

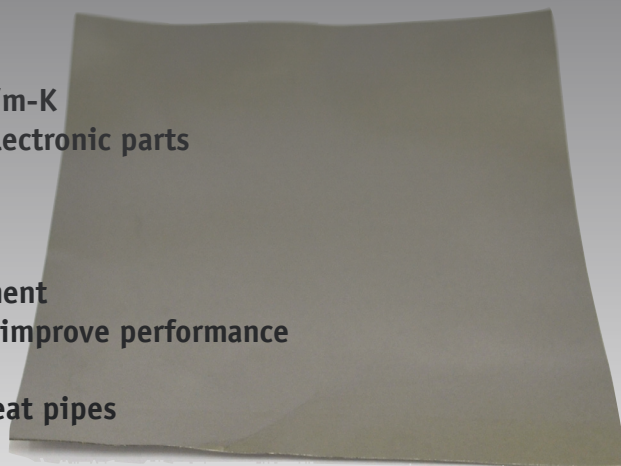
GCS-050

Graphite heat spreader

GCS Graphite heat spreader is a thermal management material with high thermal conductivity and high flexibility. It is a highly crystallised graphite material made from carbon materials in sheet style by a special process. The material is ideal for providing thermal management solutions in limited spaces and it can be cut into customisable shapes.

Features

- Engineered in-plane thermal conductivity 1300 W/m-K
- EMI shielding and absorbing to protect sensitive electronic parts
- Reliable performance from -40°C to 400°C
- RoHS compliant and UL94V0 flammability rated
- Can be die-cut into customisable shapes
- Can be adhesive-backed for peel and stick attachment
- Can be laminated with plastics, metals or foam to improve performance
- Reduce skin temperature and eliminate 'hot spots'
- Can replace grease or PCM, eliminating fans and heat pipes



Configurations

Part number	Front face	Rear face	Structure	Total thickness	Heat resistance	Features
GCS-050-G	-	-	1. GCS heat spreader	50um	400°C	<ul style="list-style-type: none">• High thermal conductivity• High flexibility• Low thermal resistance• Available up to 400°C• Conductive material
GCS-050-A10	-	Insulate adhesion type 10um	1. GCS heat spreader 2. Adhesive tape 10hm 3. Release liner	60um	100°C	<ul style="list-style-type: none">• Insulation material on one side• Low thermal resistance• Withstands voltage of 1kV
GCS-050-P10A10	Polyester tape standard type 10 um	Insulate adhesion type 10um	1. Polyester tape 10um 2. GCS heat spreader 3. Adhesive tape 10um 4. Release liner	70um	100°C	<ul style="list-style-type: none">• Insulation material on both sides• Withstands voltage PET tape: 1.95kV• Low thermal resistance

Building the part number

Example: GCS - 017 - P10 A10 - XX
 1 2 3 4 5

1. GCS series
2. Graphite heat spreader thickness
3. PET thickness
4. Adhesive thickness
5. Custom



Global Component Sourcing

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GCS-050

Graphite heat spreader

Characteristics

Characteristic	Value
Colour	Silver grey
Thickness mm	0.050
Density g/cm ³	1.70
Typical thermal conductivity (in-plane) W/m-K	1300
Typical thermal conductivity (through thickness) W/m-K	20
Thermal diffusivity cm ² /s	8~10
Tensile strength, MPa	20
Electrical conductivity, S/cm	20000
CTE (coefficient of thermal expansion) 1/K	9.3×10^{-7}
Operating temperature °C	-40 ~ +400
Specific heat @50°C J/kg-°C	850

Applications

GCS graphite heat spreader has high heat conductivity; it is also very thin which allows for easy attachments a variety of heat sink or component surfaces. Apply to heat sink, position the pad and press in place onto the heat sink. The GCS graphite heat spreaders can be used in many markets, all of which improve thermally conductive performance within a limited space.

Displays, lighting protection

PDP TV, LCD CCFL and LCD LED display backlight, LED signage, projectors and new display technology.

Consumer and industrial electronics

Mobile telephone, communication base station, laptop, notebook, computer servers, handheld gaming devices, memory modules, CPU modules, amplifiers, batteries, and DC to DC covertors power supplies.

Automotive electronics

Engine management, electronic suspension, braking systems, communication and multimedia systems, comfort convenience features, vehicle lighting, vehicle controls, hybrid vehicle battery thermal management, electric vehicle thermal management.



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