

# UltraFAST

## RAPID PROTOTYPING PROGRAM

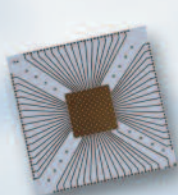


This is the now economy, and as designers of the next generation of commercial wireless, fiber optic telecommunications, and military RF/microwave products, you know time is the enemy. Enter UltraFAST, the first and only thin film prototyping program of its kind. Rather than waiting weeks for your critical prototypes, UltraSource is guaranteeing them in a matter of days—cutting your time to market, improving the integrity of your designs, and ensuring long-term repeatability as you hone your designs to perfection.

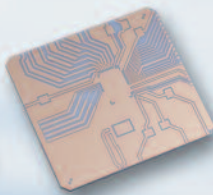
To meet the challenge of these aggressive deliveries, we've dedicated an entire team to the task of creating a streamlined manufacturing approach. There are some limits, but less than you might think. The added benefit is the training you'll get in designing for speed to market. With our expertise, you'll be achieving optimal results faster than ever before and allowing yourself to move on to other challenges. In addition, 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 you to further increase device function and performance while reducing prototyping costs.

### THE APPROACH

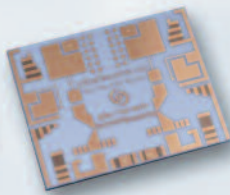
In evaluating the varying requirements of our customers, UltraSource has identified four circuit types for rapid prototyping:



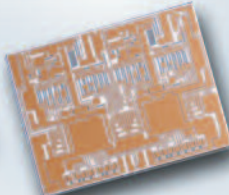
1-sided Conductor  
**Four Days**



2-sided Conductor  
**Five Days**



1-sided Conductor  
with Resistors  
**Six Days**



2-sided Conductor  
with Resistors  
**Seven Days**

### THE POSSIBILITIES

At 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 provide the requirements for every customer. If you need a metal, material, or features that are not listed in the UltraFAST standard options on the reverse, please contact your local sales representative or our corporate sales office to discuss how we can customize a rapid prototype program for you.

*The world's waiting.*



*Let's get started.*



*Break Through*

[www.UltraSource.com](http://www.UltraSource.com)

# U L T R A F A S T R A P I D P R O T O T Y P I N G

## Standard Order & Design Criteria

<b>To Quote &amp; Order</b>	Enlist in the Standard or Custom UltraFAST program by contacting your USI Sales Representative
<b>Standard Pricing</b>	Per the UltraFAST Price List
<b>NRE Charges</b>	FREE (included in pricing)
<b>Shipping</b>	FREE (included in pricing)
<b>Design Rules</b>	Per the Furnished UltraFAST Design Templates

## Standard Material & Metalization Criteria

Available Substrate Materials	Polished 99.6% Alumina	Polished Aluminum Nitride
<b>Substrate Thicknesses</b>	5, 10, 15, and 25 mil thicknesses	5, 10, 15, and 25 mil thicknesses
<b>Available Front Side Metalization Schemes</b>	Option 1: 50 Ω/sq. TaN/500 Å WTi/4 μm Au Option 2: 500 Å WTi/4 μm Au	Option 1: 50 Ω/sq. TaN/500 Å WTi/4 μm Au Option 2: 500 Å WTi/4 μm Au
<b>Available Back Side Metalization Scheme</b>	500 Å WTi/4 μm Au	500 Å WTi/4 μm Au
<b>Pattern &amp; Etch Tolerance</b>	+/- .0002" (+/- 5 μm)	+/- .0002" (+/- 5 μm)

## Standard Product Type Criteria

Product Type	Conductor Layer on 1 Side Only	Conductor Layer on 2 Sides (front & back)	Conductor & Resistor Layer on 1 Side Only	Conductor Layer on 2 Sides (front & back) plus Resistor Layer
<b>Build Time</b>	4 working days	5 working days	6 working days	7 working days
<b>Quantities</b>	Yield from 3 substrates	Yield from 3 substrates	Yield from 3 substrates	Yield from 3 substrates
<b>Back Side Metal</b>	Optional	Yes	Optional	Yes

## Standard Options Criteria

Options	Comments	Build Time
<b>Multiple P/N Design (Pizza Masking)</b>	Allows for prototyping of multiple part numbers on the same photo & substrate	+ 1 working days added to standard build times
<b>Solid Gold UltraVia™</b>	Provides assembly, thermal, or transmission benefits from filled via technology	+ 15 working days added to standard build times
<b>Plated Thru-Holes</b>	Offers grounding of selected circuit features	+ 5 working days added to standard build times
<b>Post Laser Features</b>	Allows chamfers, pockets, or radii to be added to circuit features	+ 2 working days added to standard build times
<b>Laser Trimming</b>	Offers the ability to trim individual resistors to +/- 1% tolerances	+ 2 working days added to standard build times



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