

Flexible printed circuits (FPC)

Range of Flexible pcb solution

Flexible PCB

Flexible printed circuits (FPC) is made of flexible dielectric base material and main material is Polyimide CCL, which is pressed with cover film with mechanical protection and good dielectric properties. FPC is also classified by SS, DS and ML. DS&ML get a conductivity by metallization.

Advantages of FPC: easily flex and fold, freely arrange by the lay-out to get the integrity of component assembly and conductor. It would be easy for the transportation, assembly, connection, etc. Therefore, FPC is widely used in aviation, military, mobile communication, IT product, Industrial equipment, etc.

1) Application territory for flexible PCB(FPC)

1. mobile phone, battery of mobile phone, communication equipment.
2. IT product such as notebook, computer and attachment, PDA
3. Video product such as CD-Rom, VCD, DVD
4. Office automation machine such as printer, fax machine, and copying machine.
5. Advanced camera and digital camera
6. Industrial equipment such as medical machine, control-circuits, automobile appearance.
7. Aerospace and aviation

2) Major production equipments

- CNC Drilling machine
- Optical target hole machine
- High energy exposing machine
- Etching machine
- Punching machine
- Small lamination machine
- Lamination machine
- Automatic silk-screen machine
- Electronic plating line
- Chemical immersion Au line

3) Major testing equipment

- Bending endurance tester
- Flexural endurance tester
- Projection magnify tester
- Peel strength test machine
- Microscope
- Florescent X-ray coating thickness gage
- CCD magnify tester

FPC PRODUCTION CAPACITY

Item	Content	Specification	1	Layer	1^2 (85% of
Excellent Products with 3-6 Layers)		2	Dimension of Finished Board (Utmost)	4	250*
400mm minimum)	3 0.05mm	Board Ply (maximum)	0.4mm	4	Board Ply (
< 0.4mm)	± 0.03mm	5	Tolerance of Thickness of Finished Product (0.075mm Board Ply	7	
		6	Hole Diameter (minimum)	0.20mm	
			Diameter of Finished Hole (minimum)	8	Thickness of Base Copper(
minimum)	1/ 3oz	9	Thickness of Base Copper (maximum)	1oz	
10	Dielectric Thickness (minimum)		1/2mil	11	Dielectric Thickness (
maximum)	3mil	12	Material	PI/ PET	13
Aspect Ratio (maximum)	7:1	14	Hole Diameter Tolerance (PTH)	±	Hole Plating
0.050mm	15	Hole Diameter Tolerance (non-PTH)	± 0.050mm	16	

Hole Position Tolerance(Compared with CAD)		± 0.076mm	17	PTH Wall
Thickness ≥0.015mm	18	Designed Conductor Width/ Space (Minimum)		
1/2oz 4mil/4mil				
1/3oz 3mil/3mil				
(0.076mm / 0.076mm)	19	Tolerance of Line Width	± 20%(normal)	20
Solder Mask Thickness (minimum)		7.6um line angle	21	Thickness and
Tolerance of Nickel Plated Gold Finger	2.54um~~5um		22	Thickness and Tolerance of
Gold- Plated Gold Finger	0.025um ~~0.2um		23	Thickness of Immersion Nickel/ Gold
(Minimum- Maximum)	2.54um~5um/0.025um~0.1um		24	Tolerance of Punch Hole
Diameter ± 0.05mm		25	Outline Tolerance (Fine Steel Mould)	± 2mil(±
0.05mm)		26	Outline Tolerance (Steel Mould)	± 4mil(± 0.1mm)
Outline Tolerance (Knife Mould)			± 12mil(± 0.3mm)	27
Finished Board (Minimum)	± 10%	Others	28	Impedance Tolerance of
Circumference Void Test Voltage	200 ± 5V	2	Item	Content
10M Ω;	3	Open-Circuited Resistance	30 Ω;	4
Solderability Test	260 ± 10	, Time: 10Sec	Note	1