

Flexible Printed Circuit

JESSEN specializes in the manufacturing and design of flat flexible cable, flex, rigid flex and flexible circuits. We have a wide range of construction material for the manufacturing of our line of flexible circuits to meet customer application requirements. Our flex circuit products include:

- Flexible Printed
- Flat Flexible Cable
- Rigid Flex

FPCs and FFCs have several advantages in many applications:

- Tightly assembled electronic packages, where electrical connections are required in 3 axes, such as cameras (static application).
- Electrical connections where the assembly is required to flex during its normal use, such as folding cell phones (dynamic application).
- Electrical connections between sub-assemblies to replace wire harnesses, which are heavier and bulkier, such as in cars, rockets and satellites.
- Electrical connections where board thickness or space constraints are driving factors.
- provide the flexible service for OEM & ODM orders

FPC Production Capabilities	
Layers	1-8layers (soft & hard combined version is 8 layers)
Finished Board Thickness	Min.:10x45mm Max.:250x1200mm
Available Laminates Material	PI,PET,FR4-PI
Finished Board Thickness tolerance	±0.01mm
Finished hole diameter(Min.)	0.1mm
Finished hole diameter(Max)	0.6mm
NPTH Hole diameter tolerance	±0.025mm
PTH hole diameter tolerance	±0.050mm
Copper foil thickness	12um,18um,35um,70um
Circuit width/spacing(Min.)	≥0.065mm(1/2oz) ≥0.05mm(1/3oz)
Surface Finished type	OSP,Gold plating,Immersion Gold,Tin plating(lead free)etc.
Gold Flash Ni/Au thickness	Ni:2.54-9um Au:0.025-0.5um
Immersion Tin thickness	0.7-1.2um
Tin plating thickness	3-15um
Drill hole position tolerance	±0.05mm
Punching dimension tolerance	±0.05mm
Certificate	ROHS,UL,ISO9001 etc

Printed Circuit Board

We can offers a full range of rigid board constructions from single / double sided up to 32 layers and beyond, with vast experience in high layer count / high technology boards.

We have continually invested not only in the equipment and processes to allow the production of these high technology boards, but also in the latest test and inspection equipment to ensure the highest quality.

Some key rigid technology features are:

- High layer count multilayer
- FR4 / Polyimide / High Speed / Special Materials
- Micro via / Blind via / Buried via
- Stacked vias
- Controlled Impedance

Category	Description	Capability
File Formats	Gerber files- preferred	274-X,274-D,DPF,ODB++
	Drill file	X & Y coordinates, with tool sizes included
Size	Max. finished dimensions	580mm x 800mm – Single/ Double-sided
		550mm x 800mm – Multilayer
Board Thickness	Standard	1.6mm \pm 10%
	Min.	Single/ Double-sided:0.2mm \pm 0.1mm
		4-layer:0.2mm \pm 0.1mm
		6-layer:0.4mm \pm 0.1mm
		8-Layer:0.8mm \pm 0.1mm
		10-layer:1.0mm \pm 0.12mm
		12-layer:1.2mm \pm 0.12mm
...	32-layer:4.0mm \pm 0.4mm and above	
	Max.	6.3mm \pm 10%
	Bow and twist	< 7/1000
Copper	Outer Cu weight	1oz ~ 10oz
Weight	Inner Cu wight	1/3oz ~ 6oz
Laminate Materials	FR4(HighTG,halogen-free),FR5,ISOLA(FR408,370HR),TEFLON,POLYIMIDE,ROGERS(RO4003,RO4350,RO4450),Aluminum plate (Single,Double-sided)	
	FR4 Thickness	1.6mm
	High TG FR4 (170 deg C)	1.6mm
Board Cutting	Max. number of layers	32
	Min. thickness for inner layers (Cu thickness are excluded)	0.07mm
Drilling	Min. size	0.1mm
	Max. size	6.0mm
	Drill Deviation	\pm 0.002" (0.050mm)
	PTH hole tolerance	\pm 0.003" (0.075mm)
	NPTH hole tolerance	\pm 0.002" (0.050mm)
	Angle of Countersink	80°,90°,100°,120°
Plating	Min. hole size	0.0008"
	Aspect ratio	20
Etching	Trace width tolerance	\pm 20%
	Min. trace width / space (1oz finished Cu weight starting from 1/3oz)	0.003"/ 0.003"(0.08mm)
	Min. trace width / space (1oz finished Cu weight starting from 1/2oz)	0.004"/ 0.004"(0.1mm)

	Min. trace width / space (2oz finished Cu weight)	0.005"/ 0.005"(0.127mm)
	Min. trace width / space (3oz finished Cu weight)	0.008"/ 0.008"(0.2mm)
	Min. trace width / space (4oz finished Cu weight)	0.012"/ 0.012" (0.3mm)
Inner Layers	Min. space from drilling to inner pattern	0.1 mm
	Min. space from annular ring to inner pattern	0.1 mm
	Layer-to-layer registration	±0.003"(0.08mm)
Solder Mask	Color	green,lightgreen,mattegreen,white,extremewhite,black,matteblack,darkbrown,yellow,red,blue,transparent
	Min. solder mask clearance	0.003"
	Thickness	0.0004"
Silkscreen	Color	White,black,yellow,red,blue,green
	Min. trace width	0.005"
	Min. size	0.028" / 0.028"
Electrical Test	AOI	Y
	Flying Probe Tester	Y
Controlled Impedance	Tolerance	±10%
	Impedance tester	Tektronix TDS8200
Routing	End Mills Test	±0.15mm(0.006")
	CNC Tolerance	±0.15mm(0.006")
	V-Cut Depth	±0.1 mm(0.004")
	V-cut angle deviation	±0.1 mm(0.004")
	Semi-hole	Y
Surface Finish	HASL,HASL pb free,immersion gold,immersion silver,immersion tin,O.S.P (Entek),S/G plating,ENEPIG,G/F plating,carbon...	
Blind and Buried Vias	3+N+3	Y
	Resin,hole-filling ink,PTH	Y
Others	UL Cert.	Y
	ISO Cert.	ISO9001/ISO14001/RoHS

Metal Core PCB

Independent research and development of metal substrate production equipment, introduced SF shape processing technology, applied to various light bar, can improve the utilization rate of material free of mold, and improve customer productivity efficiency. Independent research and development of thermal conductivity of soft sheet material and technology can be applied to a variety of modeling of the high power lighting field.

Our COB product Has more than 5 years experience in COB product development and production experience, the only global mirror polishing technology, specular reflectivity reaches as high as 97%, line yield rate as high as 99.9% or more; otherwise the development of a number of COB process and patented technology

Feature

- Improvement in High thermal conductivity using Prepreg
- Upgrade of warp and twist problem caused by Coefficient of thermal expansion
- Excellent corrosion resistant and durability of abrasion
- Good dimensional stability

Application

- LCD, LED, BLU, Substrate for LED, Power Supply, Converter, Inverter
- Automobile igniter, Automobile Controller, Voltage Regulator Converter, Motor Driver, PDP, Audio etc.

	Category	Capability
1	Layers	1-2Layer
2	Material Supplier	Bergquist,Laird,Sanyo,Polytronics,TOTKING,DENKA,NRK ITEQ,BOYU
3	Metal base type	FR-4, Al base board, CU base board
4	Aluminum models	1100,3303,5052,6061
5	Board Thickness	0.5-3.2mm
6	Insulation layer thickness	50-150um
7	Max Board Size	1220×500mm
8	Heat conductivity	1W/Mk, 2W/Mk, 3W/Mk, 4W/Mk, 8W/Mk
9	Electric Strength	DC:600V/50uA or 1000V/5mA(LED)
	According to the material properties	AC:2000V/1Ma or 5000V/5mA(POWER)
10	Core material thickness	Min:0.1mm
11	Inner line width/Space	0.1/0.1mm
12	Outer line width/Space	0.15/0.15mm
13	Layer to Layer Registration	±0.05mm
14	Copper foil thickness	HOZ,1OZ,2OZ
15	Finished hole diameter	0.55mm
16	Hole diameter tolerance	±0.05mm
17	Hole position tolerance	±0.075mm
18	Surface finish	HASL,HASL pb free,immersion gold,immersion silver,immersion tin, O.S.P (Entek),S/G plating,ENEPIG,G/F plating,carbon...
19	Profiling	Punching, Routing, V-CUT, Beveling
20	Special requirements	Buried and blind vias ,controlled impedance ,BGA
21	minimum V-CUT Board Thickness	0.6mm
22	maximum Test Insulation Resistance	100MΩ
23	minimum Test Conductive Resistance	10 Ω
24	Plate shape tolerance	±0.10mm(4mil)

Lead Time

We also provide both normal delivery service and fast service, and urgent boards can be shipped out within 48 hours! You can choose suitable service according to your schedule. Please note withou speical notes, all the price we quoted is based on normal delivery.

Please email us about the order urgency, your job will be processed as top priority with some extra fee paid.

lead time for Printed Circuit Board prototypes, with standard specification, less than 1 sq meter.

Layers	Normal Service	Fastest Service
1	7 Days	48 H
2	8 Days	48 H
4	10 Days	48 H

6	10 Days	72 H
8	12 Days	72 H
>=10	TBD	TBD

Lead time for MCPCB prototypes, with standard specification, less than 1 sq meter.

Layers	Normal Service	Fastest Service
1	4 Days	72H
2	14 Days	168 H

---MCPCB Standard Specification: normal Aluminum material 0.8~2.0mm, H/H or 2OZ, HAL(LF), White oil, black silkscreen, thermal conductivity: 0.8W/C-K.

Lead time for Flexible Printed Circuit boards. with standard specification, less than 1 sq meter.

Items	Normal Service	Fastest Service
Rigid-flex	2 Weeks for 4 L >4 L: TBD	1.5 W eeks for 4 L >4L: TBD

(Please note our current production will affect the time, call us if time is urgent for). For Special board, please contact us for details.

SERVICE

we are totally committed to providing you with the best customer experience from quote to delivery, no exceptions.

