



ATP1002 Samples

As-Fired Aluminum Oxide with Solderable Nickel barrier Metalization

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

TaN/Ni/TiW/Au is one of the Solderable metalization on Aluminum Oxide (Al₂O₃) ATP offers. Due to the thinner layer of Ni, this metalization scheme allows various types of soldering such as, lead based solders, Gold Tin, Gold Germanium, and Gold Silicon with integrated TaN resistors.

Material Specifications:

Properties	Units	As-fired High Density 996 Aluminum Oxide Superstrate 996
Chemical Composition		Al ₂ O ₃
Purity	%	99.6
Color		White
Nominal Density	g/cm	3.88
Surface Finish As-Fired	u-inches / (nm)	3u"(76.2nm)
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 100°C	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(Mpa)	90(620)
Compressive Strength	M(10-3) lbs/sq.in.	54
Grain Size	um (microns)	<1.0

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.

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.

Sample Provided:



ATP1002, Material is 15 mil As-Fired Al₂O₃
TaN Resistors = 50 Ohms per Square
TiW = 400 to 800 Angstroms
Ni = 1600 - 2400 Angstroms
Au = 120 u" minimum
Has "Ni" indicator on circuit

web site: www.thinfilm.com

