PRINTED CIRCUIT BOARD MANUFACTURER

Website:
www.visionpcb.com
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Background

- Established in 1989
- Manufacturing plant located in Penang, Malaysia
- Manufacturer of 2-16 layers Printed Circuit Board
- Capacity - 72,000 sq ft/month
- No of Employees - 100
Standards and Certifications

• IPC Standards are applied unless specified otherwise
• ISO 9001:2008 certified
• UL E148204 certified
• ISO 14001 – certified
Capabilities

• Fabricate Multilayer :-
  – Maximum 16 layers
• Fabricate High Mix Low Volume
• High Density
• Blind and Buried Vias
• Plug Vias
• Plate over Plug Vias
Capabilities

- **Finished Hole Size**
  - Minimum 0.2mm for Board thickness of up to 1.6mm
  - Minimum 0.3mm for Board thickness of up to 2.4mm
  - Minimum 0.4mm for Board thickness of up to 3.2mm

- **Hole Size Tolerance**
  - PTH Hole    +/-  0.1 mm
  - NPTH Hole   +/-  0.05 mm
  - Punched Hole +/-  0.1 mm

- **Hole Location Tolerance (drill hole)**
  - 0.08mm
Capabilities

Width & Gap
• Minimum Line / Gap : 0.102 mm (4 mils)/0.102 mm (4 mils)
• Min Gap size between circuit and V-Cut’s Line : 0.500 mm (19.6 mils)
• Min Gap size between circuit and Board’s edge : 0.250 mm (9.8 mils)

SMD Pitch
• Minimum : 0.304 mm (12 mils)

Annular Ring
• Min Pad’s size of Component holes : 8 mils of annular ring
• Min Pad’s size of Via holes : 6 mils of annular ring
• Min Solder Mask Opening for both component & via holes : 3 mils of annular ring
• **Types of Finishing:-**
  – Lead Free Hot Air Leveling
  – Immersion Silver
  – Organic Solderability Preservatives (OSP)
  – Electro Nickel / Flash Gold Plating
  – Electroless Nickel and Immersion Gold (ENIG)
  – **Hot Air Leveling with Gold Fingers**
  – **OSP with Gold Fingers/Gold Touch Pads**
  – **Electro Nickel / Flash Gold with Gold Fingers/Gold Touch Pads**
  – **Electro Nickel / Flash Gold with Soft Bondable Gold Plating**
Corporate Strategies

4 “Highs”

- High Frequency
- High Power
- High Temperature
- High Mix Low Volume
**Equipments – Dry Film Photo Imaging & Development**

CBT
Optical Alignment  Collimated  Light Exposure Machine

Auto Cut Sheet Lamination
Equipments – AOI & Black Oxide

AOI

Black Oxide
Equipments – Multilayer Lamination

Pluritec X Ray Target Drill

OEM Lamination Press

Rivomat
Equipments – CNC Drilling

VS

Takeuchi Machine

Hitachi Machine

Pluritec X Ray Target Drill

Multi station Machine
Equipments – Plasma Etch Desmear & Hole Wall conditioning

Plasma Etch Desmear Machine
Equipments – Etching

Inner Layer

Outer Layer
**Equipments – S/M Coating Imaging**

- CBT Optical Alignment Exposure Machine
- C Sun Exposure
- Conveyor Oven
- DP1000 Photo Imageable Solder Mask coater
- DP10 Double Side Photo Imageable Solder Mask coater
Equipments – V-Cut & Forming

- Punching Machine
- V-Cut Machine
- Hitachi Routing Machine
- ATI Routing Machine
- High Pressure Rinse Machine
Equipments – Surface Treatment

- Hard Gold & Soft Gold Plating
- Nickel Plating
- OSP
- HAL
- Immersion Silver
Equipments – Electrical Testing

Mania

ATG

Tester
Equipments – Lab Analysis Instrument

- POLAR Controlled Impedance Test System
- OPTEK 3D Measurement Machine
- FISHERSCOPe Multi-measuring System
- SPECTRAA Atomic Absorption Spectrometer
- CARY UV-Visible Spectrophotometer
- Ionic Contamination Analyses
- Gel Time Tester & Peeling Strength Tester
- Nikon- CMM
PCB Materials

• High TG FR4
  – Isola FR406
  – Isola FR408
  – Isola IS410
  – Isola 370HR
  – Nelco N4000-6
  – Nelco N4000-11
  – Nelco N4000-13

• HALOGEN FREE FR4
PCB Materials

1. **Rogers**
   - RT/Duroid 5880, RT/Duroid 5870
   - RT/Duroid 6002, RT/Duroid 6006, RT/Duroid 6010LM
   - RO3003, RO3006, RO3010
   - RO4003C, RO4350B, RO4500, RO4003 Lo Pro
   - TMM10, TMM10i

2. **Arlon**
   - CuClad
     250GT, 250GX, 233LX, 217LX
   - CLTE, CLTE-LC, AD
     255/350/450/600/1000
   - DiClad 517, 522, 527, 870, 880
   - 25N

3. **Taconic**
   - TLY-5A, TLY-5, TLY-3
   - TLE-95
   - RF-34, RF-35, RF-35A
   - TLC-27, TLC-30, TLC-32

4. **Nelco**
   - N4380-13 RF
   - NY9233

5. **ISOLA**
   - FR408HR
   - IS620
   - IS680
Business Sector

BUSINESS SEGMENT

- Microwave Applications: 66%
- Commercial Electronics: 23%
- Automotive: 10%
- Others: 1%

GEOGRAPHICAL AREA

- Domestic: 45%
- Philippines: 18%
- Vietnam: 6%
- Thailand: 18%
- Europe: 5%
- Australia: 2%
- Singapore: 4%
- China: 1%
- US: 1%
High Frequency Applications:

- Antenna
- Wireless Technologies
- High Speed Digital Transmitter and Receiver
- Military
Microwave Customers
Microwave’s Products

DRAGONWAVE

BRIDGEWAVE

SKYWAVE

CODAN
Microwave’s Products

REMEC
Microwave’s Products

RFS
- RF Conditioning Products
- Transceivers
- Modems

AMPLUS
- Converters
- Spectrum Meter

AGILENT
Customers - Others

VS

Avago Technologies
Celestica
COPAL - NIDEC COPAL CORPORATION
Dräger
IRIICHI

Jabil
Laird Technologies
LeCroy
Onkyo

Philips Lumileds
Plexus
Sanyo

Team Precision Public Company Limited
Tecnomec
Trumeter
Thank You