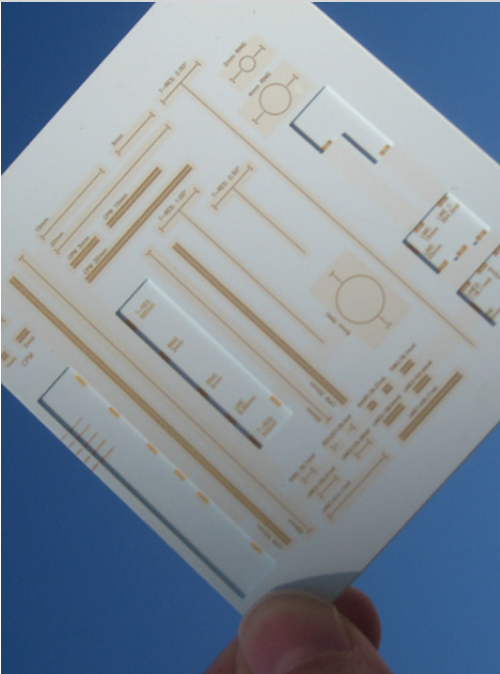


DuPont™ GreenTape™

low temperature co-fired ceramic system

Technology Overview



The DuPont™ GreenTape™ 9K7 low temperature co-fired ceramic system is designed to enable advanced high frequency circuits up to 100 gigahertz and beyond

Ceramics Deliver Reliability

Extreme heat and other harsh environments can punish ordinary electronic devices. Advanced ceramic materials are designed to withstand the toughest conditions and enable highly reliable and integrated devices.

DuPont™ GreenTape™ low temperature co-fired ceramic (LTCC) systems are technology options for designers that combines the benefits of high temperature co-fired ceramic (HTCC) and thick film technologies to deliver high density, high reliability, excellent performance, and low cost interconnect packages and substrates.

Features

- Integrated packaging
- Integral shielding/ground
- Flip chip, chip & wire, solder attach
- Mixed analog, RF, digital
- Hermetic packaging with low temp. (<500°C) brazing

Benefits

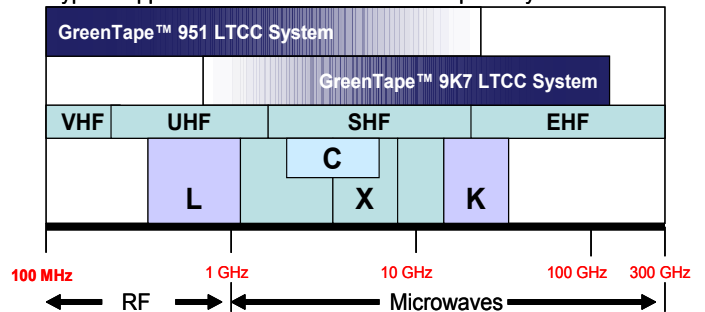
- Demonstrated reliability
- High density packaging
- Stable in harsh environments
- Controlled impedance structures
- Thermal performance

DuPont™ GreenTape™ Systems Offer

- Gold and silver systems
- Tapes available in several thicknesses
- Cavities & cutouts
- Controlled shrinkage
- Lower cost of total system functionality
- High volume manufacturing
- Compatible with plating
- High yield parallel processing
- Preferred environmental properties

Typical Applications

Typical Applications for DuPont™ GreenTape™ Systems



DuPont™ GreenTape™ 951 Provides

- Demonstrated reliability
- Stable mechanical, electrical and thermal properties
- Rapid prototypes
- Cost-effective materials & process

DuPont™ GreenTape™ 9K7 Provides

- Ideal for high frequency applications
- Low dielectric loss tested up to 100 GHz and beyond
- Gold, silver, and mixed-metal systems
- Embedded resistors now available
- Lead and cadmium free* tape formulation

Shrinkage Performance

Product	GreenTape™ 951			GreenTape™ 9K7
	Free	PAS	PLAS	Free
X-Y shrinkage	12.7%	<0.05%	0.2%	9.1%
X-Y shrinkage tolerance	0.3%	0.02%	0.05%	+/- 0.3%
Z shrinkage	15%	40%	40%	11.8%
Z shrinkage tolerance	0.5%	0.5%	0.5%	+/- 0.5%

*Lead and cadmium "free" as used herein mean that cadmium and lead are not intentional ingredients in and are not intentionally added to the referenced products. Trace amounts however may be present.

For more information on the DuPont™ GreenTape™ low temperature co-fired ceramic system or other DuPont Microcircuit Materials products, please contact your local representative:

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