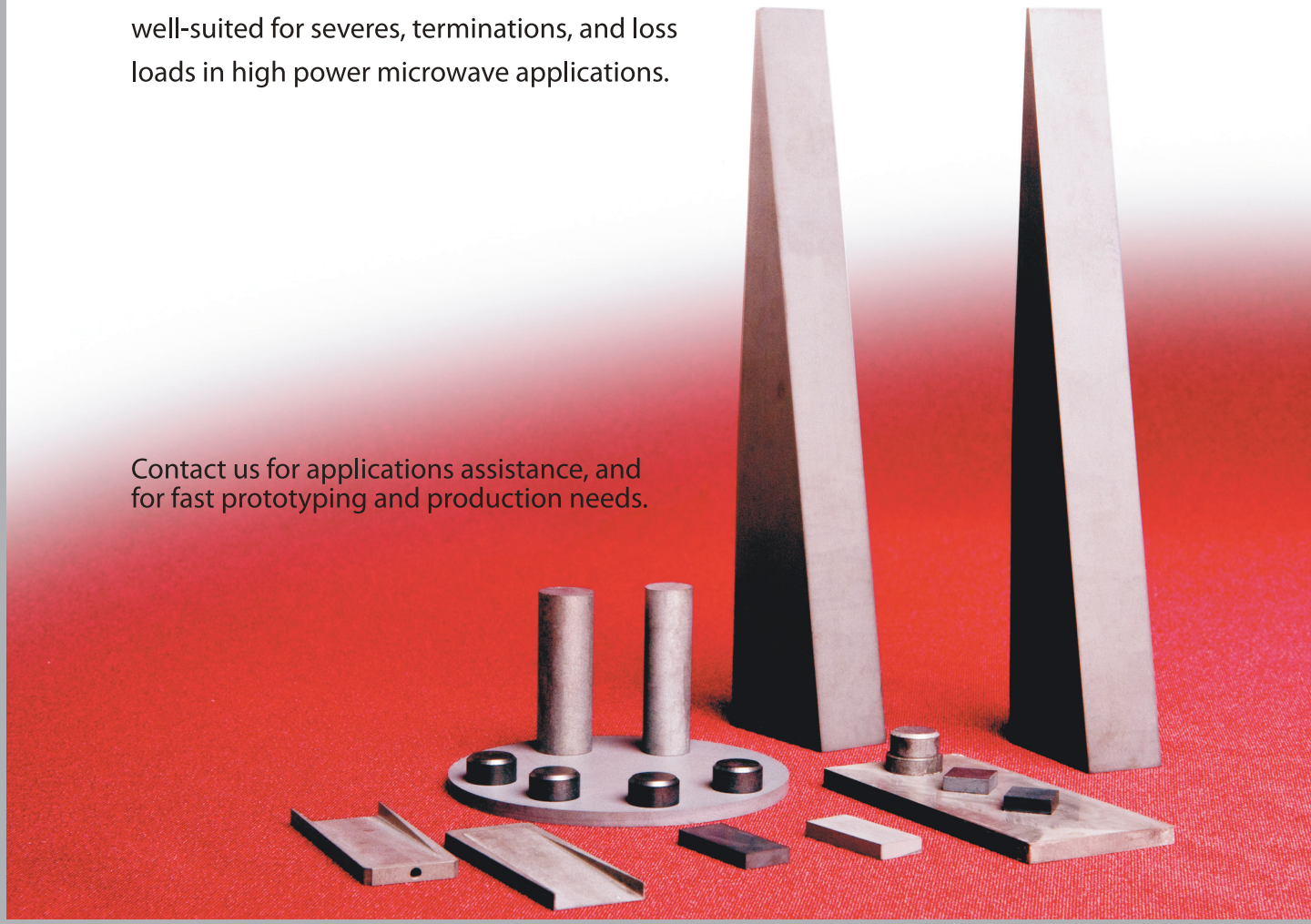
# STL-100HTC

## WORLD'S HIGHEST THERMAL CONDUCTIVITY AlN-SiC COMPOSITE MICROWAVE ABSORBER FOR HIGH POWER VACUUM ELECTRONICS

Sienna's engineers have overcome the processing difficulties that have prevented achieving high thermal conductivity in aluminum nitride-silicon carbide (AlN-SiC) composites. Sienna STL-100HTC has a thermal conductivity of greater than 120 W/m·K making it the perfect replacement for toxic beryllia-silicon carbide (BeO-SiC) composites in high power microwave applications.

STL-100HTC is specifically developed to replace the now discontinued Ceradyne® 2710 BeO-40SiC composite. STL-100HTC is well-suited for severes, terminations, and loss loads in high power microwave applications.



Contact us for applications assistance, and for fast prototyping and production needs.

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Woodinville, WA 98072

SIENNA TECHNOLOGIES Inc.®
providing solutions through advanced materials

# STL-100HTC
## AIN LOSSY DIELECTRIC PROPERTIES

| | STL-100HTC | Ceradyne®2710 |
|---|---|---|
| **Composition** | AIN-SiC (Composite) | BeO-SiC (Composite) |
| **Density, g/cm$^3$** | 3.24 | 3.02 |
| **Vacuum Outgassing** | No | No |
| **Thermal Conductivity, W/m•K** | 120±10 | 130 |
| **Thermal Expansion Coefficient, X10$^{-6}$/°C** | 4.5 | 7.0 |
| **Dielectric Constant** 6 GHz | 24.5 | 24.8 |
| **Loss Tangent** 6 GHz | 0.21 | 0.22 |
| **Flexural Strength, MPa** | 410 | - |
| **Elastic Modulus, GPa** | 360 | 380 |
| **Application** | Lossy dielectric, Replacement for BeO-SiC microwave absorbers in high power applications, Severes, Terminations, Loss loads | Discontinued |



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