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| ENGINEERING DEPT. | PRODUCT SPECIFICATION | SPEC. No.: SPFC001P |
| REVISIONS: ECN11100 | For Flexible Flat Cable | PAGE: 1 / 6 |

1. SCOPE:

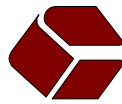
This specification is available for FFC manufactured by CviLux Corporation. about the material, quality, function and dimension

2. RATING: UL FILE No. : E208903

- 2.1 UL Style No. 2896 — Max. volt: 30V, Max. temp.: 80°C
- 2.2 UL Style No. 20696 — Max. volt: 30V, Max. temp.: 80°C
- 2.3 UL Style No. 20798 — Max. volt: 60V, Max. temp.: 80°C
- 2.4 UL Style No. 20624 — Max. volt: 60V, Max. temp.: 80°C
- 2.5 UL Style No. 20706 — Max. volt: 60V, Max. temp.: 105°C
- 2.6 UL Style No. 20861 — Max. volt: 60V, Max. temp.: 105°C
- 2.7 UL Style No. 20941 — Max. volt: 90V, Max. temp.: 105°C
- 2.8 UL Style No. 20960 — Max. volt: 300V, Max. temp.: 105°C



REVIEWED : David APPROVED : Eisley VERIFIED : Sun .



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3. ORDERING CODE:

FFC **C** **12** **04** **T1** **060** **0** **0** **-3** **00**
① **②** **③** **④** **⑤** **⑥** **⑦** **⑧** **⑨** **⑩**

① Series No.

② Conductor Pitch:

| Code | Pitch(mm) |
|------|-----------|
| A | 2.54 |
| B | 1.25 |
| C | 1.00 |
| D | 0.80 |
| E | 0.50 |

③ Numbers for Conductor :

④ Conductor Size :

| Code | Size(mm) | | Applying Pitch (mm) |
|------|-----------|-------|---------------------|
| | Thickness | Width | |
| 01 | 0.1 | 1.27 | 2.54 |
| 02 | 0.1 | 0.8 | 1.25 |
| 03 | 0.05 | | |
| 04 | 0.1 | 0.7 | 1.00 |
| 05 | 0.05 | | |
| 06 | 0.035 | | |
| 07 | 0.1 | 0.5 | 0.80 |
| 08 | 0.05 | 0.3 | 0.50 |
| 09 | 0.035 | | |
| 10 | 0.035 | 0.8 | 1.25 |
| 11 | 0.05 | 0.6 | 1.00 |
| 12 | 0.1 | 0.3 | 0.80 |
| 13 | 0.035 | 0.6 | 1.00 |
| 14 | 0.05 | 0.65 | |
| 15 | 0.1 | 0.65 | |



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⑤ Terminal Type:

| Code | Type | Code | Type |
|--------|------|------|------|
| T1(B1) | | T7 | |
| T2(B2) | | T9 | |

| Code | Type | Code | Type |
|------|------|------|------|
| G1 | | G2 | |

Note:

Plating code: T= Sn, B=Sn/Bi, G= Gold

⑥ Total Length :

060= 60mm

⑦ Strip Length: 0= Standard

When the conductor pitch is 0.5 and 0.8mm; Standard strip length = 4.0mm

When the conductor pitch is 1.0, 1.25 and 2.54mm; Standard strip length = 5.0mm

Other length options available

Max. Strip length: 10.0mm

⑧ Support Tape Length: 0=Standard

When the conductor pitch is 0.5 and 0.8mm; Standard support tape length = 8.0mm

When the conductor pitch is 1.0, 1.25 and 2.54mm; Standard support tape length = 10.0mm

Other length options available

Max. Support tape length: 20.0mm

⑨ UL Style No.:

-0= UL 2896(White); -2= UL 20798(White);

-1= UL 20624(White) ; -A= UL 20624(Black); -B= UL 20624(Black without print)

-3= UL 20706(White); -N= UL 20706(White without print) ; -H= UL 20706(White, Halogen-Free)

-8= UL 20706(Black); -7= UL 20706(Black without print) ; -G= UL 20706(Black, Halogen-Free)

-6= UL 20960(White); -9= UL 20960(White without print)

⑩ Other option: 00= Standard



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4. MATERIALS:

4.1 Conductor: See Ordering Code :

4.2 Insulation: Polyester (PET)

4.2.1 Adhesive layer: Flame retardant Polyester adhesive layer

4.2.2 Color: White or Black

4.3 Support Tape: Polyester (PET)

4.3.1 Adhesive layer: Polyester adhesive layer

4.3.2 Color: Blue or White

5. SHAPE, CONSTRUCTION AND DIMENSIONS:

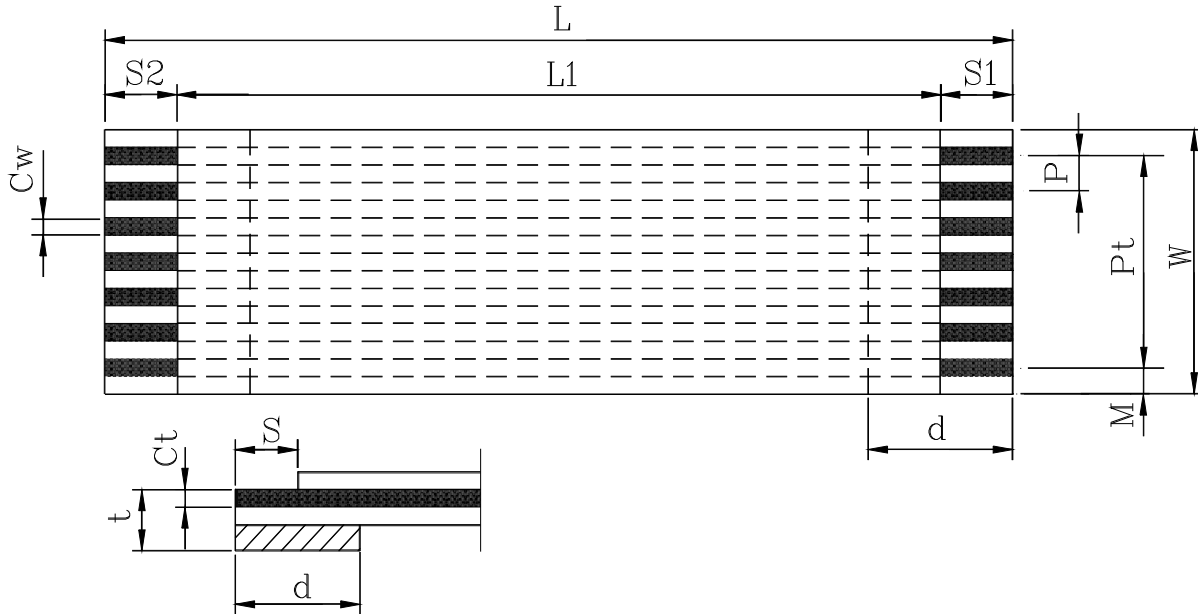
n: numbers of conductor

Unit: mm

| No. | ITEM | Abbr. | FORMULATION | TOLERANCE | | | | |
|------|----------------------|-------|--|---|------------|----------|------------|------------|
| | | | | P= 0.5 | P= 0.8 | P= 1.00 | P= 1.25 | P= 2.54 |
| 5.1 | Pitch | P | Typical | ± 0.05 | ± 0.08 | ± 0.08 | ± 0.10 | ± 0.20 |
| 5.2 | Total pitch | Pt | Pt= (n-1) x P | ± 0.08 | ± 0.10 | ± 0.10 | ± 0.15 | +0.2/-0.4 |
| 5.3 | Width | W | W= (n+1) x P | ± 0.08 | ± 0.10 | ± 0.10 | ± 0.20 | +0.2/-0.4 |
| 5.4 | Margin | M | M= (W-Pt) / 2 | ± 0.08 | ± 0.12 | ± 0.12 | ± 0.20 | ± 0.30 |
| 5.5 | Insulation length | L1 | L1 = L - (S1+S2) | (30-100) ± 3, (101-300) ± 5, (301-600) ± 10, (Length more than 601mm) ± 15 | | | | |
| 5.6 | Total (Cable) length | L | L = L1 + (S1+S2) | | | | | |
| 5.7 | Strip length | S | When the terminal type is T1、T2、T3 and T4 ; S1= S2 | 4 ± 1 | | 5 ± 1 | | |
| 5.8 | Support tape length | d | d = S x 2 | 8 ± 2 | | 10 ± 2 | | |
| 5.9 | Conductor width | Cw | Various | 0.3 ± 0.02 | 0.3 ± 0.02 | 0.7±0.03 | 0.8 ± 0.03 | 1.27± 0.04 |
| | | | | | 0.5 ± 0.03 | 0.6±0.03 | | |
| 5.10 | Conductor thickness | Ct | Various | 0.1 ± 0.01 | | | | |
| | | | | 0.05 ± 0.01 | | | | |
| | | | | 0.035 ± 0.01 | | | | |
| 5.11 | Terminal thickness | t | Typical | 0.29~0.34 | | | | |



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LECTRICAL PERFORMANCE:

| ITEM | TEST CONDITION | REQUIREMENT | | | |
|--------------------------------|----------------------|---------------------|--------------------|------------|--------------------|
| | | Conductor size | Resistance | | |
| 6.1 Conductor resistance | JIS C-3102 (at 20°C) | Ct | Cw | Resistance | |
| | | | | | 0.1 |
| | | 0.8 | less than 0.26 Ω/m | | |
| | | 0.7 | less than 0.33 Ω/m | | |
| | | 0.5 | less than 0.42 Ω/m | | |
| | | 0.65 | less than 0.30 Ω/m | | |
| | | 0.3 | less than 0.70 Ω/m | | |
| | | 0.05 | 0.8 | | less than 0.52 Ω/m |
| | | | 0.7 | | less than 0.65 Ω/m |
| | | | 0.65 | | less than 0.65 Ω/m |
| | | | 0.6 | | less than 0.70 Ω/m |
| | | | 0.3 | | less than 1.40 Ω/m |
| | | 0.035 | 0.8 | | less than 0.82 Ω/m |
| | | | 0.7 | | less than 1.09 Ω/m |
| | | | 0.6 | | less than 1.20 Ω/m |
| | | | 0.3 | | less than 2.20 Ω/m |
| 6.2 | AC 500V 1 min | No breakdown | | | |
| 6.3 | DC 500V | More than 1000 MΩ/m | | | |

7. MECHANICAL PERFORMANCE:



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| | ITEM | TEST CONDITION | REQUIREMENT |
|-----|--------------------------------|---|----------------------------------|
| 7.1 | Elongation of insulator | JIS K-6732 | More than 60% |
| 7.2 | Tensile strength of insulation | JIS K-6732 | More than 3.5 kg/mm ² |
| 7.3 | Abrasion test | φ 0.5mm, 600g, 60 cycles/min, 10mm | More than 10,000 times |
| 7.4 | Pull – out test | Using different Pitch LIF Type FFC/FPC Connectors | More than 20 times |
| 7.5 | Flexing test | 180° folding test | More than 20 times |
| 7.6 | Reciprocating test | 10mmR, 180 cycles/min, 25 mm/cycles | More than 100,000 times |

8. ENVIRONMENTAL PERFORMANCE:

| | ITEM | TEST CONDITION | REQUIREMENT |
|-----|-----------------------|--|--|
| 8.1 | Operation temperature | UL Style No. 2896 UL Style No. 20624 UL Style No. 20696 UL Style No. 20798 | -30°C ~ +80°C |
| | | UL Style No. 20706 UL Style No. 20861 UL Style No. 20941 UL Style No. 20960 | -30°C ~ +105°C |
| 8.2 | Heat resistance | 85°C x 96 Hrs | 6.2, 6.3 Pass |
| | | 110°C x 96 Hrs | |
| 8.3 | Solder iron method | Bit Temperature: 380±10°C Application time of soldering iron: 3±1 Sec. | Appearance no damage Electrical characteristics and mechanical characteristics shall be satisfied |
| 8.4 | Heat cycle test | -40°C → +25°C → +85°C → +25°C x 5 cycle | 6.2, 6.3 Pass |
| 8.5 | Moisture resistance | 40°C, 95% RH x 96 Hrs | |
| 8.6 | Flame test | UL Sub.758 | VW-1 Pass |

9. MARKING ON PRODUCT:

The UL file No., Rating temperature and voltage, and UL style No. Are printed.

10. PACKING:

Product shall be packed 50 pieces per bundle not to be damaged during transportation. And followings Will be indicated on the box.

1) **Part No.** 2) **Quantity** 3) **Shipping date** 4) **Manufacturer name** and 5) **UL label will be attached.**