



ATP1011 Samples

Patterned Aluminum Nitride Samples - With Standard Metalization

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

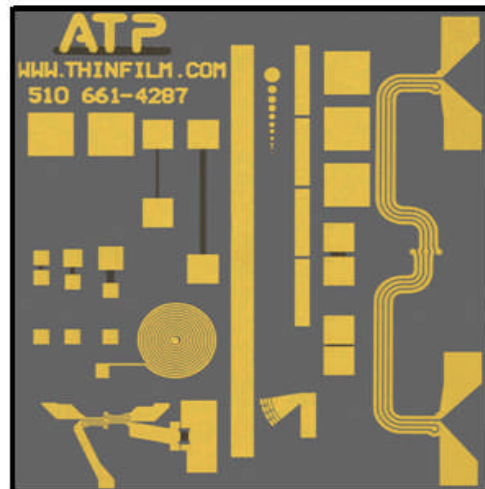
TaN/TiW/Au on Aluminum Nitride (AlN) is used in applications that require wire bonding, ribbon bonding, epoxy and various other types of attachment. Such as Gold Tin, Gold Germanium and Gold Silicon. With a material thickness of +/-0.0005" (0.0127mm), surface finish of less than 2µ" (50nm) and a minimum thermal conductivity of 170 Watts/mK. The dielectric constant of this material is 8.6.

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 | Watts/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
TaN = 50 Ohms per Square
TiW = 400 to 800 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

