Product Samples

ATP1011: AlN Circuit – Thermal

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

TaN/TiW/Au on Aluminum Nitride (AlN) is used in applications that require a high thermal conductivity of 170Watts/mK. It is ideal for mounting and aligning the most sensitive light-emitting diodes.

ATP1011, Material is 15 mil AlN
TaN Resistors = 50 Ohms per Square
TiW = 400–800 Ångströms
Au = 120µ" minimum

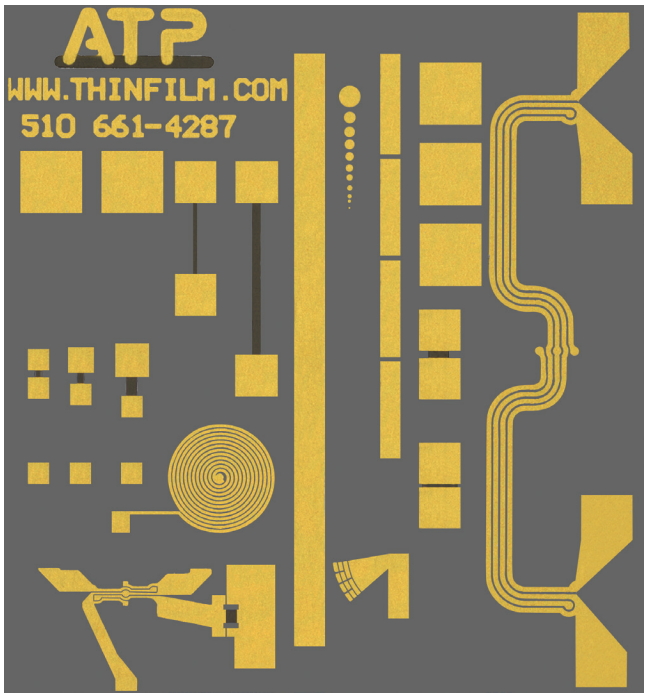
Material Specifications

Aluminum Nitride (Toshiba)

Properties	Values
Chemical Composition	AlN
Purity	98%
Color	Tan
Nominal Density	3.28g/cm^3
Surface Finish (Polished) CLA	<2.0µ" (50nm)
Camber	0.0003 / 0.0005"(7.6 / 12.7µm)
Thickness	0.015"(0.381mm)
Thickness Tolerance (±)	0.0005" (0.0127mm)
Coefficient of Thermal Expansion (CTE)	4.6 x 10^{-6} (25–300°C)
Thermal Conductivity	170 Watts/m°K
Dielectric Constant (k)	8.6 @ 1 MHz
Dissipation Factor (Loss Tangent)	0.001 @ 1 MHz
Flexural Strength	54 x 10^{-3} K lbs/in^2 (4 pt bend)
Grain Size	5–7µm

Material Specifications provided by Accumet Engineering 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.

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