

Product Samples

ATP1006: Plated Thru Vias

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

TaN/TiW/Au metalization with CO₂ laser drilled conductive plated thru via holes in Aluminum Oxide (Al₂O₃) provides a cost effective solution for applications that require interconnects to ground. The conductive plated thru vias replace the tedious process of bonding from the top side of the circuit to ground.

Material Specifications

Asfired High Density 996 Aluminum Oxide Superstrate 996

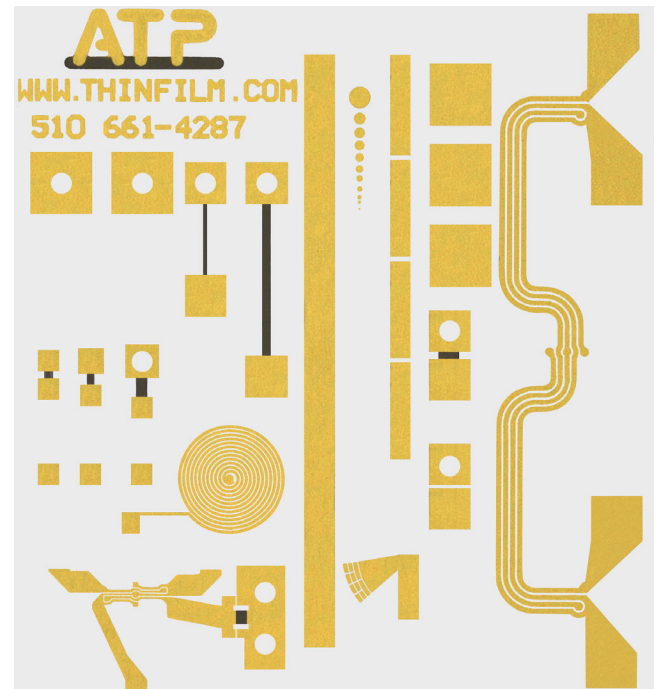
Properties	Values
Chemical Composition	Al ₂ O ₃
Purity	99.6%
Color	White
Nominal Density	3.88g/cm
Surface Finish (As-Fired)	3.0μ" (76.2nm)
Coefficient of Thermal Expansion (CTE)	7.0–8.3 x 10 ⁻⁶ (25–1000°C)
Camber	0.002" (0.508μm)
Thickness	0.015" (0.381mm)
Thickness Tolerance (±)	0.001" (25.4μm)
Thermal Conductivity 100°C	26.9 Watts/m ² 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	54M (10 ³) lbs/in ²
Grain Size	< 1.0μm

Material specifications provided by Coors Ceramic Company

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.

ATP1006: Material is 15 mil As-Fired Al₂O₃
 TaN Resistors = 50 Ohms per Square
 TiW = 400–800 Ångströms
 Au = 120μ" minimum
 Does not have indicator on circuit
 Via Hole Size: 0.015" ±0.002"

Sample Provided



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.