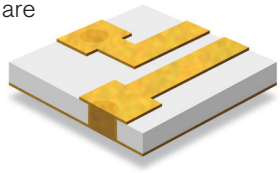
Product Samples

ATP1012: Au Solid Filled Via; ATP1012: Cu Solid Filled Via

Applied Thin-Film Products (ATP) is pleased to provide ceramic thin-film samples for your evaluation.

TaN/TiW/Au with solid gold- or copper- filled vias on Aluminum Oxide (Al_2O_3). The Au or Cu via is completely filled and polished to provide a planarized surface, providing a low inductance ground path on both sides without venting structures, dissimilar metals or exposed oxides. A filled via can also act as a thermal via or two-sided signal interconnect.

ATP1012: Material is 15 mil As-Fired Al_2O_3
TaN Resistors = 50 Ohms per Square
TiW = 400–800 Ångströms
Au = 120µ" minimum
Via Hole Size: 0.011" ±0.002"



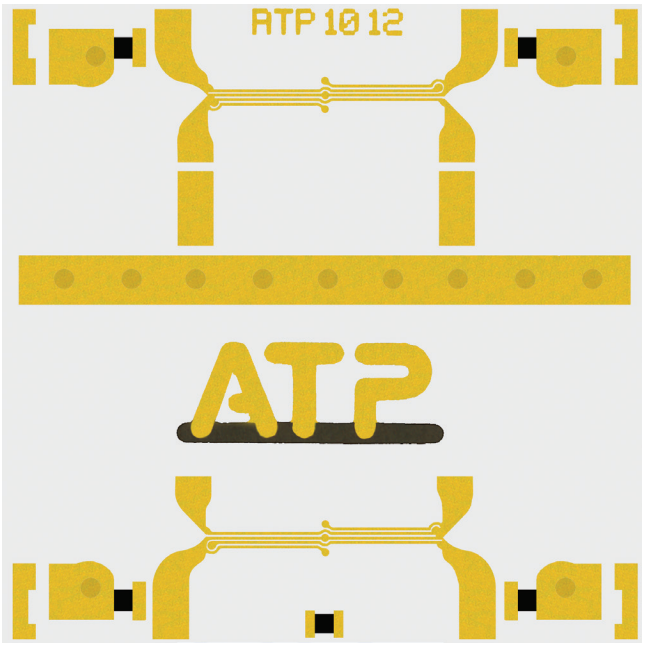
Material Specifications

Polished ADS 996 Aluminum Oxide

Properties	Values
Chemical Composition	Al_2O_3
Purity	99.6%
Color	White
Nominal Density	3.87g/cm^3
Surface Finish (Polished)	<2.0µ"(50.0nm)
Camber	0.002" (0.0508mm)
Thickness	0.015" (0.381mm)
Thickness Tolerance (±)	0.001" (0.0254mm)
Coefficient of Thermal Expansion (CTE)	7.0–8.3 x 10^{-6} (25–1000°C)
Thermal Conductivity 100°C	26.9 Watts/m°K
Dielectric Constant 1 MHz	9.9 @ 1 MHz ±0.1
Dielectric Constant 10 GHz	9.7 @ 10 GHz ±0.1
Dissipation Factor (Loss Tangent)	0.0001 @ 1 MHz
Hardness (Rockwell)	87
Flexural Strength	90K (10^3) lbs/in^2 (620Mpa)
Compressive Strength	54 x 10^3 M lbs/in^2
Grain Size	< 1.0µm

Material specifications provided by Coors Ceramic Company

Sample Provided



ATP offers build-to-print service for a wide range of materials and metalization schemes. ATP fabricates circuits on substrates from As-Fired Alumina to Beryllium Oxide to Fused Silica, even Silicon. Metalizations range from the standard Tan/TiW/Au to films including Nickel, Palladium, or Titanium.

At ATP, we constantly evolve our processing and material capabilities to reflect our customer's changing needs. If you have a circuit requirement that is out of the "normal" thin-film type, please contact ATP at 1.510.661.4287 or visit our website at www.thinfilm.com. ATP would enjoy discussing your application with you and working to develop a solution.

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