

## GBR-380 Series

### Characteristic

GBR-380 series heating elements are made in thick film technology, on ceramic substrates ( $\text{Al}_2\text{O}_3$  - 96%). Its characteristic is high power at compact size and very low inductance. They are applicable as heating elements to a various types of heaters, precise surface heating, and high power resistors. Heaters have outputs in the form of solder fields.

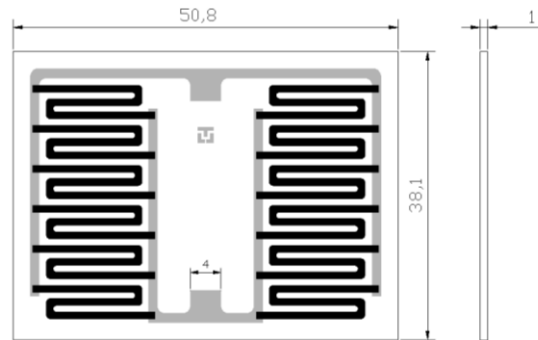
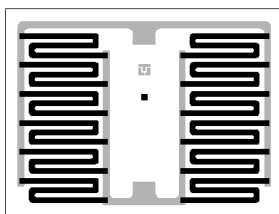
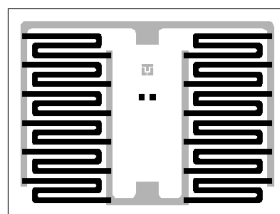


Fig. 1. Preview with dimensions [mm]

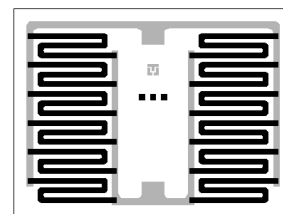
<u>Parameter</u>	<u>Value</u>
Rated power (on heatsink)	80 W
Pulse power (2s)(on heatsink)	300 W
Resistivity	
GBR-388-160	165,31 $\Omega$
GBR-388-240	73,47 $\Omega$
GBR-388-320	41,33 $\Omega$
Tolerance	$\pm 5\%$
Supply voltage (serial connection)	230 V
Temperature coefficient of resistance (TCR)	$\pm 50$ ppm/ $^{\circ}\text{C}$
Max. element temperature	300 $^{\circ}\text{C}$



GBR-388-160



GBR-388-240



GBR-388-320

Fig. 2. Preview of each version

## GBR-380 Series

### Connection method

GBR-388 series heaters are designed to work in a serial connection.

For example, for a voltage of 230V:

Two heaters GBR-388-160 give total power of 160W

Three heaters GBR-388-240 give total power of 240W

Four heaters GBR-388-320 give total power of 320W

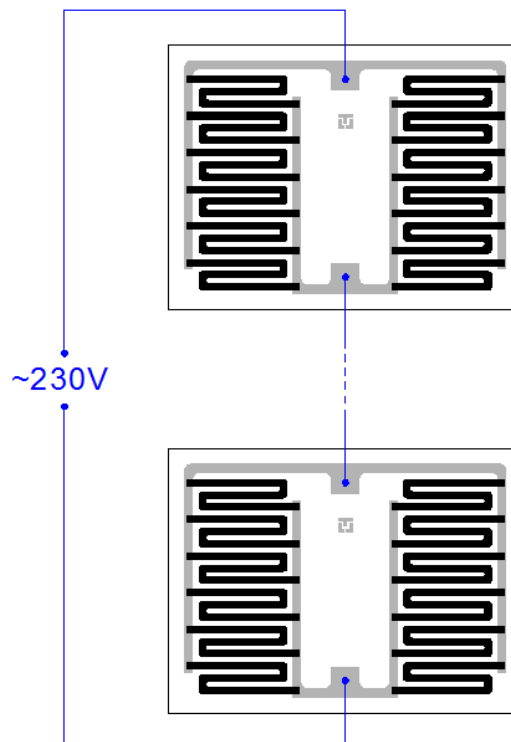


Fig. 3. Typical application