

INTERNATIONAL

Printed Circuit Board -  
**PCB presentation**

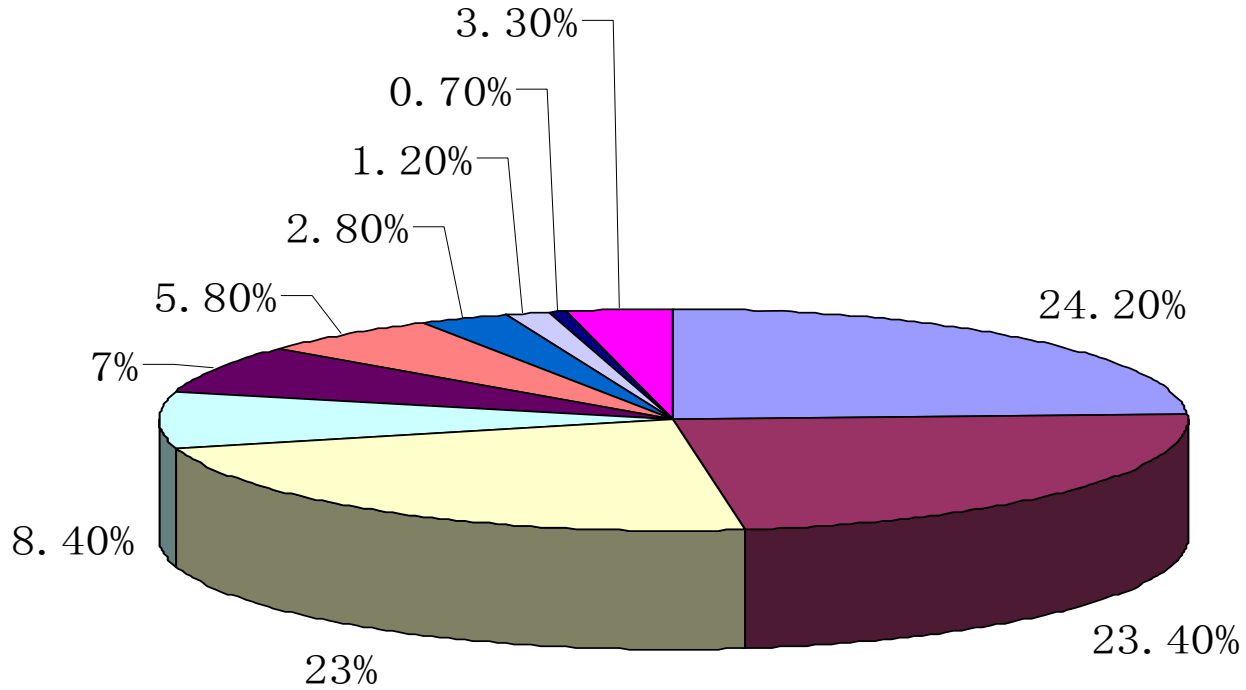
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# PCB application

- ◆ *P&A supplies customer with Quick Turn Prototype, Small and Medium-volume PCBs.*
- ◆ *The PCBs can be widely used in communication product, eg. Bluetooth, Wireless equipment, RF Antenna, Computer Peripherals, eg.: Motherboard, HDD, Digital products, eg: Camera, CCTV, lcd & video Printed Circuit Boards, and so on;*
- ◆ *Our PCB products are mainly used in the following sectors: **Power Electronics**, **Communications**, **Industrial Control**, **Medical electronics**, **Security Electronics**, **Consumer Electronics**, **Computer**, **Aerospace**, **Automotive electronics**.*

# Our PCB Applications

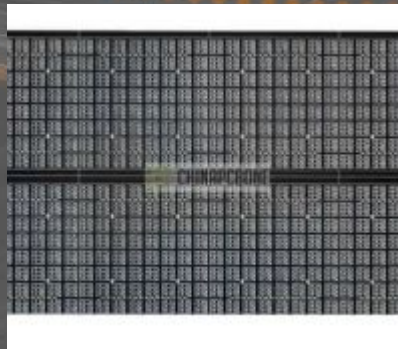


# PCB Available by Application

P&A Supplies you PCBs for:

➤ LED Products including:

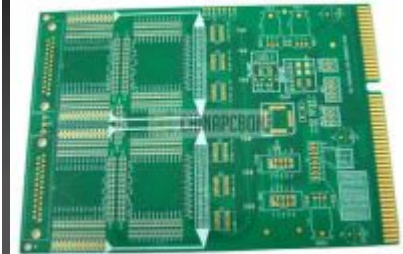
- Aluminum, copper or ceramic base PCB for High-Power LED
- FR4 PCB for low-power LED



# PCB Available by Application

P&A Supplies you PCBs for:

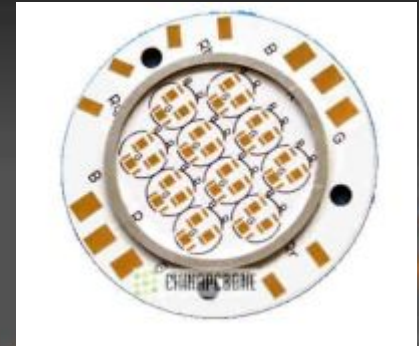
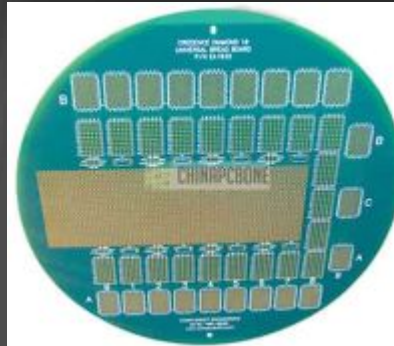
- Industrial Electronic Products
- Automotive Electronic Products
- Digital products
- Communication products



# PCB Available by Raw Material

P&A supplies both standard FR4 PCB and special PCBs including:

- High Tg PCB
- Aluminum PCB
- Copper Base PCB
- Iron Base PCB
- Halogen Free PCB
- Rogers PCB
- Teflon PCB
- Nelco PCB



# Production Capability

Item	Description	Technical Data
1	Layers	2-16 Layers
2	Max. Board Size	864 x 610 mm (34" x 24")
3	Min. Board Thickness	0.2mm (2 layers) / 0.4mm (4 layers) / 0.9mm(8 layers) / 1.2mm (10 layers) / 1.3mm (12 layers) / 1.5mm (14 layers) / 1.7mm (16 layers) / 1.8mm / 2.0 mm (18 layers) / 2.2mm (20 layers) / 2.4mm ( 22 layers) / 2.6mm (24 layers)
4	Max. Board Thickness	315mil(8mm)
5	Max. Copper Thickness	19oz/Inner Layer: 12oz/Outlayers
6	Min. Inner Line Width / Space	4mil(0.1mm) / 4mil(0.1mm)
7	Min. Outer Line Width / Sapce	4mil(0.1mm) / 3.5mil(0.089mm)
8	Min. Finish Hole Size	6mil(0.15mm)
9	Max. Aspect ratio	12:01
10	Minimum via hole size and pad	via: dia. 0.2mm / pad: dia. 0.4mm ; HDI <0.10mm via
11	Minimum hole tolerance	±0.05mm(NPTH), ±0.076mm(PTH)
12	Finished hole size tolerance (PTH)	±2mil(0.05mm)
13	Finished hole size tolerance (NPTH)	±1mil(0.025mm)
14	PTH hole copper thickness	mini 25um(1.0mil)
15	Hole Position Deviation	±2mil(0.05mm)
16	Outline Tolerance	±4mil(0.1mm)
17	S/M Pitch	3mil(0.08mm)

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# Production Capability

18	Insulation Resistance	$1 \times 10^{12} \Omega$
19	Thermal Shock	$3 \times 10 \text{Sec@}288 \text{ }^\circ\text{C}$
20	Warp and Twist	$\leq 0.5\%$
21	Peel Strength	1.4N / mm
22	Solder Mask Abrasion	$\geq 6\text{H}$
23	Flammability	94V - O
24	Impedance Control	$\pm 5\%$
25	Mini Solder mask Opening	0.05mm(2mil)
26	Mini solder mask coverage	0.05mm(2mil)
27	Mini solder dam	0.076mm(3mil)
28	Surface Finish Treatment	Flash gold (Electrolytic); Electroless nickel Immersion gold (Electroless Ni/Au); (OSP or Entek), Hot Air Leveling (=HAL-Tin/Lead); Hot Air Leveling (Lead- Free, RoHS); Carbon Ink, Peelable Mask, Gold Fingers (30 $\mu$ "), Immersion Silver (3~10 $\mu$ "), Immersion Tin (0.6~1.2 $\mu$ m).
29	G/F Au thickness	0.76 $\mu$ m max ( 30 $\mu$ " max )
30	V-cut angle	30° 45° 60° , tolerance +/- 5°
31	Mini V-cut board thickness	0.8mm
32	V-cut remain thickness tolerance	$\pm 0.1\text{mm}$
33	Profiling mode	Routing & Punching
34	Profiling tolerance	$\pm 0.1\text{mm}(4\text{mil})$
35	E-TEST voltage	250 $\pm$ 5 V



# Double Sided PCB Manufacturing Processes



# Multilayer PCB Manufacturing Processes

Order				
Inner Layer Image Inner Layer Etch Post Etch Punch AOI				
Oxide Lamination Drilling Electroless Copper				
Outline Layer Image Plating Final Cleaning Solder Mask				
Final Finish ENIG Routing Electrical Testing Final Inspection				
PACKAGING				

## Information Necessary for Quotation

- (1) Gerber data for all artwork layers
- (2) Aperture list or lists for all layers
- (3) Drill file in Gerber or Excellon format
- (4) Drawings: Print should be hard copy or Gerber HPGL or DXF format
- (5) Special notes or "Read Me" file pertaining to:
  - Color / type of solder-mask
  - Color of silkscreen
  - Plating finish (copper, nickel or gold)
  - Dielectrics
  - Controlled impedance
  - Other special requirements or instructions

# Contact us

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