

New MLB methods

Old methods have paved way for

Newer Methods of

MULTI LAYER CONSTRUCTION namely

High Density Multilayer Boards

[HDMLBs] using Sequential Build Technologies [SBT]

There are atleast 17 different technological approaches for Sequential Building.....

The essence of HDMLBs through SBT is the creation of MICRO-VIAS

[vias smaller than 0.20 mm diameter]

using lasers, plasma, chemicals, or photodefinition

Significant methods MICRO-VIA SBTs are:

- **3M's LMI Technology**
- **Dycostrate technology**
- **Sheldahl's Via-grid technology**
- **Tessera's TLS technology**

3Ms LMI Technology

Uses wet chemical etching of **polyimide**

To create en-masse holes

VIA BUMPUS are connected during LAMINATION....no PTH process

DYCOstrate Technology

Uses Plasma etching – en-masss holes

DYCOstrate is a trade name applied to represent " a bunch of laminates having holes created through plasma"

A double sided dycostrate is produced as below:

Dycostrate [Contd]

Construction of 4-layer DYCOstrate

Top and bottom Single sided flex material

DS DYCOstrate

1

2

3

4

5

Sheldhals Via-grid Technology

Uses Z-axis conductive adhesive

for multilayer construction and

PHASED ARRAY LASER

to provide fixed grid of vias

Cover layer openings for component

Two layer flex circuit interconnections

Tesseras TLS Technology

Uses "interposers" to make

via-interconnections and standardized grid concept to mate chip packages

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Photo Defined Micro-Vias

[IBMs Tech]

In essence a

PHOTOSENSITIVE

DIELECTRIC MATERIAL

IS USED TO BUILD THE BOARD

The conductor tracks are added by print and etch technology on the copper plane additively added to the Surface of dielectric..

Photosensitive liquid dielectric

Print and etch conductor tracks

Excellent way of building BLIND and BURIED vias