

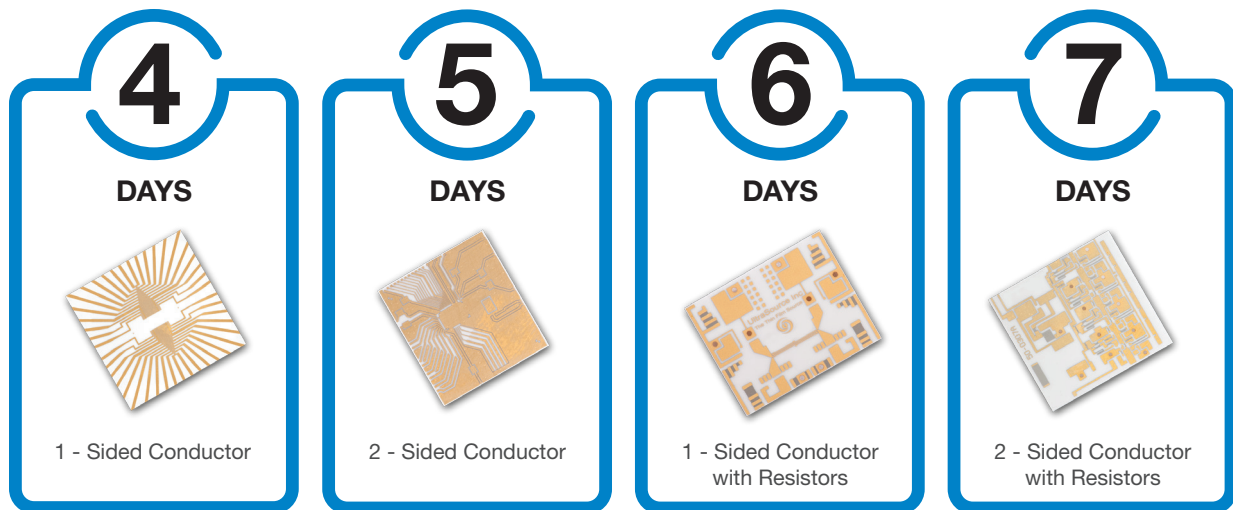
Rapid Prototyping Program

The UltraFAST rapid prototyping program is the fastest way to buy custom thin film products, including sputtered substrates, conductor patterns, or resistor networks available with one- or two-sided metalization. Designers of custom thin film substrates for the next generation of commercial wireless, fiber-optic telecommunications, and military RF / microwave products need new products as soon as possible. Fast delivery of substrates reduces design time and cuts time to market. With the UltraFAST program, delivery of new prototype designs can be measured in days instead of weeks.

To meet the challenge of these aggressive deliveries, we have dedicated an entire team to the task of creating a streamlined manufacturing approach. UltraFAST is designed to offer a selective range of standard single-sided and double-sided designs compatible with a broad range of traditional thin film circuit requirements. The substrate choices, metalization systems, and integration options have also been selected to allow customers to further increase device function and performance while reducing prototyping costs.

The Approach

In evaluating the varying requirements of our customers, Vishay UltraSource has identified four circuit types for rapid prototyping.



The Possibilities

At Vishay UltraSource, we specialize in working with our customers in order to provide innovative products and services. We realize that the standard options available through the UltraFAST program may not meet the requirements of every customer. If you need a metal, material, or features that are not listed in the UltraFAST standard options on the flyer, please contact us to discuss how we can customize a rapid prototype program for you.

GET STARTED

Start the UltraFAST process by sending your design and requirements to UltraSource@Vishay.com.



UltraFAST Rapid Prototyping

Order and Design Criteria

To Quote and Order	Request the standard or custom UltraFAST program by contacting UltraSource@Vishay.com or UltraSource sales contact
Pricing	Request a quote by contacting UltraSource@Vishay.com
NRE Charges	Free (included in pricing)
Shipping	Free (included in pricing)
Design Rules	Per the furnished UltraFAST design options below
CAD File	DXF or DWG format required for UltraFAST program

Material and Metalization Criteria

Substrate Materials	Polished 99.6 % alumina	Polished Aluminum Nitride
Substrate Thickness	5, 10, 15, and 25 mils	5, 10, 15, and 25 mils
Front Side Metal Schemes	Option 1: 50 Ω /sq. TaN / 500 Å TiW / 4 μ m Au Option 2: 500 Å TiW / 4 μ m Au	Option 1: 50 Ω /sq. TaN / 500 Å TiW / 4 μ m Au (not available on AlN with plated through holes) Option 2: 500 Å TiW / 4 μ m Au
Back Side Metal Schemes	500 Å TiW / 4 μ m Au	500 Å TiW / 4 μ m Au
Pattern and Etch Tolerance	\pm 0.0002 (\pm 5 μ m)	\pm 0.0002 (\pm 5 μ m)

Product Type Criteria

Product Type	Conductor Layer on 1 Side Only	Conductor Layer on 2 Sides	Conductor and Resister Layer on 1 Side Only	Conductor on 2 Sides Plus Resistor on Front Side
Build Time (Working Days)	4	5	6	7
Quantities	Yield from 2 substrates*	Yield from 2 substrates*	Yield from 2 substrates*	Yield from 2 substrates*

*Limited to 50 individual pieces per part number

Options

Options	Comments	Build Time Adder
Multiple P/N Design (Pizza Mask)	Allows for prototyping of a maximum of 4 part numbers on the same substrate and same masks	2 to 4 working days depending on complexity
CopperVia	Provides assembly, thermal, or transmission benefits from solid copper-filled vias, includes custom sputtering (not available in 5 mil ceramic thickness)	15 working days
Plated Thru Holes (PTH)	Offers grounding of selected circuit features, includes customer sputtering	5 working days
Post Laser Features	Allows chamfers, pockets, or radii to be added to circuit features	2 working days
Laser Trimming	Offers the ability to trim individual resistors to \pm 1 % tolerances	2 working days
CAD Conversion	Convert supplied CAD drawing(s) into a suitable format for UltraFast	1 to 2 working days depending on complexity

NOTE: Please contact VUSI for current pricing, delivery, and option offerings