

**PRODUCT FAMILY SPECIFICATION FOR
0.50 mm PITCH FLAT FLEX CABLE (FFC)
(FS-19, 105°C, Sn PLATED)*****Revision List***

REVISION	MODIFICATION	DATE
A	First release	2022/06/02
B	Format update	2022/08/29
C	Number of circuits and current parameters updated	2022/12/07

REVISION: C	ECR/ECN INFORMATION: EC No: 731362 DATE: 2022/12/07	TITLE: PRODUCT FAMILY SPECIFICATION FOR 0.50 mm PITCH FLAT FLEX CABLE (FFC) (FS-19, 105°C, Sn PLATED)	SHEET No. 1 of 5
DOCUMENT NUMBER: 154660001	CREATED / REVISED BY: D. GOMEZ	CHECKED BY: M. IMIG	APPROVED BY: J. SMITH

1 SCOPE

This specification covers the 0.50mm center FFC (Flat Flex Cable), 105°C, using tin plated copper conductor.

Mates with Molex FFC/FPC Connector Series # 505278.

2 PRODUCT DESCRIPTION

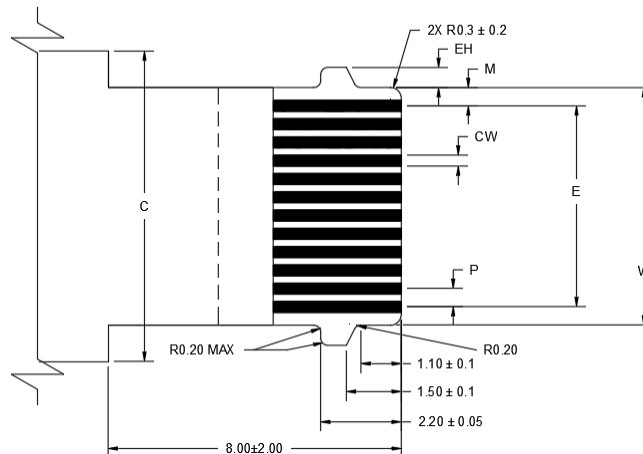
2.1 Product name and series number

Product name: 0,50mm CENTER FFC JUMPER CABLE (105°C, Sn PLATED)
 Product material no: 15466-XXXX

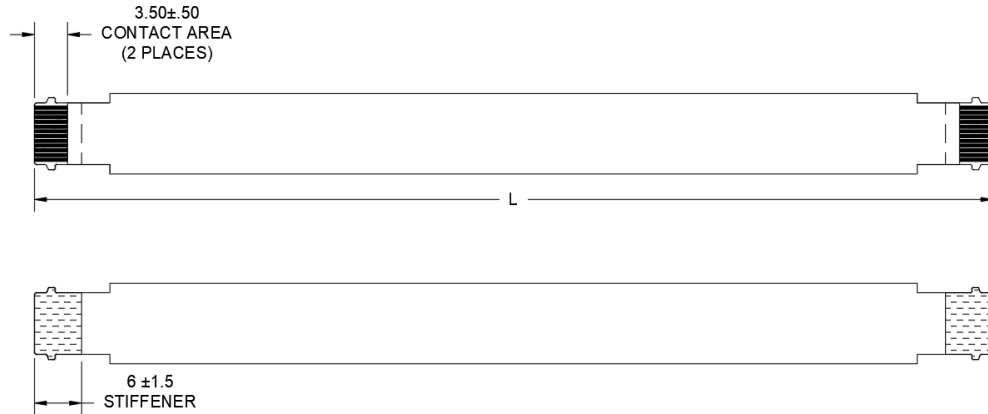
2.2 Dimensions, materials, and markings

Product dimensions (in mm) according to drawing 154660001.

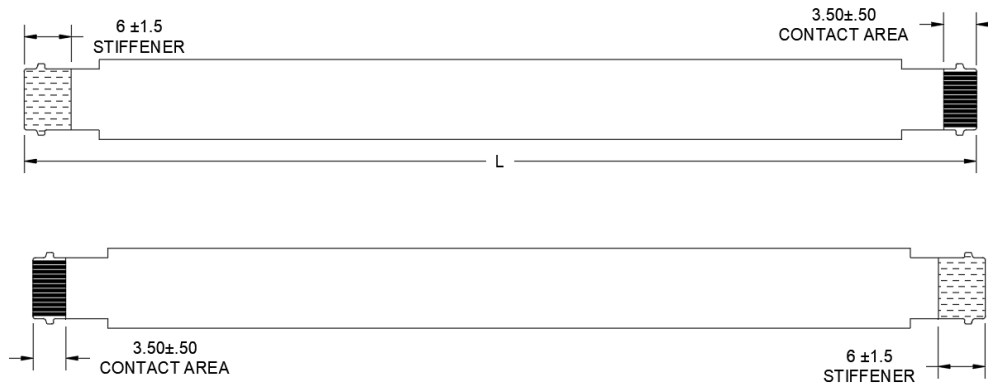
Number of conductors	N	Refer to sales drawing
Pitch	P	0.50 ± 0.05
Span	E	0.50 (N-1) ± 0.05
Total width	W	0.50 (N+1) ± 0.07
Ear Height	EH	0.55 ± 0.05
Cable Center Width	C	0.50 (N+5) ± 0.15
Margin width	M	0.50 ± 0.10
Conductor Width	CW	0.30 + 0.04 / -0.02
Total length	L	40 ≤ L ≤ 60 ± 2.00 61 ≤ L ≤ 100 ± 3.00 101 ≤ L ≤ 200 ± 4.00 201 ≤ L ≤ 300 ± 5.00



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DOCUMENT NUMBER: 154660001	CREATED / REVISED BY: D. GOMEZ	CHECKED BY: M. IMIG	APPROVED BY: J. SMITH



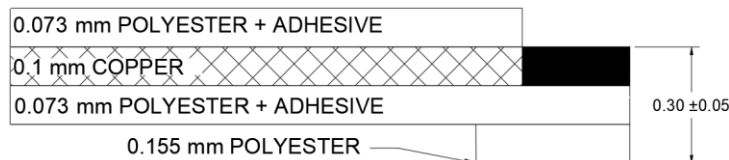
TYPE A (Contacts on the same side)



TYPE D (Contacts on the opposite side)

2.3 Composition

- **Conductor:** Material: Copper
Thickness: 0.10mm
Plating: 0.4µm Sn min
- **Insulation tape:** Material: Polyester + Flame retardant adhesive
Thickness: 0.073mm nominal
Color: White
- **Reinforcement tape:** Material: Polyester + Adhesive
Thickness: 0.155 nominal



2.4 Current and applicable conductors

Conductor Width	Conductor Thickness	Cross section	Current
0.3 mm	0.1 mm	0.03mm ²	0.55 A

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DOCUMENT NUMBER: 154660001	CREATED / REVISED BY: D. GOMEZ	CHECKED BY: M. IMIG	APPROVED BY: J. SMITH

3 Electrical and physical specifications


3.1 Electrical requirements

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Conductor resistance	ASTM B 193 (Max Resistance @20°C)	730 ohms/km MAXIMUM
2	Insulation resistance cond. to cond.	200 V DC	10 MΩ.m MINIMUM
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	UL 20706	60 V AC MAXIMUM
6	Current rating	0.55 A (all conductors under load) at 23°C	40°C heat rise MAX
7	Impedance cond. to cond. balanced method	FFC at 1 MHz	130 Ω TYP
8	Capacitance cond. to cond. balanced method	FFC at 1 KHz	62 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 135°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	Visual inspection Insulation resistance dielectric test
13	Wear by abrasion	Test following EN3475-503 Weight: 500g Speed: 60 cycles/min Abrasion tool: 0,50mm	Dielectric test insulation resistance: after 10000 cycles MINIMUM
14	Folding	The specimen shall be folded manually at 180°	Continuity after 20 times
15	Moisture resistance	96 hours at 60°C, 95% RH	Dielectric Test Insulation resistance

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DOCUMENT NUMBER: 154660001	CREATED / REVISED BY: D. GOMEZ	CHECKED BY: M. IMIG	APPROVED BY: J. SMITH

16	Flex-Life Number of Cycles (Typical values)	Radius: 10 mm Speed: 100 cycles/minute 	100,000 cycles
17	Insulation elongation	JIS C 2318	60 % MINIMUM
18	Tensile strength	JIS C 2318	32 N/mm ² MINIMUM
19	Cable retention force		Refer to Molex connector specification 505278 for details

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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DOCUMENT NUMBER: 154660001	CREATED / REVISED BY: D. GOMEZ	CHECKED BY: M. IMIG	APPROVED BY: J. SMITH