



SolarTech Power Solutions

Thin double-glass components



Overview

What are double-side thin-film components on glass?

Double-side thin-film components on glass provides additional design flexibility, higher component density, and simultaneous double-side fabrication with structural balance, allowing thin glass substrate manufacturing with minimal warpage.

What is a double glass c-Si PV module?

Recently several double-glass (also called glass-glass or dual-glass modules) c-Si PV modules have been launched on the market, many of them by major PV manufacturers. These modules use a sheet of tempered glass at the rear of the module instead of the conventional polymer-based backsheet. There are several reasons why this structure is appealing.

Can a diplexer be used on a thin glass substrate?

It was observed that the performance of the designed diplexer on glass substrates with organic thin films was vulnerable to dielectric thickness variation. For large-scale manufacturing of this thin glass substrate technology, copper thickness and dielectric thickness should be controlled with precision.

What are the topologies of glass for high out-of-band rejection and low insertion loss?

High-precision, high quality factor, and high component densities with thin-film layers on glass were used to realize innovative topologies on glass for high out-of-band rejection and low insertion loss. Low-loss 100- μm thick glass cores and multiple layers of 15- μm thin polymer films were used to build the filters on substrates.

Does 3D IPD work on thin glass substrates?

Precise fine-line patterning capability, excellent multilayer alignment, and thin-

film thickness control were achieved, resulting in less than 5% process tolerance. The good agreement between the characterized diplexer performance and EM simulation results demonstrate the 3-D IPD concept on thin glass substrates.

What is a glass-based 3D IPD?

The glass-based 3-D IPDs harness all the electrical and mechanical performance benefits that glass substrate technologies can offer. Such IPDs can be innovatively designed with thin-film elements and double-side embedded onto 100- μm thin glass, as shown in Fig. 1.

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