

**PRODUCT FAMILY SPECIFICATION FOR
0.50MM CENTER FLAT FLEX CABLE (FFC)
(EXTRA FLEXIBLE, 105°C, Sn PLATED)*****Revision List***

REVISION	MODIFICATION	DATE
A	First release	2011/11/01
B	Margin updated from 0.50 + 0.15/-0.096mm to 0.50 +/- 0.12mm Span updated from 0.50 (N-1) +/- 0.10mm to 0.50 (N-1) +/- 0.07mm	2019/04/04
C	New format	2022/05/31

REVISION: C	ECR/ECN INFORMATION: EC No: 716688 DATE: 2022/05/31	TITLE: PRODUCT FAMILY SPECIFICATION FOR 0.50MM CENTER FLAT FLEX CABLE (FFC) (EXTRA FLEXIBLE, 105°C, Sn PLATED)	SHEET No. 1 of 5
DOCUMENT NUMBER: PS-15166-001	CREATED / REVISED BY: D. GOMEZ	CHECKED BY: M. IMIG	APPROVED BY: J. SMITH

1 SCOPE

This product family specification covers the details for 0.50mm center FFC (Flat Flexible Cable) jumper cable, 105°C, using tin plated copper conductor.

2 PRODUCT DESCRIPTION

2.1 Product name and series number

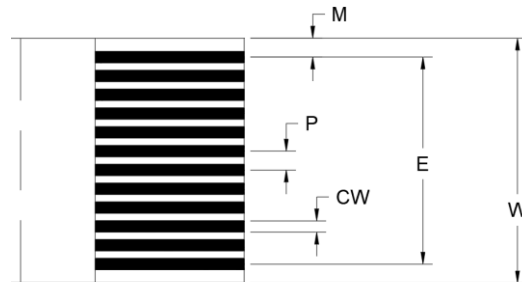
Product name: 0.50MM CENTER FFC JUMPER CABLE (EXTRA FLEXIBLE, 105°C, Sn PLATED)

Product material no: 15166-XXXX

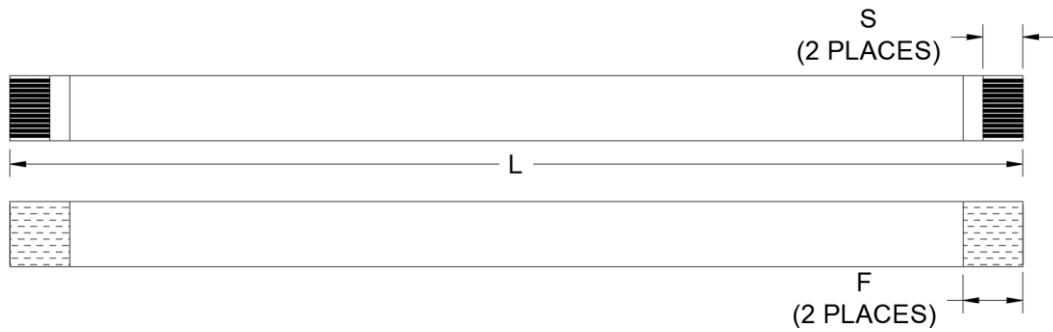
2.2 Dimensions, materials, and markings

Product dimensions according to SD-15166-001.

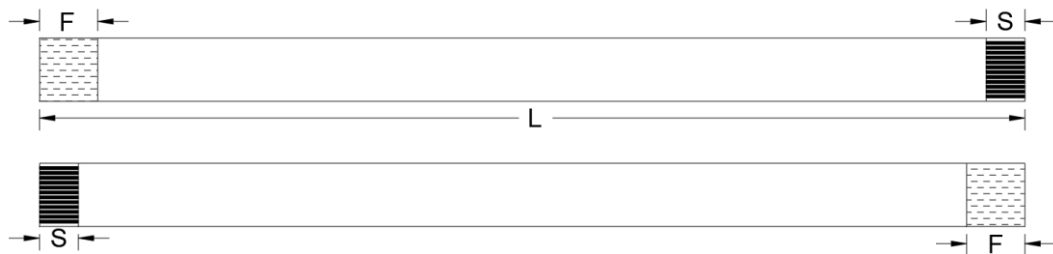
Number of conductors	N	6 to 80
Pitch	P	0.50 ± 0.05mm
Span	E	0.50 (N-1) ± 0.07mm
Total width	W	0.50 (N+1) ± 0.10mm
Conductor Width	CW	0.30 ± 0,02 mm
Margin width	M	0.50 ± 0.12mm
Strip length	S	2.00 to 10.00 ± 0.80mm
End thickness of the connection area	Tc	0.30 ± 0.05mm
Thickness of the insulated area	Ti	0.12 ± 0.05mm
Insulated length	L	20 to 60mm ± 2.00mm 61 to 100mm ± 3.00mm 101 to 200mm ± 4.00mm 201 to 3999mm ± 5.00mm 4000 to 5999mm ± 10.00mm 6000 to 9999mm ± 15.00mm
Reinforcement length	F	6.00 to 20.00 ± 2.00mm
End squareness	s-s'	0.30mm max.



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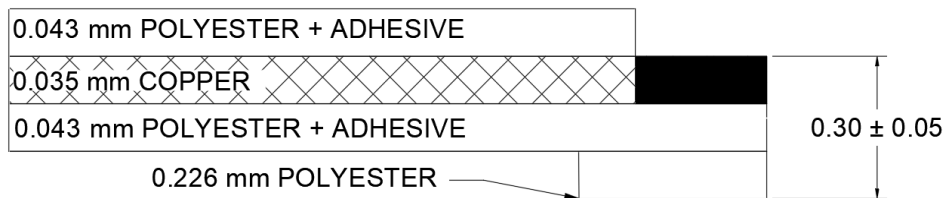
Type A (Contacts on the same side)



Type D (Contacts on the opposite side)

2.3 Composition

- Conductor:
 - Material: Copper
 - Thickness: 0.035 mm nominal
 - Surface Finish: 0.4µm Sn min.
- Insulation tape:
 - Material: Polyester + Flame retardant adhesive
 - Thickness: 0.043 mm nominal
 - Color: white
- Reinforcement tape:
 - Material: Polyester + Adhesive
 - Thickness: 0.226 nominal



2.4 Current and applicable conductors

Conductor Width	Conductor Thickness	Cross section	Current
0.3 mm	0.035 mm	0.01mm ²	0.35 A


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3 ELECTRICAL AND PHYSICAL SPECIFICATIONS

3.1 Electrical requirements

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Conductor resistance	23°C	2200 ohms/km MAXIMUM
2	Insulation resistance cond. to cond.	200 V DC	10 MΩ.m MIN
3	Dielectric test	200 V AC for 1 minute	No disruptive discharge
4	Continuity test	3.0 V DC at 0.1mA	passed
5	Voltage rating	UL20706	60 V AC MAXIMUM
6	Current rating	at 23°C increase in 10°C at the surface (all conductors under load)	0.35 A MIN
7	Impedance cond/cond balanced method	FFC at 1 MHz	150 Ω TYP
8	Capacitance cond/cond balanced method	FFC at 1 KHz	50 pF/m

3.2 Physical requirements

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
9	Operating Temperature		-40°C to +105°C
10	Heat resistance	168 hours at 136°C	Insulation resistance Dielectric test
11	Thermal shock	30 minutes at -55°C 5 minutes at +25°C 30 minutes at +85°C 5 minutes at +25°C	Insulation resistance after 25 cycles
12	Cold coiling	96 hours at -40°C / The sample will be wound on a 3mm dia. Mandrel	Insulation resistance Dielectric test Visual inspection
13	Wear by abrasion	Test following EN3475-503 Weight: 500g Speed: 60 cycles/min Abrasion tool: 0.13mm dia.	10000 cycles (standard) 1000 cycles (shielded) MINIMUM
14	Folding	The specimen shall be folded manually at 180°	Continuity after 20 times
15	Flex Lifecycles	Speed: 100 cycles/min R1: 5 mm R2: 10 mm Temp: 23°C 	For R1: 500,000 cycles MIN For R2: 5,000,000 cycles MIN
16	Moisture resistance	96 hours at 60°C, 95% RH	Insulation resistance Dielectric test

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17	Flame resistance	UL 758 VW-1	Passed
18	Solderability	Immersion of the area which is intended for soldering into a tin bath at 250 ± 10°C for 30 seconds	No delamination Solder reflow below 1 mm

4 UL APPROVAL

These products are UL compliant under:

UL style 20706

Temperature rating: 105°C

Voltage rating: 60 V AC

5 ROHS COMPLIANCE

Cable construction is RoHS compliant.

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