"PGS" Graphite Sheets

Type: **EYG**

PGS (Pyrolytic Graphite Sheet) is a heat sink sheet with high thermal conductivity and high flexibility.
PGS is made of graphite with a structure that is close to a single crystal. This is achieved by highly oriented polymer film sheet, a process which has never been implemented before.

■ Features

- Excellent thermal conductivity:600 to 800W/(m·K) (Twice as high as copper, three times as high as aluminum)
- Lightweight:Specific gravity:1.0g/cm^3 (1/9 that of copper,1/3 that of aluminum)
- Flexible and easy to be cut or trimmed. (withstands repeated bending)
- Low thermal resistance

■ Recommended applications

- Notebook personal computers,DVDs,DVCs,mobile phones
- Semiconductor manufacturing equipment (Sputtering,Dry etching,Steppers)
- Optical communications'equipment

■ Explanation of Part Numbers

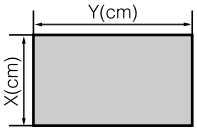
1	2	3	4	5	6	7	8	9	10	11	12
E	Y	G	S	1	8	2	3	1	0		
Product Code			Style	Dimension X (Short)		Dimension X (Long)		Thickness		Suffix	

Product Code	
EYG	PGS Graphite Sheet

Style	
S	PGS only
L	Laminating
A	Taping
C	Coating
M	Other materials laminated

■ Dimensions in mm

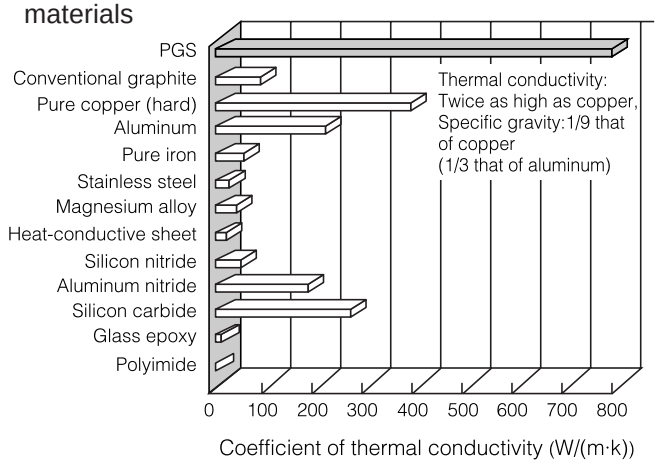
Part No.	Dimension X (Short)	Dimension Y (Long)	Thickness
EYGS182310	18.0±0.5cm	23.0±0.5cm	0.10±0.05mm
EYGS121810	11.5±0.5cm	18.0±0.5cm	0.10±0.05mm
EYGS091210	9.0±0.5cm	11.5±0.5cm	0.10±0.05mm



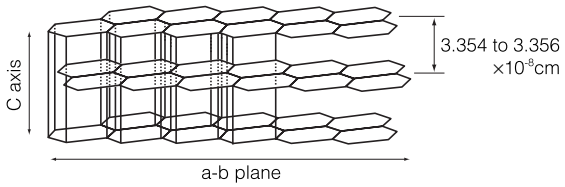
■ Characteristics

Characteristics		Specification
Thickness		0.10 ± 0.05 mm
Density		1.0 g/cm^3
Thermal conductivity	a-b plane	600 to 800 W/(m·K)
Electrical conductivity		10000 S/cm
Extensional strength		19.6 MPa
Expansion coefficient	a-b plane	9.3 × 10^{-7} 1/K
	c axis	3.2 × 10^{-5} 1/K
Heat resistance		400 ˚C
Bending(angle 180,R5)		10000 cycles

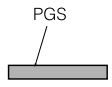
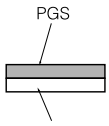
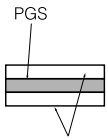
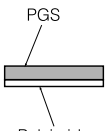
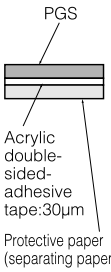
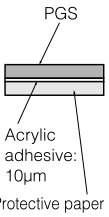
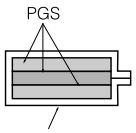
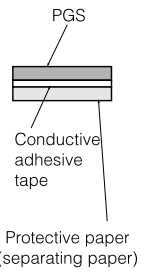
■ Thermal conductivity of PGS compared to other materials



■ Layered structure of PGS



■ Dimensions in mm (not to scale)

Type	EYGS182310	EYGM121810SS	EYGM121810SW	EYGA091210K	EYGA091210A	EYGC091210C	EYGL□□□□□□P2	EYGM091210CT
	PGS only	Silicon layered type		Polyimide tape attached	Doble-side-adhesive tape attached type	Acrylic adhesive (one side) attached type	PET-covered type	Conductive adhesive tape type
		One-sided type	Double-sided type					
Structure								
Thickness (µm)	100±50	200±50	300±50	130±50	130±50	110±50	150±50 (1 pcs.) 350±50 (3 pcs.)	130±50
Thermal* resistance (˚C/W)	0.4	1.0	1.4	2.4	1.7	0.8	2.0	1.6
Thermal* conductivity (direction of the sheet surface) (W/m·k)	600 to 800	250 to 300	250 to 300	500 to 600	500 to 600	550 to 650	500 to 600	500 to 600
Withstand temperature max. (˚C)	400	180	180	180	80	80	105	80
Standard To be separately consulted sample, (± 5 mm)	180×230	115×180	115×180	90×115	90×115	90×115	To be separately consulted	90×115
Features	· Usable up to 400˚C · Low thermal resistance · Conductivity	· Cushioning properties · One-side insulation	· Cushioning properties · Both-side insulation	· High insulation · High heat resistance	· Insulation · Strong adhesion	· Low thermal resistance	· High insulation	· Conductivity

*The above values are only for reference. they can be changed without notice.

Part No., quantity and country of origin are designated on outer packages in English.