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|             |          |          |          |                                       |             |                                  |  |                |  |                                                                                          |          |                         |  |
|-------------|----------|----------|----------|---------------------------------------|-------------|----------------------------------|--|----------------|--|------------------------------------------------------------------------------------------|----------|-------------------------|--|
| mat'l. code |          |          |          | surface<br>ISO 1302 ✓                 |             | tolerance<br>ISO 406<br>ISO 1101 |  | projection<br> |  | product family<br>58EF                                                                   |          | CODE<br>JP              |  |
| litr        | ecn no   | dr       | date     | tolerances unless otherwise specified |             | mm                               |  | mm             |  | title<br>0.5mm SPACING FPC CONNECTOR<br>DOCUMENT LIST<br>(Cat. No. : SFV__R-1/2STBE1HLF) |          |                         |  |
| A           | J09-0075 | S.W      | '09/2/19 | angles                                | linear      | scale X                          |  | FCI            |  | dwg no<br>JSA 97500                                                                      |          | sheet 1 of 1 size<br>A4 |  |
|             |          |          |          | dr                                    | S. Watake   | 2009-2-19                        |  |                |  | type Product Customer Drawing                                                            |          |                         |  |
|             |          |          |          | enr                                   | S. Watake   | 2009-2-19                        |  |                |  |                                                                                          |          |                         |  |
|             |          |          |          | chr                                   | M. YAMAUCHI | 2009-2-19                        |  |                |  |                                                                                          |          |                         |  |
|             |          |          |          | appd                                  | P. Audano   | 2009-2-19                        |  |                |  |                                                                                          |          |                         |  |
| sheet index |          | revision |          | A                                     |             |                                  |  |                |  |                                                                                          | Rev<br>A |                         |  |
|             |          | sheet    |          | 1                                     |             |                                  |  |                |  |                                                                                          |          |                         |  |

form: A4

## List of "SFV\_\_R-1/2STBE1HLF" customer document

| DOCUMENT NO. | LIST                                                                                        |
|--------------|---------------------------------------------------------------------------------------------|
| SC-SFV08     | SPEC.                                                                                       |
| JSA 97501    | CAT.NO.TABLE FOR 0.5mm CONTACT SPACING CONNECTOR (SFV__R-1/2STB_HLF)                        |
| JSA 97502    | CONNECTOR USED FOR FPC/FFC WITH 0.5mm CONTACT SPACING (SFV__R-1STB_HLF)                     |
| JSA 97503    | CONNECTOR USED FOR FPC/FFC WITH 0.5mm CONTACT SPACING (SFV__R-2STB_HLF)                     |
| JSA 97504    | CAT.NO.TABLE FOR PLASTIC TAPE PACKAGED 0.5mm CONTACT SPACING CONNECTOR (SFV__R-1/2STBE1HLF) |
| JSA 97505    | PLASTIC TAPE PACKAGED 0.5mm CONTACT SPACING CONNECTOR (SFV__R-1STBE1HLF)                    |
| JSA 97506    | PLASTIC TAPE PACKAGED 0.5mm CONTACT SPACING CONNECTOR (SFV__R-2STBE1HLF)                    |
| JSA96019     | RECOMMENDED CABLE (FPC) (SFV__R-1/2ST__LF)                                                  |
| JSA97202     | RECOMMENDED CABLE (FFC) (SFV__R-1/2ST__)                                                    |
| BJM-SFV101   | HANDLING PROCEDURES                                                                         |

CAT. NO. & DIMENSIONS

| NO. OF CONTACTS (n) | CAT. NO.           | DIMENSIONS (NOTE2) |         |         |         |
|---------------------|--------------------|--------------------|---------|---------|---------|
|                     |                    | A ± 0.2            | B ± 0.2 | C ± 0.1 | D ± 0.1 |
| 4                   | SFV4R-1/2STB__HLF  | 7.5                | 5.9     | 1.5     | 2.7     |
| 5                   | SFV5R-1/2STB__HLF  | 8.0                | 6.4     | 2.0     | 3.2     |
| 6                   | SFV6R-1/2STB__HLF  | 8.5                | 6.9     | 2.5     | 3.7     |
| 7                   | SFV7R-1/2STB__HLF  | 9.0                | 7.4     | 3.0     | 4.2     |
| 8                   | SFV8R-1/2STB__HLF  | 9.5                | 7.9     | 3.5     | 4.7     |
| 9                   | SFV9R-1/2STB__HLF  | 10.0               | 8.4     | 4.0     | 5.2     |
| 10                  | SFV10R-1/2STB__HLF | 10.5               | 8.9     | 4.5     | 5.7     |
| 11                  | SFV11R-1/2STB__HLF | 11.0               | 9.4     | 5.0     | 6.2     |
| 12                  | SFV12R-1/2STB__HLF | 11.5               | 9.9     | 5.5     | 6.7     |
| 13                  | SFV13R-1/2STB__HLF | 12.0               | 10.4    | 6.0     | 7.2     |
| 14                  | SFV14R-1/2STB__HLF | 12.5               | 10.9    | 6.5     | 7.7     |
| 15                  | SFV15R-1/2STB__HLF | 13.0               | 11.4    | 7.0     | 8.2     |
| 16                  | SFV16R-1/2STB__HLF | 13.5               | 11.9    | 7.5     | 8.7     |
| 17                  | SFV17R-1/2STB__HLF | 14.0               | 12.4    | 8.0     | 9.2     |
| 18                  | SFV18R-1/2STB__HLF | 14.5               | 12.9    | 8.5     | 9.7     |
| 19                  | SFV19R-1/2STB__HLF | 15.0               | 13.4    | 9.0     | 10.2    |
| 20                  | SFV20R-1/2STB__HLF | 15.5               | 13.9    | 9.5     | 10.7    |
| 21                  | SFV21R-1/2STB__HLF | 16.0               | 14.4    | 10.0    | 11.2    |
| 22                  | SFV22R-1/2STB__HLF | 16.5               | 14.9    | 10.5    | 11.7    |
| 23                  | SFV23R-1/2STB__HLF | 17.0               | 15.4    | 11.0    | 12.2    |
| 24                  | SFV24R-1/2STB__HLF | 17.5               | 15.9    | 11.5    | 12.7    |
| 25                  | SFV25R-1/2STB__HLF | 18.0               | 16.4    | 12.0    | 13.2    |
| 26                  | SFV26R-1/2STB__HLF | 18.5               | 16.9    | 12.5    | 13.7    |
| 27                  | SFV27R-1/2STB__HLF | 19.0               | 17.4    | 13.0    | 14.2    |
| 28                  | SFV28R-1/2STB__HLF | 19.5               | 17.9    | 13.5    | 14.7    |
| 29                  | SFV29R-1/2STB__HLF | 20.0               | 18.4    | 14.0    | 15.2    |
| 30                  | SFV30R-1/2STB__HLF | 20.5               | 18.9    | 14.5    | 15.7    |
| 31                  | SFV31R-1/2STB__HLF | 21.0               | 19.4    | 15.0    | 16.2    |
| 32                  | SFV32R-1/2STB__HLF | 21.5               | 19.9    | 15.5    | 16.7    |
| 33                  | SFV33R-1/2STB__HLF | 22.0               | 20.4    | 16.0    | 17.2    |
| 34                  | SFV34R-1/2STB__HLF | 22.5               | 20.9    | 16.5    | 17.7    |
| 35                  | SFV35R-1/2STB__HLF | 23.0               | 21.4    | 17.0    | 18.2    |

CAT. NO.      SFV   (n)   R   - 1   ST   B   \_   HLF

SERIES NAME      \_\_\_\_\_

NO. OF CONTACTS      \_\_\_\_\_

RIGHT ANGLE TYPE      \_\_\_\_\_

FOR FPC/FFC, CONTACT DIRECTION      \_\_\_\_\_

1. LOWER CONTACT TYPE

2. UPPER CONTACT TYPE

FOR AUTOMATIC MOUNTING (SMT)      \_\_\_\_\_

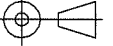
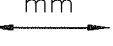
PLATING VARIATION      \_\_\_\_\_

PACKAGE STYLE      \_\_\_\_\_

HALOGEN and LEAD FREE      \_\_\_\_\_

NOTES

1. THIS PRODUCT IS THE CONNECTOR USED FOR FPC AND COPEs WITH AUTOMATIC MOUNTING (SMT).
2. SEE PART DRAWINGS FOR DIMENSIONS A~D.

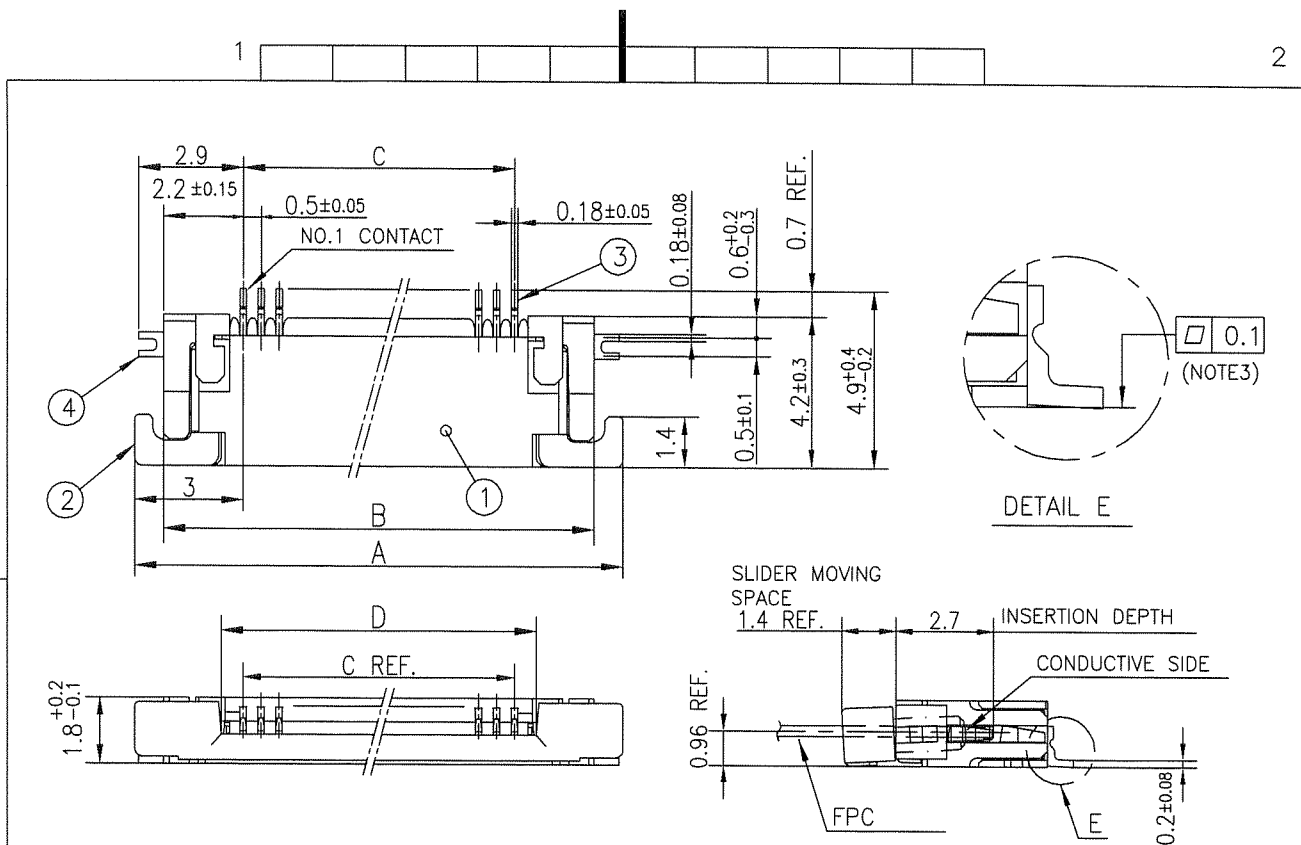
|             |          |          |          |                                                                                                                                                                       |        |                                                                                                |  |                                                                                     |  |              |      |
|-------------|----------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|--------------|------|
| mat'l. code |          |          |          | surface <input checked="" type="checkbox"/> ISO 1302 <input type="checkbox"/> tolerance <input checked="" type="checkbox"/> ISO 406 <input type="checkbox"/> ISO 1101 |        | projection  |  | product family 58EF                                                                 |  | CODE JP      |      |
| ltr         | ecn no   | dr       | date     | tolerances unless otherwise specified                                                                                                                                 |        | mm          |  | title                                                                               |  |              |      |
| A           | J09-0075 | S.W      | '09/2/19 | angles                                                                                                                                                                | linear | scale X                                                                                        |  | CAT. NO. TABLE FOR 0.5 mm CONTACT SPACING CONNECTOR (Cat. No. : SFV__R-1/2STB__HLF) |  |              |      |
|             |          |          |          | dr                                                                                                                                                                    | engr   | FCJ                                                                                            |  | dwg no                                                                              |  | sheet 1 of 1 | size |
|             |          |          |          | chr                                                                                                                                                                   | appd   |                                                                                                |  | JSA 97501                                                                           |  |              | A4   |
| sheet index |          | revision | A        | type Product Customer Drawing                                                                                                                                         |        |                                                                                                |  |                                                                                     |  |              |      |
| sheet       |          | 1        |          | Rev. A                                                                                                                                                                |        |                                                                                                |  |                                                                                     |  |              |      |

B

## C

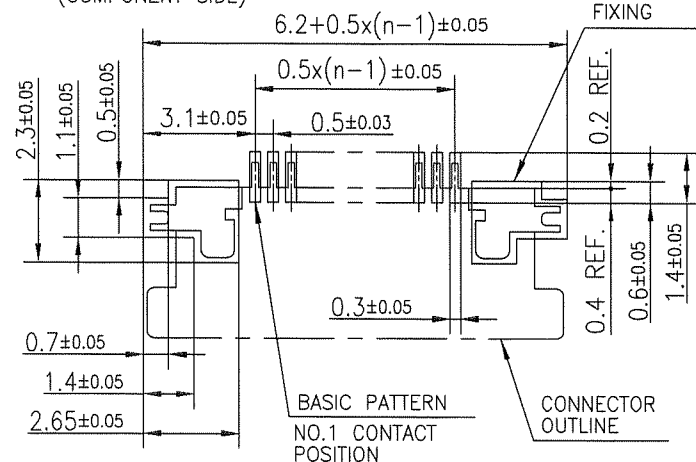
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D



| PT. NO. | PARTS NAME     | MATERIAL                                             | Q'TY | NOTE                         |
|---------|----------------|------------------------------------------------------|------|------------------------------|
| 1       | HOUSING        | 13~35pin : LCP RESIN GLASS REINFORCED (UL94V-0)      | 1    | COLOR : BLACK (HALOGEN FREE) |
|         |                | 4~12pin : POLYAMIDE RESIN GLASS REINFORCED (UL94V-0) |      |                              |
| 2       | SLIDER         | PPS RESIN GLASS REINFORCED (UL94V-0)                 | 1    | COLOR : BLACK (HALOGEN FREE) |
| 3       | CONTACT        | PHOSPHOR BRONZE                                      | n    | PLATING : GOLD               |
| 4       | MOUNTING PLATE |                                                      | 2    | PLATING : LEAD FREE          |

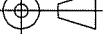
RECOMMENDED PC BOARD LAYOUT  
(COMPONENT SIDE)



n : NO. OF CONTACTS

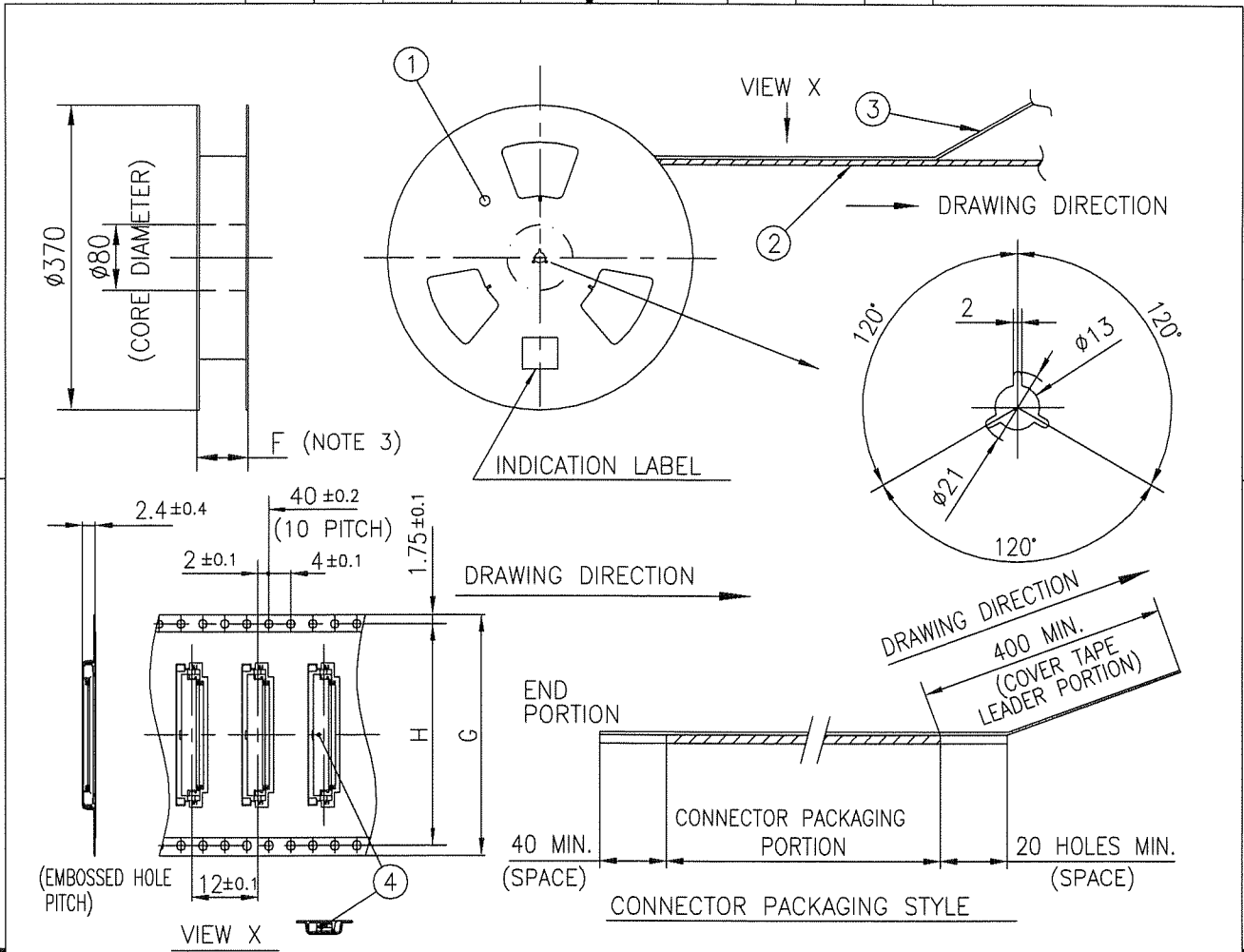
#### NOTES

1. THIS PRODUCT IS THE CONNECTOR USED FOR FPC AND COPS WITH AUTOMATIC MOUNTING (SMT).
2. THIS PRODUCT IS UPPER CONTACT TYPE CONNECTOR.
3. FLATNESS OF CONTACT TERMINAL AND MOUNTING PLATE MUST BE WITHIN TOLERANCE IN E PORTION DETAILED DRAWING.
4. THIS PRODUCT MEETS EUROPEAN UNION DIRECTIVES AND OTHER COUNTRY REGULATIONS AS DESCRIBED IN GS-22-008.
5. THE HOUSING WILL WITHSTAND EXPOSURE TO 260°C PEAK TEMPERATURE FOR 10 SECONDS IN A REFLOW SOLDERING OVEN.

|             |          |          |           |                                       |                     |                                  |           |                                                                                                   |                                                                                     |                                                                                                 |           |  |  |            |              |  |          |
|-------------|----------|----------|-----------|---------------------------------------|---------------------|----------------------------------|-----------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------|--|--|------------|--------------|--|----------|
| mat'l. code |          |          |           | surface<br>ISO 1302 ✓                 |                     | tolerance<br>ISO 406<br>ISO 1101 |           | projection<br> |                                                                                     | product family<br>58EF                                                                          |           |  |  | CODE<br>JP |              |  |          |
| ltr         | ecn no   | dr       | date      | tolerances unless otherwise specified |                     | angles                           |           | mm<br>         |                                                                                     | title<br>CONNECTOR USED FOR FPC<br>WITH 0.5 mm CONTACT SPACING<br>(Cat. No. : SFV__R-2STB__HLF) |           |  |  |            |              |  |          |
| A           | J09-0075 | S.W      | 2009-2-19 |                                       |                     |                                  |           | ±0.2                                                                                              |                                                                                     |                                                                                                 |           |  |  |            |              |  |          |
| B           | J10-0245 | S.W      | 2010-9-14 |                                       |                     | linear                           |           |                                                                                                   |                                                                                     | scale $\times$                                                                                  |           |  |  |            |              |  |          |
|             |          |          |           |                                       |                     |                                  |           |                                                                                                   |                                                                                     |                                                                                                 |           |  |  |            |              |  |          |
|             |          |          |           | dr                                    | S. W. H. L. A       |                                  | 2010-9-14 |                                                                                                   |  |                                                                                                 | dwg no    |  |  |            | sheet 1 of 1 |  | size     |
|             |          |          |           | enr                                   | S. W. H. L. A       |                                  | 2010-9-14 |                                                                                                   |                                                                                     |                                                                                                 | JSA 97503 |  |  |            |              |  | A4       |
|             |          |          |           | chr                                   | M. Y. M. A. S. T. A |                                  | 2010-9-14 |                                                                                                   |                                                                                     |                                                                                                 |           |  |  |            |              |  |          |
|             |          |          |           | appd                                  | M. Y. M. A. S. T. A |                                  | 2010-9-14 |                                                                                                   |                                                                                     |                                                                                                 |           |  |  |            |              |  |          |
| sheet index |          | revision |           | B                                     |                     |                                  |           |                                                                                                   |                                                                                     |                                                                                                 |           |  |  |            |              |  | Rev<br>B |
|             |          | sheet    |           | 1                                     |                     |                                  |           |                                                                                                   |                                                                                     |                                                                                                 |           |  |  |            |              |  |          |
|             |          |          |           |                                       |                     |                                  |           |                                                                                                   |                                                                                     |                                                                                                 |           |  |  |            |              |  |          |
|             |          |          |           |                                       |                     |                                  |           |                                                                                                   |                                                                                     |                                                                                                 |           |  |  |            |              |  |          |
|             |          |          |           |                                       |                     |                                  |           |                                                                                                   |                                                                                     |                                                                                                 |           |  |  |            |              |  |          |



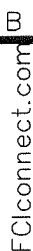




| PT. NO. | PARTS NAME            | CAT. NO.         | MATERIAL          | Q'TY | NOTE                 |
|---------|-----------------------|------------------|-------------------|------|----------------------|
| 1       | REEL                  |                  | CARDBOARD         | 1    | COLOR : WHITE        |
| 2       | PLASTIC (EMBOSS) TAPE |                  | A-PET             |      | COLOR : TRANSPARENCY |
| 3       | COVER                 |                  | POLYESTER         |      | COLOR : TRANSPARENCY |
| 4       | CONNECTOR             | SFV__R-1STB__HLF | SEE ATTACHED DWG. | 3000 | LOWER CONTACT TYPE   |

- NOTES
- THIS IS PLASTIC TAPE PACKAGED CONNECTOR USED FOR FPC AND CYPES WITH AUTOMATIC MOUNTING (SMT).
  - SEE JIS C 0806 (PACKING OF ELECTRONIC COMPONENTS ON CONTINUOUS TAPES (SURFACE MOUNTING DEVICES)) FOR SHAPE AND DIMENSIONS OF PLASTIC (EMBOSS) TAPE AND REEL.
  - F DIMENSION IS PORTION OF THE CORE.

|             |  |                                                      |  |             |  |                     |  |                                                                                      |  |
|-------------|--|------------------------------------------------------|--|-------------|--|---------------------|--|--------------------------------------------------------------------------------------|--|
| mat'l. code |  | surface 58 / tolerance ISO 1302 / ISO 406 / ISO 1101 |  | projection  |  | product family 58EF |  | CODE JP                                                                              |  |
| ltr         |  | ecn no                                               |  | dr          |  | date                |  | title                                                                                |  |
| A           |  | J09-0075                                             |  | S.W         |  | '09/2/19            |  | PLASTIC TAPE PACKAGED 0.5 mm CONTACT SPACING CONNECTOR (Cat. No. : SFV__R-1STBE1HLF) |  |
|             |  |                                                      |  | angles      |  | linear              |  | mm                                                                                   |  |
|             |  |                                                      |  | ±5°         |  |                     |  | scale                                                                                |  |
|             |  | dr                                                   |  | S. Nishida  |  | 2009-2-19           |  | dwg no                                                                               |  |
|             |  | enr                                                  |  | S. Nishida  |  | 2009-2-19           |  | sheet 1 of 1                                                                         |  |
|             |  | chr                                                  |  | M. YAMAHATA |  | 2009-2-19           |  | size                                                                                 |  |
|             |  | appd                                                 |  | S. Chidam   |  | 2009-2-19           |  | A4                                                                                   |  |
| sheet index |  | revision                                             |  | A           |  |                     |  | type                                                                                 |  |
| sheet       |  | 1                                                    |  |             |  |                     |  | Product Customer Drawing                                                             |  |
|             |  |                                                      |  |             |  |                     |  | Rev.                                                                                 |  |
|             |  |                                                      |  |             |  |                     |  | A                                                                                    |  |

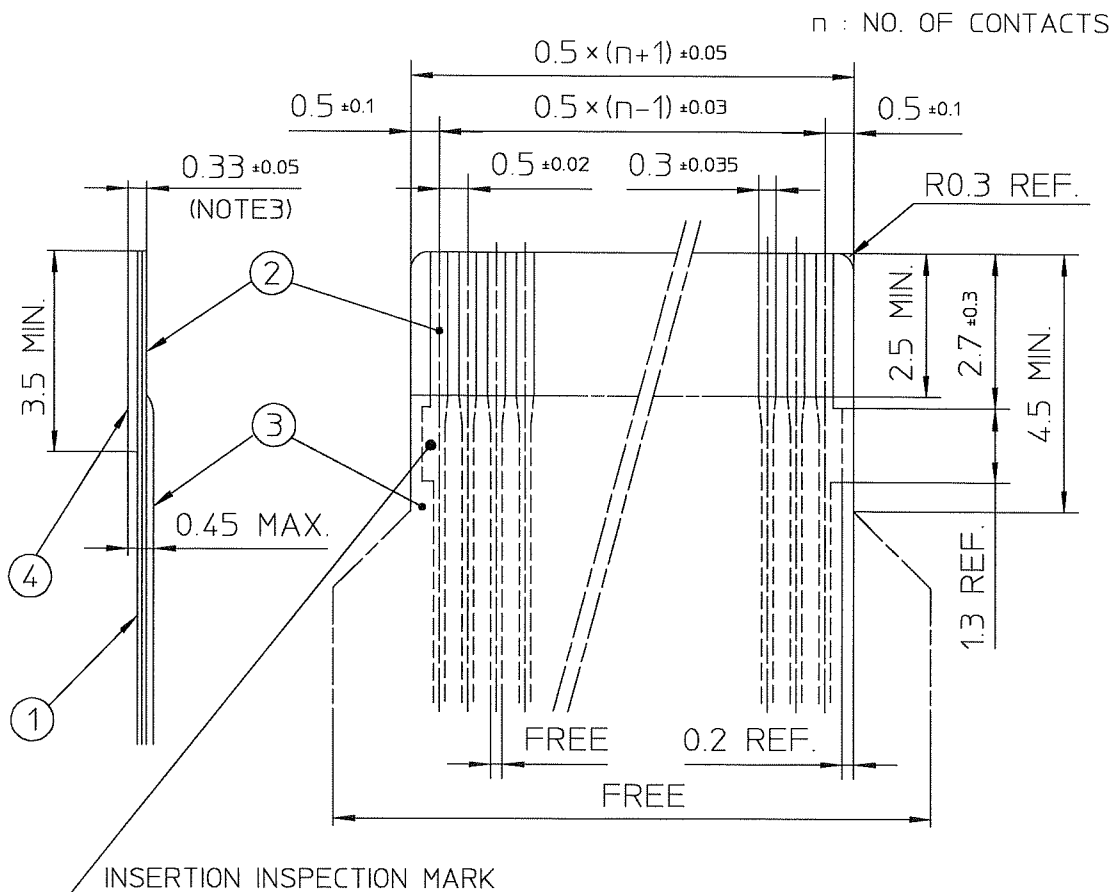
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## C

- C

D

# RECOMMENDED CABLE (FPC)



| PT. NO. | PARTS NAME      | MATERIAL                        | THICKNESS(μm) |
|---------|-----------------|---------------------------------|---------------|
| 1       | BASE FILM       | POLYIMIDE OR POLYESTER OR EQUAL | 25            |
| 2       | CONDUCTOR       | COPPER FOIL(PLATING : GOLD )    | 35            |
| 3       | OVERLAY         | POLYIMIDE OR POLYESTER OR EQUAL | —             |
| 4       | SUPPORTING TAPE | POLYESTER OR POLYIMIDE OR EQUAL | 188           |

## NOTES

1. NO BURR AT EACH PORTION.
2. NO PEELING IN COMMON USE.
3. TOTAL THICKNESS LIMIT OF EACH MATERIAL (INCLUDING ADHESIVE AGENT) IS SPECIFIED.

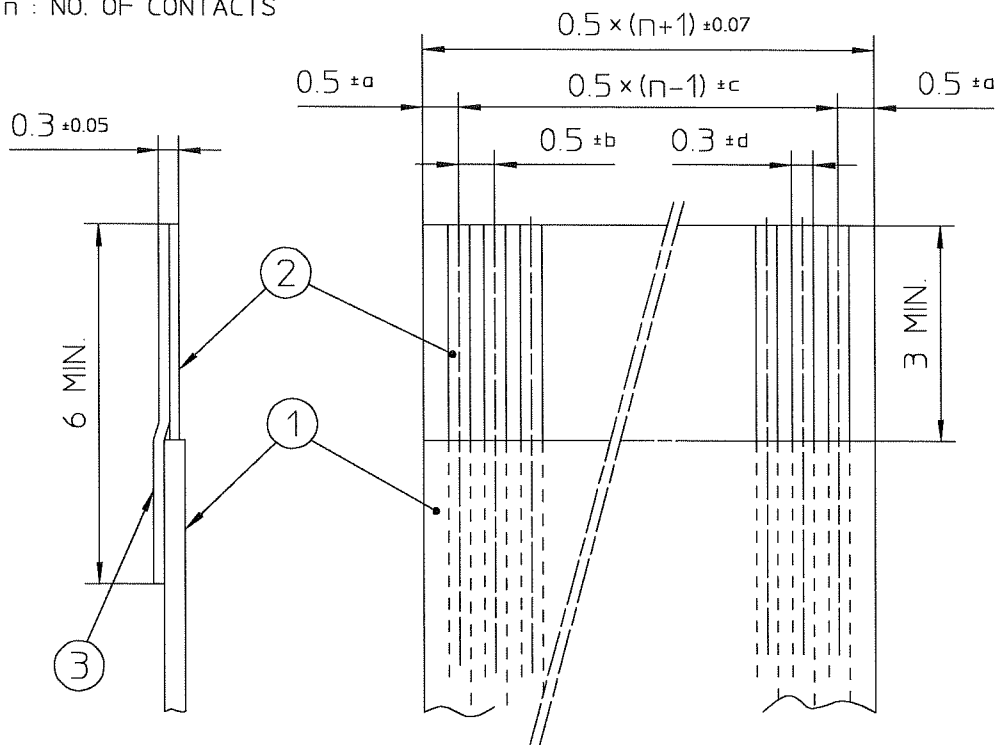
|             |          |     |         |                                       |         |                            |  |            |                               |                                             |  |                                                             |  |        |
|-------------|----------|-----|---------|---------------------------------------|---------|----------------------------|--|------------|-------------------------------|---------------------------------------------|--|-------------------------------------------------------------|--|--------|
| mat'l. code |          |     |         | surface ISO 1302 ✓                    |         | tolerance ISO 406 ISO 1101 |  | projection |                               | product family 58EF                         |  |                                                             |  |        |
| ltr         | ecn no   | dr  | date    | tolerances unless otherwise specified |         |                            |  |            |                               | <br>                                        |  | title<br>RECOMMENDED CABLE<br>(Cat. No. : SFV__R-1/2ST__LF) |  |        |
| A           | J04-0186 | H.T | '04/8/9 | angles                                |         | linear                     |  | scale X    |                               |                                             |  |                                                             |  |        |
| B           | J04-0454 | H.T | '05/2/7 |                                       |         |                            |  |            |                               | dwg no JSA 96019<br>sheet 1 of 1<br>size A4 |  |                                                             |  |        |
| C           | J06-0372 | H.T | '06/9/7 |                                       |         |                            |  |            |                               |                                             |  |                                                             |  |        |
|             |          |     |         | dr                                    | 9/7/06  |                            |  |            | type Product Customer Drawing |                                             |  |                                                             |  |        |
|             |          |     |         | enr                                   | 9/7/06  |                            |  |            |                               |                                             |  |                                                             |  |        |
|             |          |     |         | chr                                   | 9/8/06  |                            |  |            |                               |                                             |  |                                                             |  |        |
|             |          |     |         | appd                                  | 9/11/06 |                            |  |            |                               |                                             |  |                                                             |  |        |
| sheet index | revision | C   | 1       |                                       |         |                            |  |            |                               |                                             |  |                                                             |  | Rev. C |

SC-SFV06 JSA96013  
form: A4



# RECOMMENDED CABLE (FFC)

n : NO. OF CONTACTS



| KIND OF FFC (NOTE3) | DIMENSIONAL TOLERANCE |       |       |        |
|---------------------|-----------------------|-------|-------|--------|
|                     | a                     | b     | c     | d      |
| 1                   | ±0.07                 | ±0.04 | ±0.05 | ±0.02  |
| 2                   | ±0.1                  | ±0.03 | ±0.03 | ±0.025 |

| PT. NO. | PARTS NAME      | MATERIAL                           |
|---------|-----------------|------------------------------------|
| 1       | INSULATOR       | FLAME RESISTING POLYESTER OR EQUAL |
| 2       | CONDUCTOR       | COPPER FOIL (PLATING : GOLD)       |
| 3       | SUPPORTING TAPE | FLAME RESISTING POLYESTER OR EQUAL |

## NOTES

1. NO BURR AT EACH PORTION.
2. NO PEELING IN COMMON USE.
3. EITHER KIND1 OR KIND2 OF FFC CAN ACCEPT DIMENSIONAL TOLERANCE a,b,c AND d.

|             |                |     |          |                                                                                                                         |          |                 |           |                                                  |              |      |        |
|-------------|----------------|-----|----------|-------------------------------------------------------------------------------------------------------------------------|----------|-----------------|-----------|--------------------------------------------------|--------------|------|--------|
| mat'l. code |                |     |          | surface <input checked="" type="checkbox"/> ISO 1302 <input type="checkbox"/> ISO 406 <input type="checkbox"/> ISO 1101 |          | projection      |           | product family 58EF                              |              |      |        |
| ltr         | ecn no         | dr  | date     | tolerances unless otherwise specified                                                                                   |          |                 |           | title                                            |              |      |        |
| A           | J06-0499       | H.T | 11/27/06 |                                                                                                                         |          |                 |           | RECOMMENDED CABLE<br>(Cat. No. : SFV__R-1/2ST__) |              |      |        |
|             |                |     |          | angles                                                                                                                  | linear   | scale $\propto$ |           |                                                  |              |      |        |
|             |                |     |          | dr                                                                                                                      | 11/27/06 |                 | dwg no    |                                                  | sheet 1 of 1 | size |        |
|             |                |     |          | engr                                                                                                                    | 11/27/06 |                 | JSA 97202 |                                                  | A4           |      |        |
|             |                |     |          | chr                                                                                                                     | 11/27/06 |                 |           |                                                  |              |      |        |
|             |                |     |          | appd                                                                                                                    | 11/28/06 |                 |           |                                                  |              |      |        |
| sheet index | revision sheet | A   | 1        |                                                                                                                         |          |                 |           |                                                  |              |      | Rev. A |