

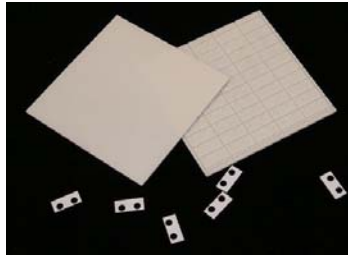


Conductivity™ Heat Spreaders

CiDRA® Precision Services, LLC manufactures Conductivity™ Heat Spreaders for OEM electronic and optoelectronic assemblies. With micron precision dimensional control, submicron Ra surface finish, and nearly a decade of experience producing complex features in high thermal conductivity ceramics, CiDRA® Precision Services, LLC has the technology, know-how and experience to satisfy the most demanding heat spreader design requirements.

Custom Heat Spreaders

- Custom Manufactured Heat Spreaders
- World Class Precision Ceramic Machining
- Years of Experience and Know-how
- Aggressive Customer Focus
- Rapid Order Fulfillment
- Uncompromising Quality



Features

- Custom Thicknesses
- Custom Size, Holes, Cut-outs, and Other Features
- Micron Precision Dimensional Tolerances
- High Thermal Conductivity Ceramics
- Low Thermal Expansion
- High Volume Resistivity
- RoHS Compatible
- Prototype-to-Volume Production

Heat spreaders are designed to increase electronic and optoelectronic reliability by efficiently conducting heat away from devices. CiDRA® Precision Services, LLC heat spreaders offer an industry leading combination of high thermal conductivity and volume resistivity in RoHS compliant dielectric materials. Our world class precision ceramic machining capability permits complete flexibility in tight tolerance geometric feature design for reliable thermal management and precise alignment during die attach processes.

Specifications

Parameter	Aluminum Nitride	Pyrolytic Graphite
Thermal Conductivity	170, 200, 230 W/m ^o K	1700 W/m ^o K (*)
Coefficient of Thermal Expansion	4.6x10 ⁻⁶ /°C	0.6x10 ⁻⁶ /°C (*)
Volume Resistivity	>10 ¹² Ω cm	5x10 ⁻⁴ Ω cm
Dielectric Constant	8.8	
Young's Modulus	330 GPa	50 GPa
Thickness	75um to >1000um	200um to >1cm
Thickness Tolerance	+/-10um	+/-10um
Parallelism	+/-5um	+/-5um
Surface Finish	<0.6um Ra	<0.6um Ra
Length/Width Tolerances	+/-25um	+/-25um
Metallization	Copper & Nickel	Gold
Hole Diameters	125um to >5mm	
Special Features	Slots, Chamfers, Grooves	
Slot Fillet Radius Tolerance	+/-100um	
Chip-out	<50um	

(*) – Through the thickness values

Applications

- Diode Lasers
- Bar Lasers
- Laser Diode Arrays
- LEDs
- High Power Electronics

For more information about CiDRA® Precision Services, LLC and to discuss your application, contact Customer Services at (203) 774-4422.

