ATP1004 Samples

Aluminum Nitride Solderable Submount samples with Palladium barrier Metalization

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

TiW/Pd/Au is a Solderable metalization scheme on Aluminum Nitride (AlN). With a material thickness tolerance of +/-0.0005" (0.0127mm), surface finish of less than 2µ" (50nm), and a minimum thermal conductivity of 170Watts/mK it is ideal for thermal applications or mounting and aligning the most sensitive light emitting diodes.

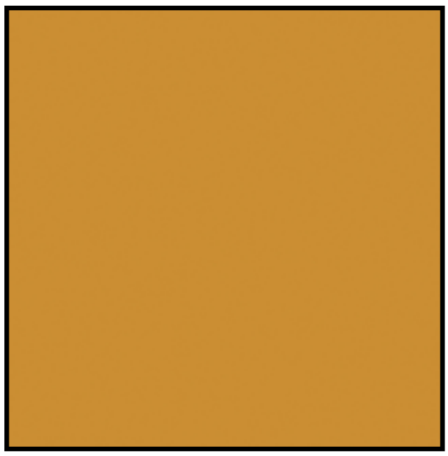
Below are the Material Specifications and the Metalization thicknesses for the samples provided.

Material Specifications:

Properties	Units	Aluminum Nitride Toshiba
Chemical Composition		AlN
Purity	%	98
Color		Tan
Nominal Density	g/cm	3.28
Surface Finish, Polished	u-inches / (nm)	< 2.0 / (50nm)
Coefficient of Thermal Expansion (CTE)	10 (-6)	4.6 (25-300°C)
Camber	inches / um(microns)	.0003" / .0005" (7.6/12.7um)
Thickness	inches / um(microns)	.015" (.381mm)
Thickness Tolerance	inches / um(microns)	+/- 0.0005" (+/- 12.7 um)
Thermal Conductivity	Watt/m K	170
Dielectric Constant	1 MHz	8.6
Dissipation Factor (Loss Tangent)	1 MHz	0.001
Hardness	Rockwell	n/a
Flexural Strength	K(10-3) lbs/sq.in	54 (4 pt. Bend)
Compressive Strength	M(10-3) lbs/sq.in.	n/a
Grain Size	um (microns)	5 to 7

Material Specifications provided by Accumet Engineering Company

Samples Provided:



ATP1004, Material is 15 mil AlN
TiW = 400 to 800 Angstroms
Pd = 1000 to 1500 Angstroms
Au = 120 u" minimum

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

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