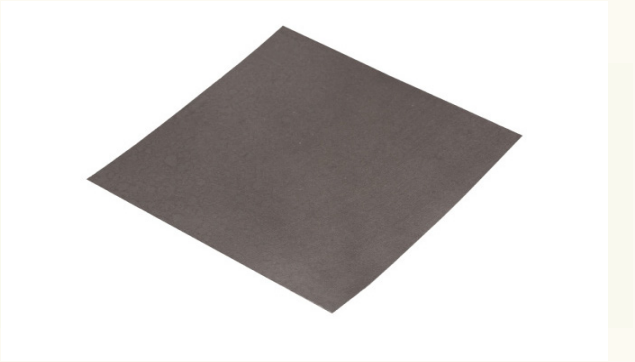
GCSR-CGUL GRAPHITE SHEETS
CRYSTALLISED GRAPHITE

FEATURES

GCSR graphite is a highly orientated graphite used for thermal management. This is a very thin, high thermal conductivity material, ideal for providing thermal management/heat-sinking in limited spaces or as a heat spreader at an interface level. This can be used to provide supplemental heat-sinking in addition to conventional means. The material is flexible and can be easily cut into various shapes.
Various finishes and adhesion options are available to provide reduced long term contact resistance and various levels of electrical isolation.



Features
- **Excellent thermal conductivity**
- **RoHS compliant**
- **Highly adaptable to surface**
- **Lightweight**
- **Can be used in multi-layer**

Recommended Applications
- **Smart phones, mobile phones, DSC, DVC, Tablet PCs and peripherals, LED Devices**
- **Semiconductor manufacturing equipment (Sputtering, Dry etching, Steppers)**
- **Optical communications equipment**

EXPLANATION OF PART NUMBERS

G C S R - C G U L 0 2 5 P 1 0

- G C S R: Product Code
- C G U L: Crystallised Graphite UL Series
- 0 2 5: GCS Thickness

017	17 µm
025	25 µm
040	40 µm
050	50 µm
070	70 µm
100	100 µm

- P 1 0: Type

[Graphite Only]
P10
HA
PIHA

CHARACTERISTICS

Thickness (µm)		17 µm	25 µm	40 µm	50 µm	70 µm	100 µm
Thermal conductivity W/(m·K)	X-Y	≥ 1900	≥ 1800	≥ 1700	≥ 1600	≥ 1500	≥ 1300
	Z	10~15	10~15	10~15	10~20	10~20	10~20
Density (g/cm³)		≥2.0	≥2.0	≥2.0	≥2.0	≥2.0	≥1.7
Heat Capacity (J/g/K)		0.85	0.85	0.85	0.85	0.85	0.85
Working Temperature (°C)		-40~400	-40~400	-40~400	-40~400	-40~400	-40~400
Thermal Transport Comparison (Thickness x X-Y Thermal Conductivity)		≥32300	≥45000	≥68000	≥80000	≥105000	≥130000

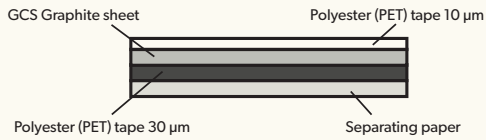
info@ gcsthermal.com

GCS UK Ltd
7 Priory Business Park
Kibworth, Leicestershire
LE8 0RX, UK

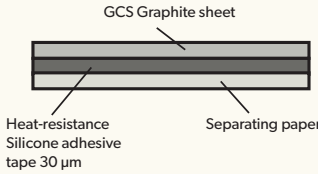
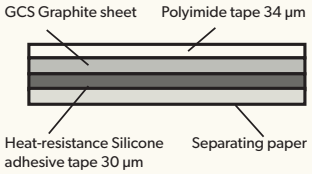
GCSR-CGUL GRAPHITE SHEETS
CRYSTALLISED GRAPHITE

LAMINATION CONTRUCTION DETAIL

Type	Graphite Only
	[Graphite Only]
Front face	-
Rear face	-
Structure	GCS Graphite sheet 
Features	- High Thermal Conductivity - High Flexibility - Low Thermal Resistance - Avaliable up to 400 °C - Conductive Material

Type	Insulation type
	P10P30
Front face	Polyester tape thin type 10 µm
Rear face	Polyester tape standard type 30 µm
Structure	
Features	- With insulation material on both sides

HIGH HEAT RESISTANCE SERIES

Type	High heat resistance type	
	HA	PIHA
Front face	-	High heat resistance and insulation type 34 µm
Rear face	High heat resistance and insulation adhesion type 30 µm	High heat resistance and insulation adhesion type 30 µm
Structure		
Features	- With high heat resistance and insulation tape on one side - Withstanding Voltage Adhesive tape: 2 kV	- With high heat resistance and more insulated tape on both sides - Withstanding Voltage PI tape: 5 kV Adhesive tape: 2 kV

Other laminations types may be available such as PEEK films, PET films and custom adhesive coatings.

info@ gcsthermal.com

GCS UK Ltd
7 Priory Business Park
Kibworth, Leicestershire

SAFETY PRECAUTIONS AND HANDLING NOTES

GCSR crystallised graphite may result in accidents when subjected to severe conditions of electrical, environmental, or mechanical stress beyond the specified conditions presented in the specification.

Please follow the recommended safety precautions and handling notes.

- The graphite shall be used within the specified temperature range.
- Do not rub or touch the graphite with rough materials as it can cause scratching.
- Lines or folds in the graphite may affect the thermal conductivity.
- Use protective materials when handling the graphite.
- Do not touch the graphite while it is in use as it may be extremely hot.
- Do not use items with sharp edges as they may damage the graphite.
- The graphite does not function in accordance with specifications if overheated.
- Do not store under conditions such as salt water, direct sunlight or corrosive gases.
- Do not store near acid.

info@ gcsthermal.com

GCS UK Ltd
7 Priory Business Park
Kibworth, Leicestershire
LE8 0RX, UK