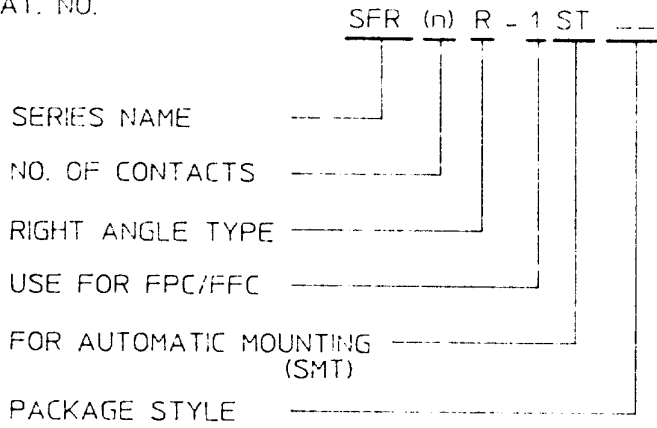


CAT. NO. & DIMENSIONS

| NO. OF CONTACTS (n) | CAT. NO.     | DIMENSIONS (NOTE2) |         |         |        |
|---------------------|--------------|--------------------|---------|---------|--------|
|                     |              | A ±0.2             | B ±0.15 | C ±0.15 | D ±0.1 |
| 4                   | SFR 4R-1ST__ | 8.6                | 7.7     | 2.4     | 4.2    |
| 6                   | SFR 6R-1ST__ | 10.2               | 9.3     | 4.0     | 5.8    |
| 8                   | SFR 8R-1ST__ | 11.8               | 10.9    | 5.6     | 7.4    |
| 10                  | SFR10R-1ST__ | 13.4               | 12.5    | 7.2     | 9.0    |
| 12                  | SFR12R-1ST__ | 15.0               | 14.1    | 8.8     | 10.6   |
| 14                  | SFR14R-1ST__ | 16.6               | 15.7    | 10.4    | 12.2   |
| 16                  | SFR16R-1ST__ | 18.2               | 17.3    | 12.0    | 13.8   |
| 18                  | SFR18R-1ST__ | 19.8               | 18.9    | 13.6    | 15.4   |
| 20                  | SFR20R-1ST__ | 21.4               | 20.5    | 15.2    | 17.0   |
| 22                  | SFR22R-1ST__ | 23.0               | 22.1    | 16.8    | 18.6   |
| 24                  | SFR24R-1ST__ | 24.6               | 23.7    | 18.4    | 20.2   |
| 26                  | SFR26R-1ST__ | 26.2               | 25.3    | 20.0    | 21.8   |
| 28                  | SFR28R-1ST__ | 27.8               | 26.9    | 21.6    | 23.4   |
| 30                  | SFR30R-1ST__ | 29.4               | 28.5    | 23.2    | 25.0   |

CAT. NO.



REF. DWG

CONNECTOR (n:4) : JSA91172  
CONNECTOR(n:6-30) : JSA90451

RECOMMENDED CABLE

FPC : JSA90454  
FFC : JSA90455

NOTES

1. THIS IS SMT CONNECTOR FOR AUTOMATIC MOUNTING.
2. SEE PART DRAWINGS FOR DIMENSIONS A-D.

|           |             |      |          |               |                                      |     |
|-----------|-------------|------|----------|---------------|--------------------------------------|-----|
|           |             |      | SCALE    | X             | CAT. NO. TABLE FOR SURFLOK CONNECTOR |     |
|           |             |      | DIM. IN  | mm            | CAT. NO.                             |     |
|           |             |      | DESIGNED |               | SFR__R-1ST__                         |     |
| REV. DATE | DESCRIPTION | CKD. | DRAWN    | M. Oba        | DRAWING NO.                          | REV |
|           | MATERIAL    |      | CHECKED  | S. Ito        | JSA 90450                            | 5   |
|           |             |      | APPROVED | J. Kobayashi  |                                      |     |
|           |             |      | DATE     | Sep. 29, 1989 |                                      |     |

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FILE

CAT. NO. & DIMENSIONS

| NO. OF CONTACTS (n) | CAT. NO. (NOTE2) | DIMENSIONS (NOTE3) |        |        |        |
|---------------------|------------------|--------------------|--------|--------|--------|
|                     |                  | E ±0.5             | F ±0.3 | G ±0.1 | H ±0.4 |
| 4                   | SFR 4R-1STE1     | 22.4               | 16     | -----  | 3.35   |
| 6                   | SFR 6R-1STE1     | 22.4               | 16     | -----  | 3.35   |
| 8                   | SFR 8R-1STE1     | 30.4               | 24     | -----  | 3.45   |
| 10                  | SFR10R-1STE1     | 30.4               | 24     | -----  | 3.45   |
| 12                  | SFR12R-1STE1     | 30.4               | 24     | -----  | 3.45   |
| 14                  | SFR14R-1STE1     | 30.4               | 24     | -----  | 3.45   |
| 16                  | SFR16R-1STE1     | 30.4               | 24     | -----  | 3.45   |
| 18                  | SFR18R-1STE1     | 38.4               | 32     | 28.4   | 3.45   |
| 20                  | SFR20R-1STE1     | 38.4               | 32     | 28.4   | 3.45   |
| 22                  | SFR22R-1STE1     | 50.4               | 44     | 40.4   | 3.55   |
| 24                  | SFR24R-1STE1     | 50.4               | 44     | 40.4   | 3.55   |
| 26                  | SFR26R-1STE1     | 50.4               | 44     | 40.4   | 3.55   |
| 28                  | SFR28R-1STE1     | 50.4               | 44     | 40.4   | 3.55   |
| 30                  | SFR30R-1STE1     | 50.4               | 44     | 40.4   | 3.55   |

CAT. NO.

SFR (n) R - 1 STE1

SERIES NAME

NO. OF CONTACTS

RIGHT ANGLE TYPE

USE FOR FPC/FFC

FOR AUTOMATIC MOUNTING (SMT)

TAPE PACKAGING

DRAWINGS FOR PARTS PACKAGING  
JSA90453

REF. DWG

JSA90450

CONNECTOR (n:4) : JSA91172  
CONNECTOR(n:6-30) : JSA90451

RECOMMENDED CABLE

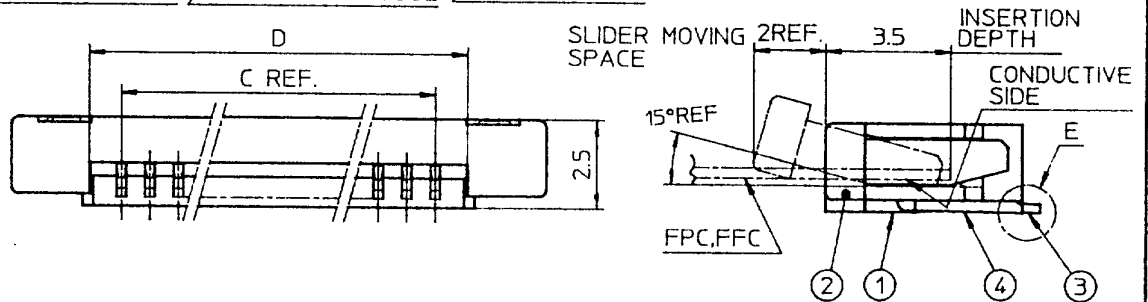
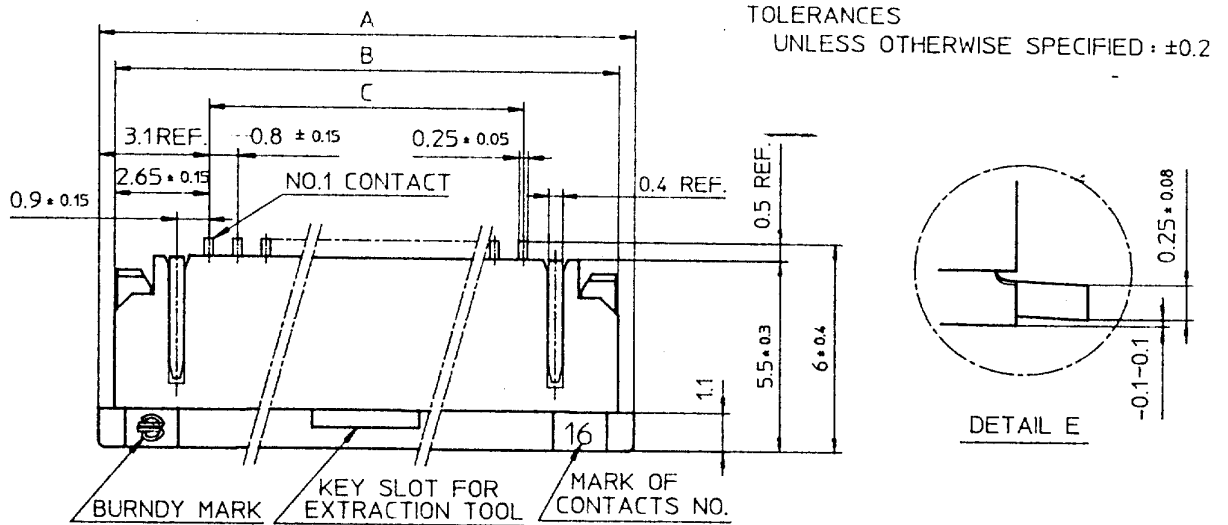
FPC : JSA90454  
FFC : JSA90455

NOTES

1. THIS IS SMT CONNECTOR FOR AUTOMATIC MOUNTING.
2. THIS CATALOG NO. INDICATES PLASTIC TAPE PACKAGED CONNECTOR.
3. SEE DRAWINGS OF CONNECTOR PACKAGING FOR DIMENSIONS E-H.

|  |          |              |   |
|--|----------|--------------|---|
| '91<br>5-20 4 POSITIONS ADDED<br>'90<br>4-11-29 28 POSITIONS ADDED.<br>NOTE4 DELETEDAU JTK | SCALE    | 2x           | CAT NO. TABLE FOR PLASTIC TAPE PACKAGED SURFLOK |
|  | DIM. IN  | mm           | CAT. NO.  |
|  | DESIGNED |              | SFR_R-1STE1                                     |
|  | DRAWN    | M. Oba       | DRAWING NO. REV                                 |
| MATERIAL   | CHECKED  | S. Ito       | JSA 90452 5                                     |
|  | APPROVED | J. Kobayashi |   |
|  | DATE     | Oct. 4, 1989 | <b>BURNDY JAPAN, Ltd.</b>                       |

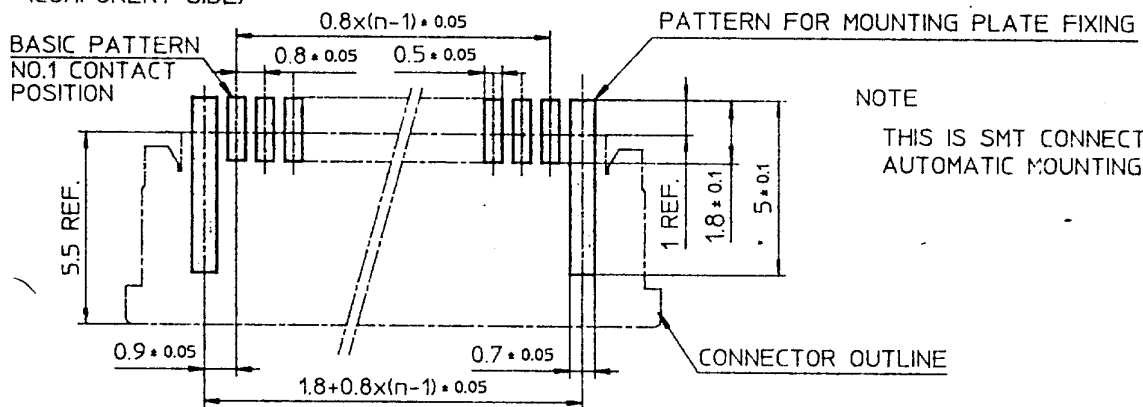
FILE



| PT. NO. | PARTS NAME     | MATERIAL                                | Q'TY | NOTE                |
|---------|----------------|---|------|---------------------|
| 1       | HOUSING        | PPS RESIN GLASS REINFORCED<br>(UL94V-0) | 1    | COLOR : BLACK       |
| 2       | SLIDER         |   | 1    |                     |
| 3       | CONTACT        | PHOSPHOR BRONZE                         | n    | PLATING : TIN ALLOY |
| 4       | MOUNTING PLATE |   | 2    |                     |

n : NO. OF CONTACTS

**RECOMMENDED PC BOARD LAYOUT  
(COMPONENT SIDE)**



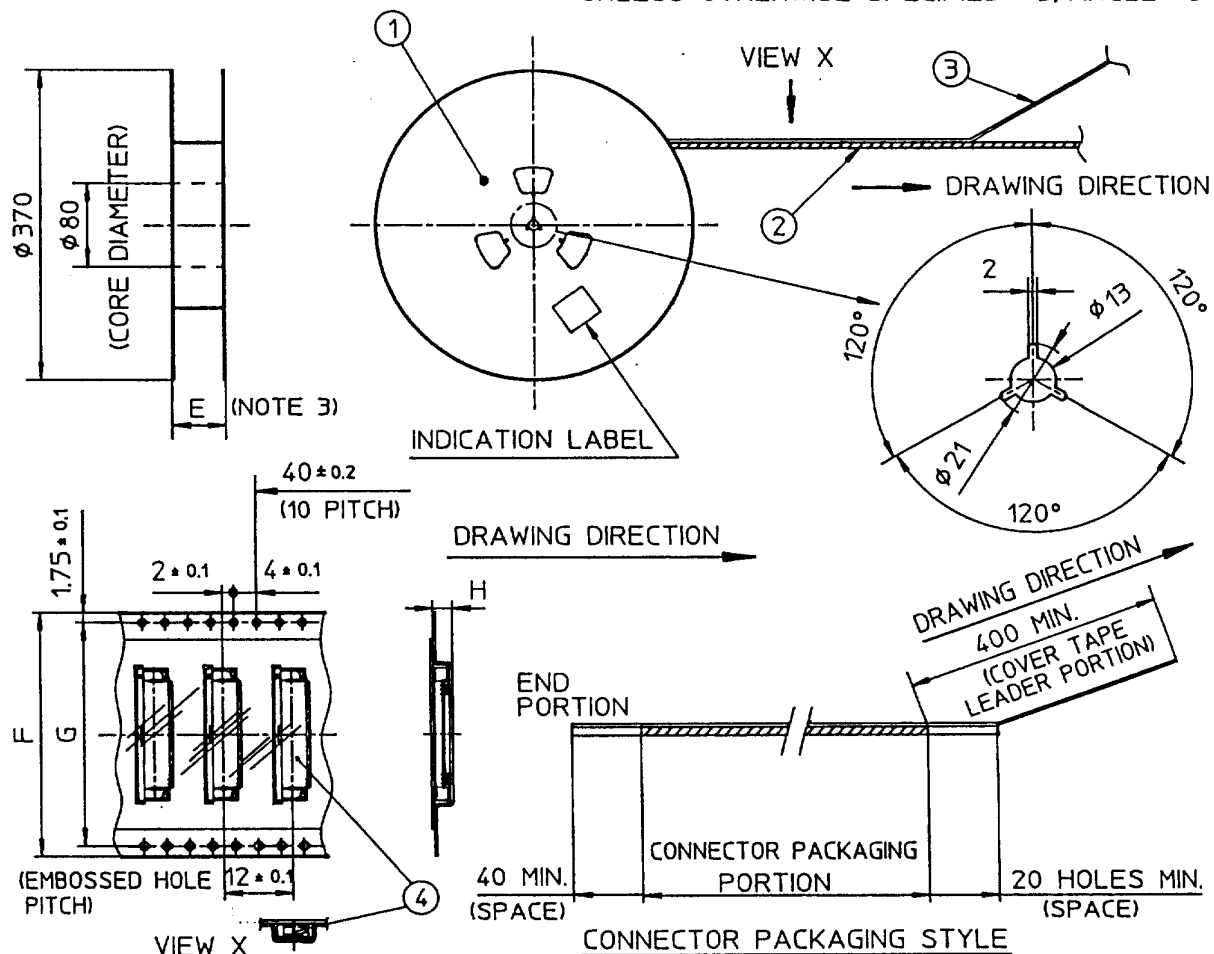
NOTE  
THIS IS SMT CONNECTOR FOR  
AUTOMATIC MOUNTING.

|      |              |                                  | SCALE    | ∞        | SURFLOK      |      |
|------|--------------|----------------------------------|----------|----------|--------------|------|
|      |              |                                  | DIM. IN  | mm       | CAT. NO.     |      |
| 1    | '89<br>11-28 | DIM. ADDED.<br>CAT. NO. CHANGED. | DESIGNED |          | SFR__R-1ST__ |      |
| REV. | DATE         | DESCRIPTION                      | CKD.     | DRAWN    | DRAWING NO.  | REV. |
|      |              | MATERIAL                         |          | CHECKED  | JSA 90451    | 1    |
|      |              |                                  |          | APPROVED |              |      |
|      |              |                                  |          | DATE     |              |      |

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JSA90454 JSA90455

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TOLERANCES  
UNLESS OTHERWISE SPECIFIED:  $\pm 5$ , ANGLE  $\pm 5^\circ$



| PT. NO. | PARTS NAME            | CAT. NO.     | MATERIAL         | Q'TY | NOTE                 |
|---------|-----------------------|--------------|------------------|------|----------------------|
| 1       | REEL                  | —            | CARDBOARD        | 1    | COLOR : GRAY         |
| 2       | PLASTIC (EMBOSS) TAPE | —            | POLYPROPYLENE    | —    | COLOR : TRANSPARENCY |
| 3       | COVER                 | —            | POLYESTER        | —    | COLOR : TRANSPARENCY |
| 4       | SURFLOK CONNECTOR     | SFR__R-1ST__ | SEE ATTACHED DWG | 2000 | —                    |

NOTES

1. THIS IS PLASTIC TAPE PACKAGED SMT CONNECTORS FOR AUTOMATIC MOUNTING.
2. SEE JIS C 0806 (PACKING OF ELECTRONIC COMPONENTS ON CONTINUOUS TAPES (SURFACE MOUNTING DEVICES)) FOR SHAPE AND DIMENSIONS OF PLASTIC (EMBOSS) TAPE AND REEL.
3. E DIMENSION IS PORTION OF THE CORE.

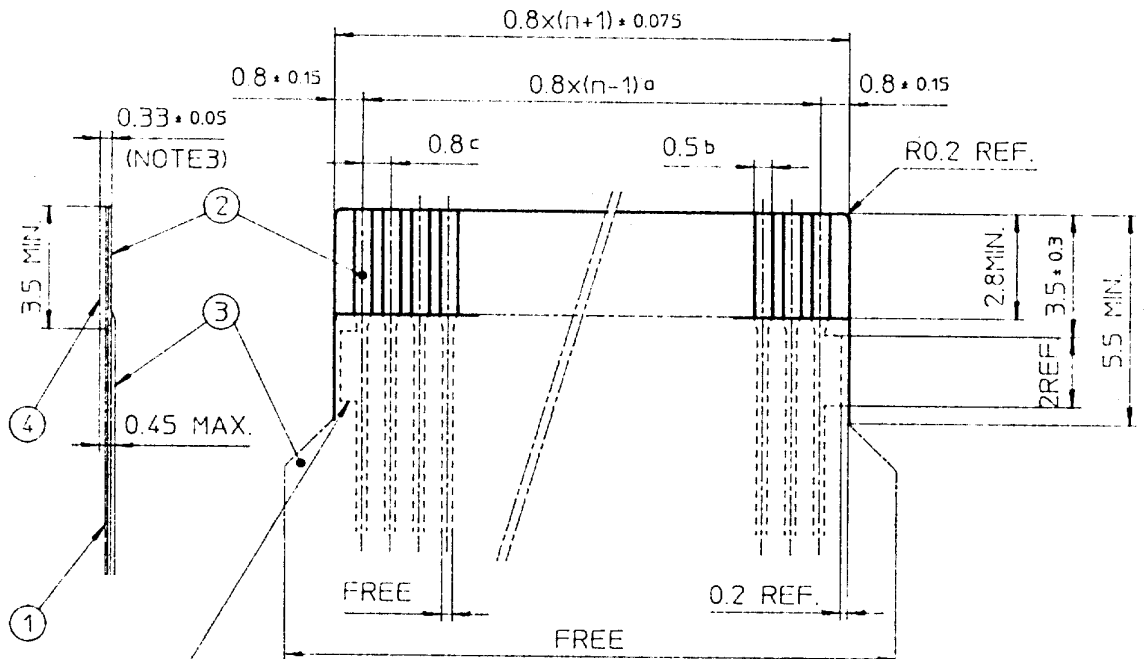
|          |             |  |      |          |               |                                    |     |
|----------|-------------|--|------|----------|---------------|------------------------------------|-----|
| 6        | '96<br>7-3  | CHANGED DRAWING PORTION<br>M.I. m.k        | K.O. | SCALE    | $\times$      | PLASTIC TAPE PACKAGED<br>SURFLOK   |     |
| 5        | '94<br>4-22 | MATERIAL CHANGED.<br>M.H.                  | S.I. | DIM. IN  | mm            | CAT. NO.                           |     |
| 4        | '91<br>5-24 | REDRAWN (REFER TO<br>JSA91172 ADDED.) g.o. | J.R. | DESIGNED |               | SFR__R-1STE1                       |     |
| REV.     | DATE        | DESCRIPTION                                | CKD. | DRAWN    | M. Oga        | DRAWING NO.                        | REV |
| MATERIAL |             |  |      | CHECKED  | S. Ito        | JSA90453                           | 6   |
|          |             |  |      | APPROVED | J. Ogasawara  | FRAMATOME CONNECTORS<br>JAPAN LTD. |     |
|          |             |  |      | DATE     | May. 24, 1991 | FCI                                |     |

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FILE

RECOMMENDED CABLE (FPC)

n : NO. OF CONDUCTOR



INSERTION INSPECTION MARK

| KIND OF FPC (NOTE4) | DIMENSIONAL TOLERANCE |        |        |
|---------------------|-----------------------|--------|--------|
|                     | a                     | b      | c      |
| 1                   | ±0.04                 | ±0.05  | ±0.04  |
| 2                   | ±0.035                | ±0.075 | ±0.035 |

| PT. NO. | PARTS NAME      | MATERIAL                                | THICKNESS (μm) |
|---------|-----------------|---|----------------|
| 1       | BASE FILM       | POLYIMIDE OR POLYESTER OR EQUAL         | 25             |
| 2       | CONDUCTOR       | COPPER FOIL(PLATING : SOLDER 2μm. MIN.) | 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.
4. EITHER KIND1 OR KIND2 OF FPC CAN ACCEPT DIMENSIONAL TOLERANCE a,b AND C.

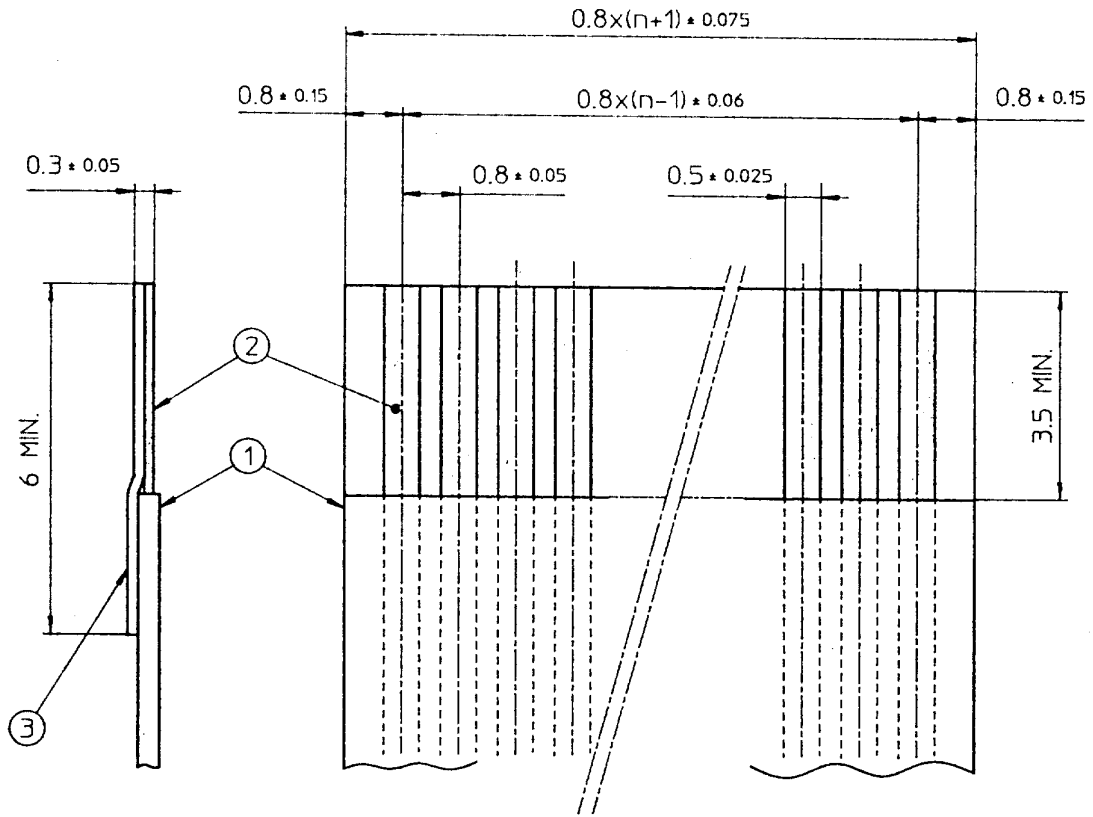
|   |          |                     |                   |
|---|----------|---------------------|-------------------|
| '91 TOLERANCE ADDED<br>'10-4 NOTE 4 ADDED.<br>'89 CAT. NO. CHANGED.<br>'11-28 NOTE 3 ADDED. <i>JK</i> | SCALE    | <i>X</i>            | RECOMMENDED CABLE |
|   | DIM. IN  | mm                  | CAT. NO.          |
|   | DESIGNED |                     | SFR__R-1ST__      |
|   | DRAWN    | <i>M. Oba</i>       | DRAWING NO. REV   |
| MATERIAL  | CHECKED  | <i>S. Ito</i>       | JSA 90454 2       |
|   | APPROVED | <i>J. Kobayashi</i> |                   |
|   | DATE     | Sep. 29, 1989       |                   |

10-1401

FILE

RECOMMENDED CABLE (FFC)

n : NO. OF CONDUCTOR



| PT. NO. | PARTS NAME      | MATERIAL                           | NOTE                                 |
|---------|-----------------|------------------------------------|--------------------------------------|
| 1       | INSULATOR       | FLAME RESISTING POLYESTER OR EQUAL | _____                                |
| 2       | CONDUCTOR       | COPPER FOIL : 50 μm                | PLATING : TIN OR SOLDER<br>2 μm MIN. |
| 3       | SUPPORTING TAPE | FLAME RESISTING POLYESTER OR EQUAL | _____                                |

NOTES

1. NO BURR AT EACH PORTION.
2. NO PEELING IN COMMON USE.

- CAD 7-95

|      |              |                   |          |          |                   |      |
|------|--------------|-------------------|----------|----------|-------------------|------|
|      |              |                   | SCALE    | $\times$ | RECOMMENDED CABLE |      |
|      |              |                   | DIM. IN  | mm       | CAT. NO.          |      |
| 1    | '89<br>11-28 | CAT. NO. CHANGED. | DESIGNED |          | SFR__R-1ST__      |      |
| REV. | DATE         | DESCRIPTION       | CKD.     | DRAWN    | DRAWING NO.       | REV. |
|      |              | MATERIAL          |          | CHECKED  | JSA 90455         | 1    |
|      |              |                   |          | APPROVED |                   |      |
|      |              |                   |          | DATE     |                   |      |

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