



ATP1012 Samples

Polished Aluminum Oxide with Au Solid Filled Vias

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

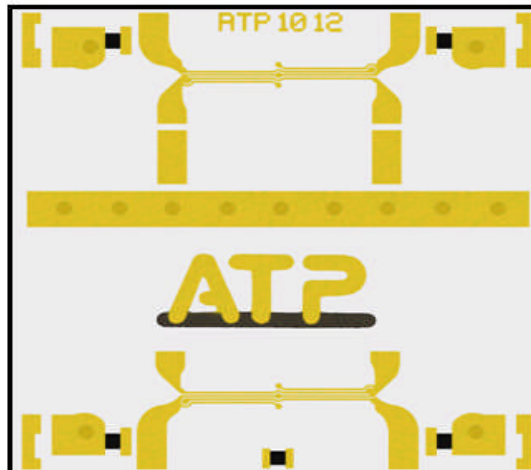
TaN/TiW/Au with solid Gold filled vias on Aluminum Oxide (Al₂O₃). The Au Via is completely filled and polished to provide a planarized surface providing a low inductance ground path. Filled vias can also act as a thermal via or two-sided signal interconnect.



Material Specifications:

Properties	Units	As-fired High Density 99% Aluminum Oxide
Chemical Composition		Al ₂ O ₃
Purity	%	99.6
Color		White
Nominal Density	g/cm	3.87
Surface Finish Polished	u-inches / nm	<2.0 / (50nm)
Coefficient of Thermal Expansion (CTE)	10 (-6)	7.0-8.3 (25-1000°C)
Camber	inches / um(microns)	0.002(.508um)
Thickness	inches / um(microns)	.015(.381mm)
Thickness Tolerance	inches / um(microns)	0.001(25.4um)
Thermal Conductivity	Watts/m K	26.9
Dielectric Constant	1 MHz	9.9 +/- .1
	10 GHz	9.7 +/- .1
Dissipation Factor (Loss Tangent)	1 MHz	0.0001
Hardness	Rockwell	87
Flexural Strength	K(10-3) lbs/sq.in	90
Compressive Strength	M(10-3) lbs/sq.in.	54
Grain Size	um (microns)	<1.0

Samples Provided:



ATP1013, Material is 15 mil Polished Al₂O₃
TaN Resistors = 50 Ohms per Square
TiW = 400 to 800 Angstroms
Au = 120 u" minimum

Via Hole Size: .011 +/- .002"

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, Platinum, 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 (510) 661-4287 or visit our web site www.thinfilm.com. ATP would enjoy discussing your application with you and working to develop a solution.

web site: www.thinfilm.com

