Product Samples

ATP1008: Plated Gold Bumps

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

TaN/TiW/Au metalization with plated Gold Bumps on Aluminum Oxide(Al_2O_3). Gold Bumps are used to eliminate wire bonding, which will improve electrical performance at higher frequencies. This is done by eliminating long bond wires and flipping the chip onto the Gold contact bumps..

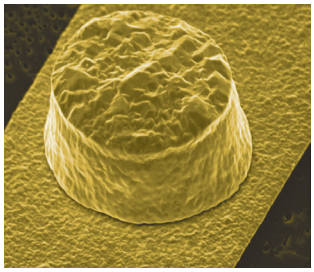
Material Specifications

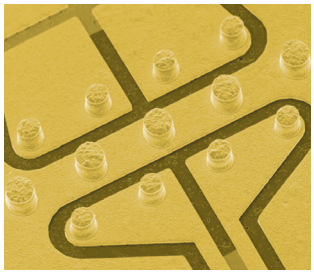
Asfired High Density 996 Aluminum Oxide Superstrate 996

Properties	Values
Chemical Composition	Al_2O_3
Purity	99.6%
Color	White
Nominal Density	3.88g/cm^3
Surface Finish (Asfired)	3µ"(76.2nm)
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

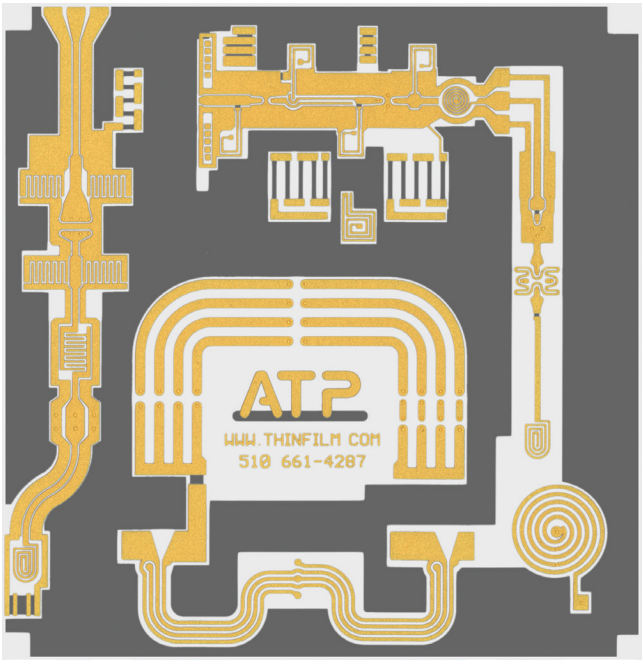
Material specifications provided by Coors Ceramic Company

ATP1008: Material is 15 mil As-Fired Al_2O_3
TiW = 400–800 Ångströms
Au = 120µ" minimum
Bump Height = 24 microns ±6 microns





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