

Polyimide Heaters

Polyimide Material Offers Strength, Tear Resistance and Stability

Polyimide is a thin, lightweight organic polymer film which provides excellent tensile strength, tear resistance and dimensional stability. This heater is ideal for applications requiring low outgassing in a vacuum, or resistance to radiation, fungus and chemicals. Polyimide is also solvent resistant.

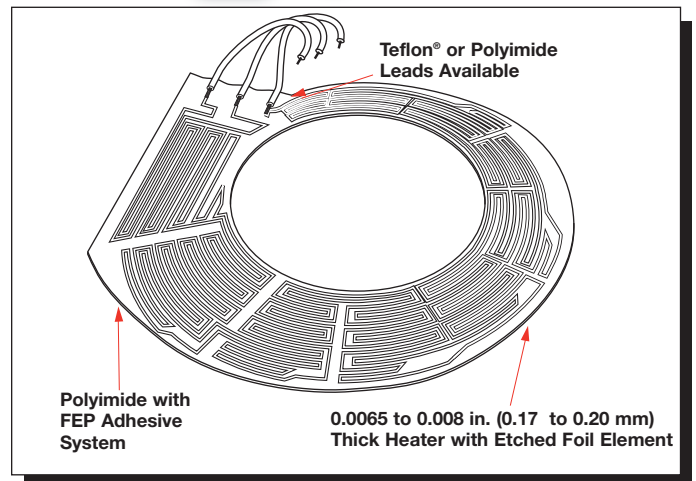
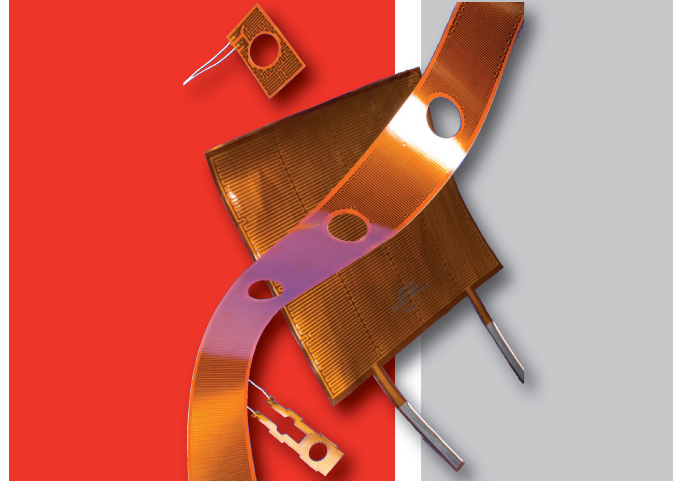
Performance Capabilities

- For operating environments as low as -319°F (-195°C), heater temperature as high as 392°F (200°C)
- Watt densities up to 50 W/in² (7.75 W/cm²)^①
- UR[®] and C-UR[®] recognitions

Typical Applications

- Medical, where thorough cleaning or sterilization is needed
- Laboratory research
- Semiconductor processing equipment
- Optical equipment
- LCD displays
- Computer equipment
- Photographic equipment
- Military/aerospace, where low outgassing properties are required

^① Watt density limits are application dependent (operating temperatures, bonding method and heat sink).



Features and Benefits

Excellent physical and electrical properties

- Results in thermal stability over a wide temperature range

Transparent polyimide material

- Allows inspection of internal details

Resistance of radiation and fungus

- Allows it to be used in a wide range of applications

Technical Data

Specifications

Thickness

- 0.007 in. (0.2 mm)

Flexibility (min. radius)

- 1/32 in. (0.8 mm)

Weight

- 1.5 oz./ft² (0.05 g/cm²)

Operating temperature: [Ⓢ]

- Max.: 392°F (200°C)
- Min.: -319°F (-195°C)

Watt density rating on stock units

- 5 W/in² (0.8W/cm²)

Dielectric strength

- Min. VAC: 1000

Flammability rating

- Self-extinguishing

Heater size limitations

- 18 x 26 in. (457 mm x 660 mm)

Weight loss (outgassing):

- 0.51%

Lead length

- 12 in. (305 mm) Teflon[®] E

[Ⓢ] We recommend maximum **part** temperature at 300°F (150°C).

Options

Lead length, 12 in. (305 mm) "E" Teflon[®]

Width		Length		Watts	28V Code Number	120V Code Number
in.	(mm)	in.	(mm)			
0.5	(13)	2	(51)	5	K005020C5-0009B	
1	(25)	1	(25)	5	K010010C5-0009B K010030C5-0009B	K010050C3-0009B K010150C3-0009B
		3	(76)	15		
		5	(127)	25		
		15	(381)	75		
2	(51)	10	(254)	100		K020100C3-0009B
3	(76)	5	(127)	75		K030050C3-0009B
4	(102)	4	(102)	80		K040040C3-0009B
5	(127)	5	(127)	125		K050050C3-0009B

Bonding Method

- Pressure sensitive adhesive surface (PSAS)

Special Product Offering

Code Number	Size		Shape	Resistance	Max. Voltage	Watts @ Max. Voltage
	in.	(mm)				
K05711980-A	½ x 2½	(13 x 54)	Rectangle	40	12	4
K05711980-B	1 x 2½	(25 x 54)	Rectangle	90	48	26
K05711980-C	1½ x 2½	(38 x 54)	Rectangle	145	75	39
K05711980-D	2 x 2½	(51 x 54)	Rectangle	205	105	54
K05711980-E	½ x 3¾	(13 x 34.9)	Rectangle	80	48	29
K05711980-F	1 x 3¾	(25 x 92.1)	Rectangle	165	90	49
K05711980-G	1½ x 3¾	(38 x 92.1)	Rectangle	275	120	52
K05711980-H	2 x 3¾	(51 x 92.1)	Rectangle	375	120	38
K05711980-I	½ x 5¾	(13 x 146)	Rectangle	130	60	28
K05711980-J	1 x 5¾	(25 x 146)	Rectangle	255	120	56
K05711980-K	1 x 1½	(25 x 28.6)	Rectangle	28	12	5
K05711980-L	½ x 1½	(13 x 28.6)	Rectangle	13	6	3
K05711980-M	1 in O.D.	(25)	Disk	32	12	5
K05711980-N	2 in O.D.	(51)	Disk	180	105	61
K05711980-O	4 in O.D.	(102)	Disk	185	120	78
K05711980-P	1 x 1¾	(25 x 34.9)	Rectangle	45	24	13

Notes:

- To order individual heater circuits from the polyimide kit, see the matrix above.
- Leads shipped loose, not soldered.

Example: To order the J heater circuit with PSAS, use K05711980A-J.

To order the J heater circuit with PSAS and leads, use K05711980AL-J.

Polyimide Handy Heater Kit—For Quick Heating Solutions

Watlow's offering a convenient way to use polyimide heaters. The handy heater kit consists of 16 polyimide heaters — 13 rectangular and three circular—in different sizes and resistances. When a small flexible heater is needed quickly, the correct heater to fit the application can be easily identified.

Other Features

- The heater sheet can be ordered with or without pressure sensitive adhesive (PSAS), depending on your requirements. To specify PSAS, add A to code number.
- The kit includes instructions for wiring, lead attachment and selection and installation. Pre-tinned solder pads are provided for easy lead connections.
- The instructions show how to dial in the desired wattage using a variable voltage transformer.
- Heaters can be wired individually, in series, or parallel for hundreds of variations to satisfy a special application.

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1-800-WATLOW2 • www.watlow.com • inquiry@watlow.com

International Technical Sales Offices: Australia, +61 3 9335 6449 • China, +86 21 3532 8532 • France, +33 1 41 32 79 70
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Taiwan, +886 7 288 5168 • United Kingdom, +44 (0) 115 964 0777