



# T69-40 Graphite Sheets

Version 1.280318



## Graphite Sheets

T69-40 is a high performing thermal interface material which is very thin, synthetically made from a highly oriented graphite polymer film and has excellent thermal properties in both the XY and the Z axis. T69-40 is ideal for providing thermal management in some of the most demanding of applications.

## Features

Highly oriented pyrolytic graphite sheet with high thermal conductivity  
It is flexible and has features of ultra-thin and high EMI shielding effect  
Excellent thermal conductivity: 1600 W/ mK (4x as high as copper, 7x as high as aluminium)

Light weight: Specific gravity: 2.3

Flexible and easy to be cut or trimmed

Low thermal resistance

Low moisture content: < 1%

## Applications

Electronic components: IC, CPU, MOS

LED, M/B, P/S, Heat Sink

LCD, TV, Notebook PC, PC Telecom Device, Wireless, etc.

DDR II Module, DVD Applications, Hand-set applications, etc.

## Properties

✓ REACH Compliant

✓ ROHS Compliant

Property		T69-40	Unit	Tolerance	Test Method
Thickness		40um	mm	-	Micrometer
		0.040	mm	±0.012	Micrometer
Thermal Conductivity	X-Y Direction	1350	W/mK	-	AC calorimeter
	Z Direction	20	W/mK	-	Laser flash
Thermal diffusivity		9 - 10 (0.0009- 0.0010m <sup>2</sup> /s)	cm <sup>2</sup> /s	-	AC calorimeter
Density		1.8 (1800 kg/ m <sup>3</sup> )	g/cm <sup>3</sup>	-	Archimedes law
Specific heat (at 50°C)		0.85 (850J/kgk)	(J/gk)	-	-
Heat resistance		400	°C	-	-
Extensional strength	X-Y Direction	25	Mpa	-	-
	Z Direction	0.4	Mpa	-	-
Expansion coefficient	X-Y Direction	9.3 x 10 <sup>-7</sup>	1/K	-	-
	Z Direction	3.2 x 10 <sup>-5</sup>	1/K	-	-
Bending test (R5/180°C)		20000 or more	Times	-	-
Electric conductivity		20000	S/cm	-	JISK7194
Operating Temperature		-50 to 200	°C	-	-
Shelf Life		36	months	-	-

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# T69-40 Graphite Sheets

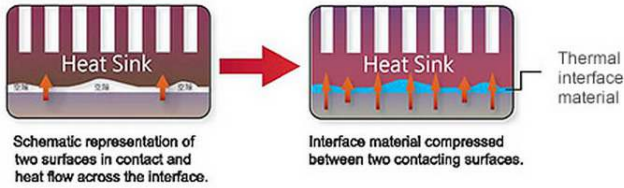
## Standard Weights & Dimensional Tolerance

Size	Thickness (mm)	Weight (gr)
	200x200x0.04	0.8

\* All measurements in weights are in gr

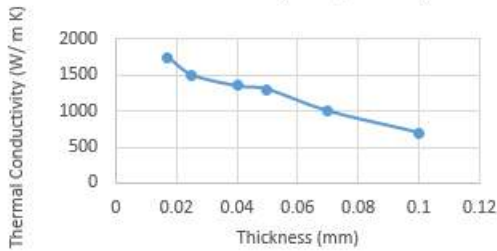
\*\* All sizes are in mm

## Data

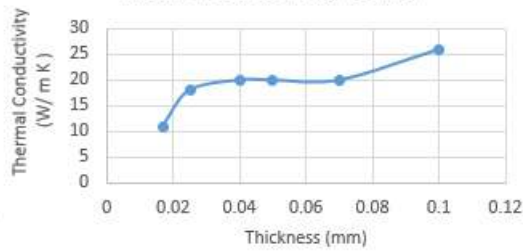


Die-Cut Thickness Tolerances	Thickness (mm)	Tolerance (mm)
	0.3	±0.03
	0.5	±0.05
	0.8	±0.08
	1.0	±0.1
	1.2	±0.12
	1.5	±0.15
	2.0	±0.2
	2.5 - 3.5	±0.25
	4.0 - 4.5	±0.3
	5.0	±0.35
	6.0 - 8.0	±0.4
	9.0	±0.45
	10.0	±0.5
>10.0	±0.5	

Thermal Conductivity T69 (X-Y axis)



Thermal Conductivity (Z axis)



\* Data for design engineer guidance only. Observed performance varies in application. Engineers are reminded to test the material in application.

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