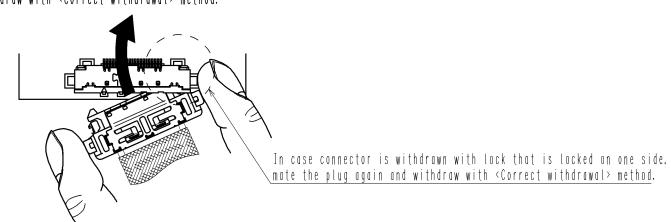
Also avoid the withdrawal in angle, which may damage the connectors.

\*Note: The connectors shown in this 'HANDLING INSTRUCTIONS' are drawn for the instruction purpose. Therefore, the appearance differs from the actual connectors. Please confirm the connector configration on the connector drawing (SHEET 1).

# <Correct withdrawal> ① Push [ 1 ① Push 2 Pull out straight 3 Pull out straight with the button pushed <Incorrect withdrawal>

## $oxed{I} extcolor{4}oxed{J}$ For the case that connector is withdrawn in codition that lock on one side is locked

In case connector is withdrawn in condition that lock on one side is locked. it could damage the locking part. In such case, do not withdraw forcefully, but mate the plug again and pull out the plug in condition that the two locks are locked and withdraw with <Correct withdrawal> method.



|             | DRAWING<br>NO. | EDC3-157565-00  |     |
|-------------|----------------|-----------------|-----|
| <b>H</b> 25 | PART<br>NO.    | FX16-21P-HC     |     |
|             | CODE<br>NO.    | CL575-3241-7-00 | 3/3 |

FORM HC0011-5-8