

THERMAL CONDUCTIVITY

(W/m·°K)

0,45

KU-KG

0,40

KU-PG

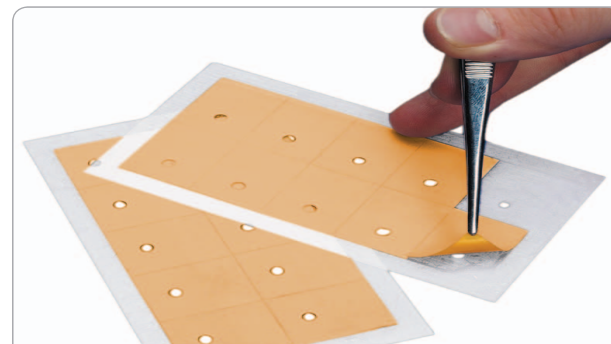
Electrically insulating

Polyimide film with phase-change coating (CRAYOTHERM®) KU-KG und KU-PG

HEATPAD® KU-KG and KU-PG are high-performance thermoconducting films, consisting of a polyimide carrier film filled with thermally conductive ceramic, and a silicone-free CRAYOTHERM® coating on both sides. They combine the outstanding dielectric and mechanical properties of a polyimide with the thermal properties of CRAYOTHERM®. The CRAYOTHERM® coating changes its aggregate state when heated to ca. 60°C, turning soft. Due to its expansion in volume (by 15 to 20 per cent) and the subsequent active covering of the contact surfaces, it compensates for next to all flaws in these surfaces, minimizing thermal transfer resistance. Once the phase-change temperature is first exceeded, the material's optimal thermal performance is sustained at all times, below and above that temperature.

PROPERTIES

- Minimal thermal contact resistance combined with outstanding electrical insulation
- Silicone-free
- Active covering of contact surfaces through expansion by 15 to 20 per cent
- Very flexible and mechanically stable
- Guaranteed layer thickness
- Low tightening torque required
- Quick and clean handling, high process reliability
- Adhesive coating or lateral adhesive strips
- Replaceable without surface treatment
- Cleaning with isopropyl alcohol



Polyimide film with phase-change coating (CRAYOTHERM®) KU-KG und KU-PG

We disclaim all liability for accuracy of this information. Technical detail is subject to change.

Image may differ from the original product

¹ Coating thickness approx. 12 µm per side

² Increase of thermal resistance through acrylic adhesive by about 0.05 °C/W

* Without glue

PART	KU-	KG25	KG38	KG50	KG75	PG50
GENERAL PROPERTIES						
Material	Body	CRAYOTHERM® – Polyimid – CRAYOTHERM®				
Phase-Change-Material ¹		CRAYOTHERM®				
Colour		Dull orange				
Substrate thickness	µm	25	38	50	75	50
Material gauge with coating	µm	50	63	76	101	76
UL flammability rating		-	94 V0*	94 V0	94 V0	-
MECHANICAL PROPERTIES						
Tensile strength	Mpa	124				
Breaking strength	kN/m	300				
ELECTRICAL PROPERTIES						
Dielectric strength	V (AC)	4200	6000	7700	11000	4500
Volume resistivity	(Ωm)	1,0x10 ¹²	1,0x10 ¹²	1,0x10 ¹²	1,0x10 ¹²	1,0x10 ¹⁰
Dielectric constant (1kHz)		4,5	4,5	4,5	4,5	3,0
THERMAL PROPERTIES						
Thermal conductivity	W/mK	0,45	0,45	0,45	0,45	0,40
Thermal resistance ² (inch ²)	°C/W	0,12	0,16	0,20	0,29	0,262
Operating temperature	°C	-60 to +150				
Storage temperature	°C	max. 40				
Phase change temperature	°C	60				

Issue date: 29.11.2010

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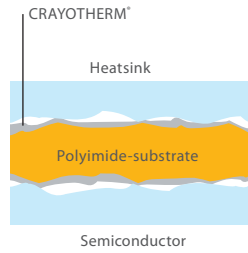
KU-KG

0,40

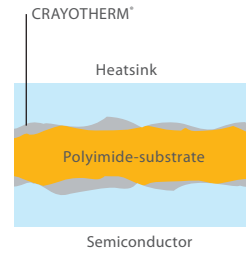
KU-PG

Electrically insulating

MODE OF ACTION KU-KG AND KU-PG



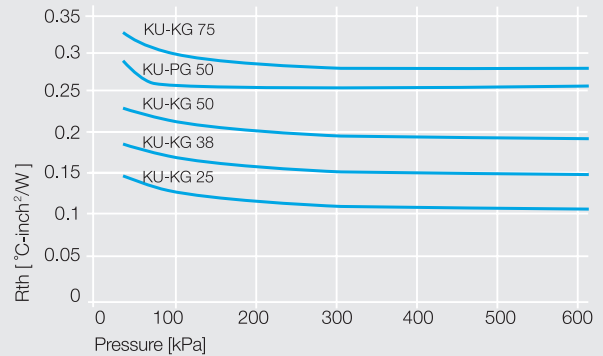
Before first operation,
unheated



In operation, after
first phase-change

PRESSURE DEPENDENCE

Thermal resistance vs.
mounting pressure



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