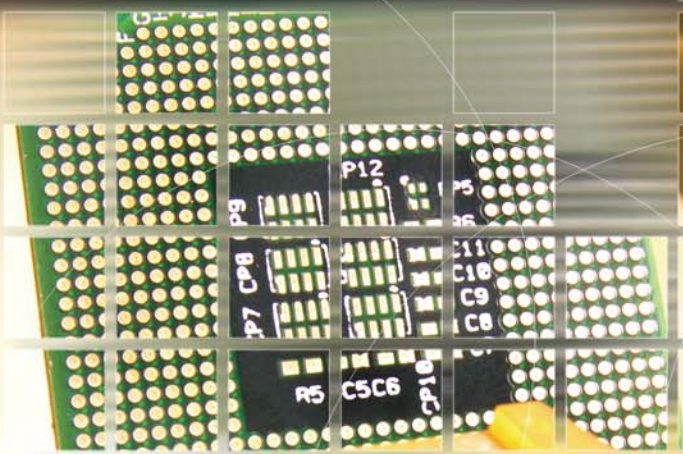


BURIED PASSIVES

RESISTORS • CAPACITORS • BULK CAPACITANCE



Compunetics' engineering skill and production techniques allow for the most effective use of advanced materials for embedded capacitance and buried resistors.

compunetics
excellence, measured in microns.

Compunetics is a recognized pioneer in the design and manufacture of superior quality buried passives.

With our design and production departments all at one location, Compunetics has an environment of energized collaboration, innovation and attention to detail.

Products include:

- Laser-trimmed resistors
- Resistors on flex
- RC networks
- Bulk capacitance

Compunetics is regularly at the forefront of next generation technologies, regularly collaborating with vendors of new materials and serving frequently as a beta site.

Applications include:

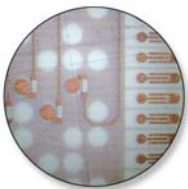
- Internet servers
- Satellite communications
- Cellular telephone networks
- High Speed Probing

OHMEGA-PLY®

Ohmega-Ply®, manufactured by Ohmega Technologies, Inc., is a thin film resistor-conductor material. Using standard subtractive printed circuit technology, integral resistors are formed on circuit layers. These resistors can be buried within a multilayer circuit board or used on the board surface.

Specifications:

Minimum Footprint:	4 x 6 mils
Standard Tolerance:	± 15%
Advanced Tolerance:	± 10%
Laser Trimming Available:	± 1%
Ohms/Square Available:	10, 25, 50, 100, 250



RC Network

Shown is one of 6 inner layers of Ohmega-Ply buried resistor and interdigital capacitor design in a 17-layer Rigid Flex.
Trace Width: 0.002 +/- 0.0003"
Capacitor Feature Spacing: 0.002 +/- 0.0003"



Resistors On Flex

Layers: 2
Material: DuPont AP8535 Flex Material
Ohmega-Ply: 100 ohm/sq Resistor Material
Resistor: 10,000 +/- 1000 ohms

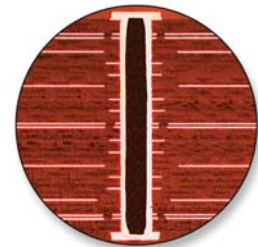


Laser Trimmed Resistor

Shown is an inner layer Ohmega-Ply (50 ohm/sq) resistor, laser trimmed to 200 ohms +/- 1%.

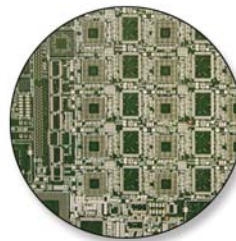
INTERRA™

The DuPont™ Interra™ series includes embedded planar products that are designed to function as planar capacitors in printed circuit boards. Interra™ HK laminates offer thinness, flexibility, and durability, producing reduced impedance and reduced EMI and embedded capacitance.



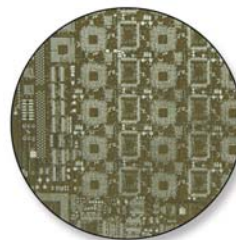
Sample Cross Section

Shown is a microsection of a 20 layer Multilayer containing 3 cores of 1.0 mil DuPont Interra embedded capacitance material.



Before Embedded Capacitance

Layers:	18
Blind Vias:	1 – 2 18 – 17
Buried Vias:	2 – 17
Trace/Space:	4 Mil (100 µm)
Capacitors:	2000+



After Embedded Capacitance

Layers:	18
Blind Vias:	Removed All
Material:	1 Core DuPont HK BC Material
Capacitors:	Removed 800+