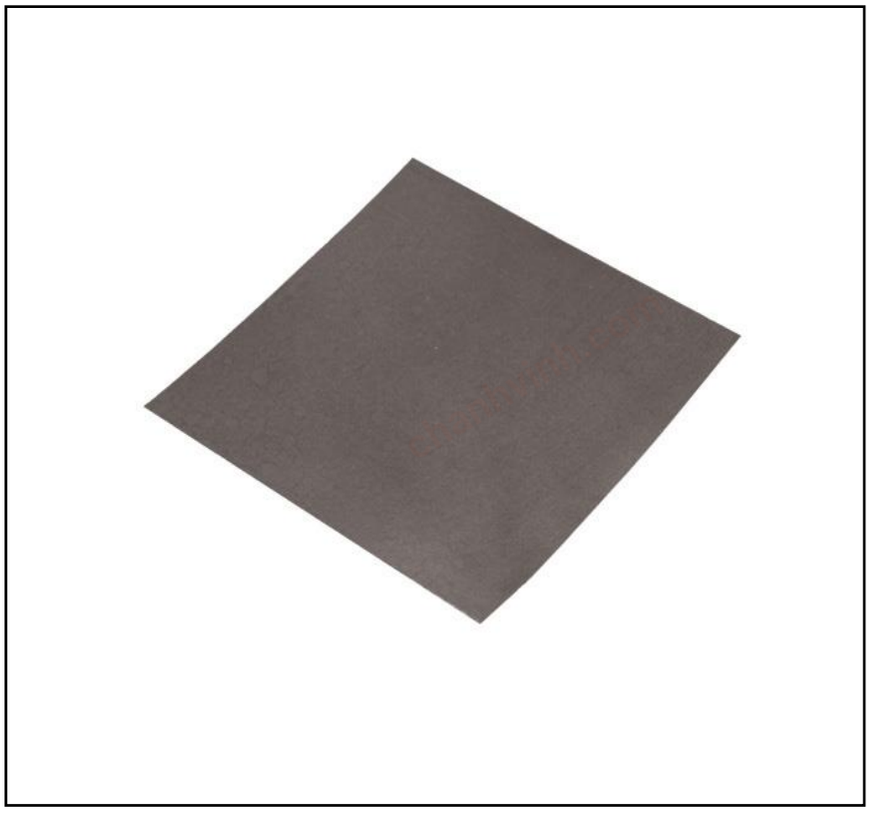
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## FEATURES

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

# RS PRO Crystalised Graphite Sheets



RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

# Thermal Pads

## Product Description

RS PRO crystalised 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.

## General Specifications

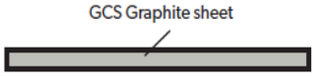
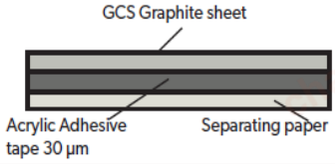
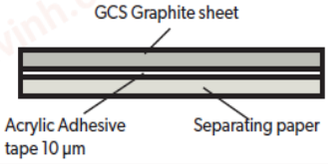
| | |
|---|---|
| **Material** | Graphite |
| **Self-Adhesive** | Dependent on type / refer to table |
| **Colour** | Grey |
| **Applications** | Smart phones, mobile phones, DSC, DVC, Tablet, PCs and peripherals, LED Devices |
| **Shelf Life** | 24 months |

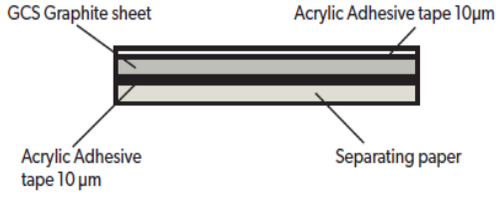
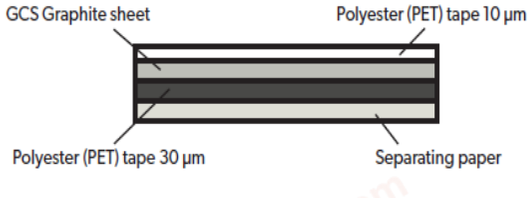
## Specifications

| | **25µm** | **70µm** |
|---|---|---|
| **Dimensions** | 90x115mm / 115x180mm | |
| **Thickness** | 0.025mm | 0.07mm |
| **Length** | 115 / 180mm | |
| **Width** | 90 / 115mm | |
| **Thermal Conductivity** | 1600 W/m K | 1000 W/m K |
| **Density** | 1.9g/cm$^3$ | 1.2g/cm$^3$ |
| **Electrical Conductivity** | 18000 S/cm | 10000 S/cm |
| **Expansion Coefficient:** | | |
| **In Plane** | 9×10$^-$7 1/K | |
| **Through Thickness** | 3×10$^-$5 1/K | |
| **Heat resistance*** | 400°C | |

*Heat resistance value is for graphite only, adhesive, and coated versions are reduced in value, please check further data based on type.

# Thermal Pads

| Type | | Graphite Only | Adhesive Type | |
|---|---|---|---|---|
| | | | A30 | A10 |
| Front face | | - | - | - |
| Rear face | | - | Insulative adhesion type 30 µm | Insulative adhesion type 30 µm |
| Structure | |  |  |  |
| Features | | - High Thermal Conductivity<br>- High Flexibility<br>- Low Thermal Resistance<br>- Avaliable up to 400 °C<br>- Conductive Material | - With insulation material on one side<br>- With strong adhesive tape for putting chassis<br>- Withstanding Voltage: 2kV | - With insulation material on one side<br>- Low thermal resistance comparison with A30 type<br>- Withstanding Voltage: 1kV |
| Maximum continuous temperature (°C) | | 400 | 100 | 100 |
| Standard size (mm) | | 115 × 180 | 90 × 115 | 90 × 115 |
| Maximum size (mm) | | 180 × 230 (25 µm to) | 115 × 180 | 115 × 180 |
| 25 µm | Part No. | **RS 245-7299/ RS 245-7300** | **RS 245-7303/ RS 245-7304** | - |
| | Thickness (µm) | 25 | 55 | - |
| 70 µm | Part No. | **RS 2457314** | **RS 245-7317/ RS 245-7318** | **RS 245-7315/ RS 245-7316** |
| | Thickness (µm) | 70 | 100 | 80 |

| Type | | Adhesive type | Insulation type |
|---|---|---|---|
| | | A10A10 | P10P30 |
| Front face | | Insulative adhesion type 10 µm | Polyester tape thin type 10 µm |
| Rear face | | Insulative adhesion type 10 µm | Polyester tape standard type 30 µm |
| Structure | |  |  |
| Features | | - With insulation material on both sides<br>- Low thermal resistance comparison with A30 type | - With insulation material on both sides |
| Maximum continuous temperature (°C) | | 100 | 100 |
| Standard size (mm) | | 90 x 115 | 90 x 115 |
| Maximum size (mm) | | 115 x 180 | 115 x 180 |
| 25 µm | Part No. | **RS 245-7301/ RS 245-7302** | **RS 245-7308** |
| | Thickness (µm) | - | - |
| 70 µm | Part No. | - | |
| | Thickness (µm) | - | - |

# Thermal Pads

| Type | | Laminated type (Insulation & Adhesive) | |
|---|---|---|---|
| | | P30A30 | P30A10 |
| Front face | | Polyester tape standard type 30 µm | Polyester tape standard type 30 µm |
| Rear face | | Insulative adhesion type 30 µm | Insulated thin adhesion type 10 µm |
| Structure | | GCS Graphite sheet / Polyester (PET) tape 30µm / Acrylic Adhesive tape 30 µm / Separating paper | GCS Graphite sheet / Polyester (PET) tape 30 µm / Acrylic Adhesive tape 10 µm / Separating paper |
| Features | | - With insulation material on both sides<br>- Withstanding Voltage<br>PET tape: 4 kV<br>Adhesive Tape: 2 kV | - With insulation material on both sides<br>- Withstanding Voltage<br>PET tape: 4 kV<br>Adhesive Tape: 1 kV |
| Maximum continuous temperature (°C) | | 100 | 100 |
| Standard size (mm) | | 90 x 115 | 90 x 115 |
| Maximum size (mm) | | 115 x 180 | 115 x 180 |
| 25 µm | Part No. | **RS 245-7310** | **RS 245-7309** |
| | Thickness (µm) | 85 | 65 |
| 70 µm | Part No. | **RS 245-7322** | **RS 245-7321** |
| | Thickness (µm) | 130 | 110 |

| Type | | High heat resistance type | | |
|---|---|---|---|---|
| | | HA | PKHA | PIHA |
| Front face | | - | High heat resistance and insulation adhesion type 18 µm | 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 | High heat resistance and insulation adhesion type 30 µm |
| Structure | | GCS Graphite sheet / Heat-resistance Acrylic adhesive tape 30 µm / Separating paper | GCS Graphite sheet / Heat-resistance PEEK tape 18 µm / Heat-resistance Acrylic adhesive tape 30 µm / Separating paper | GCS Graphite sheet / Polyimide tape 34 µm / Heat-resistance Acrylic adhesive tape 30 µm / Separating paper |
| Features | | - With high heat resistance and insulation tape on one side<br>- Withstanding Voltage Adhesive tape: 2 kV | - With high heat resistance and insulation tape on both sides<br>- Withstanding Voltage<br>PEEK tape: 2 kV<br>Adhesive tape 2 kV | - With high heat resistance and more insulated tape on both sides<br>- Withstanding Voltage<br>PI tape: 5 kV<br>Adhesive tape: 2 kV |
| Maximum continuous temperature (°C) | | 150 | 150 | 150 (Polyimide: 180) |
| Standard size (mm) | | 90 x 115 | 90 x 115 | 90 x 115 |
| Maximum size (mm) | | 115 x 180 | 115 x 180 | 115 x 180 |
| 25 µm | Part No. | **RS 245-7305/ RS 245-7306** | **RS 2457312** | **RS 245-7311** |
| | Thickness (µm) | 55 | 73 | 89 |
| 70 µm | Part No. | **RS 245-7319/ RS 245-7320** | - | **RS 245-7323** |
| | Thickness (µm) | 100 | - | 134 |

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## Safety Precautions and Handling Notes

RS Pro crystalised 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.