Product Samples

ATP1003: Palladium Metallization Solderable

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

TaN/TiW/Pd/Au metalization on Aluminum Oxide (Al_2O_3) is a wire bondable metalization scheme processed in a proprietary manner that reduces the amount of Au "leaching" that commonly occurs during densely populated high temperature attachments, such as Gold Germanium and Gold Silicon. This process allows a good fillet attachment around your components without leaching outlining areas.

ATP1003: Material is 15 mil As-Fired Al_2O_3
TaN Resistors = 50 Ohms per Square
TiW = 400–800 Ångströms
Pd = 1000–1500 Ångströms
Au = 120µ" minimum
Has "Pd" indicator on circuit

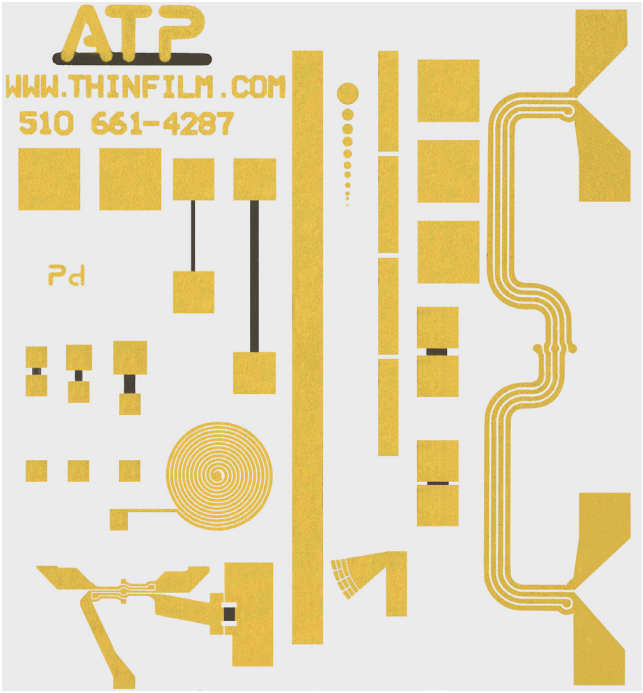
Material Specifications

Asfired High Density 996 Aluminum Oxide Superstrate 996

Properties	Values
Chemical Composition	Al_2O_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°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

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.

Applied Thin-Film Products
3439 Edison Way (Building 1) and 3620 Yale Way (Building 2)
Fremont, California 94538 USA

1.510.661.4287 PHONE
1.510.661.4250 FAX
www.thinfilm.com