



Micro Heaters



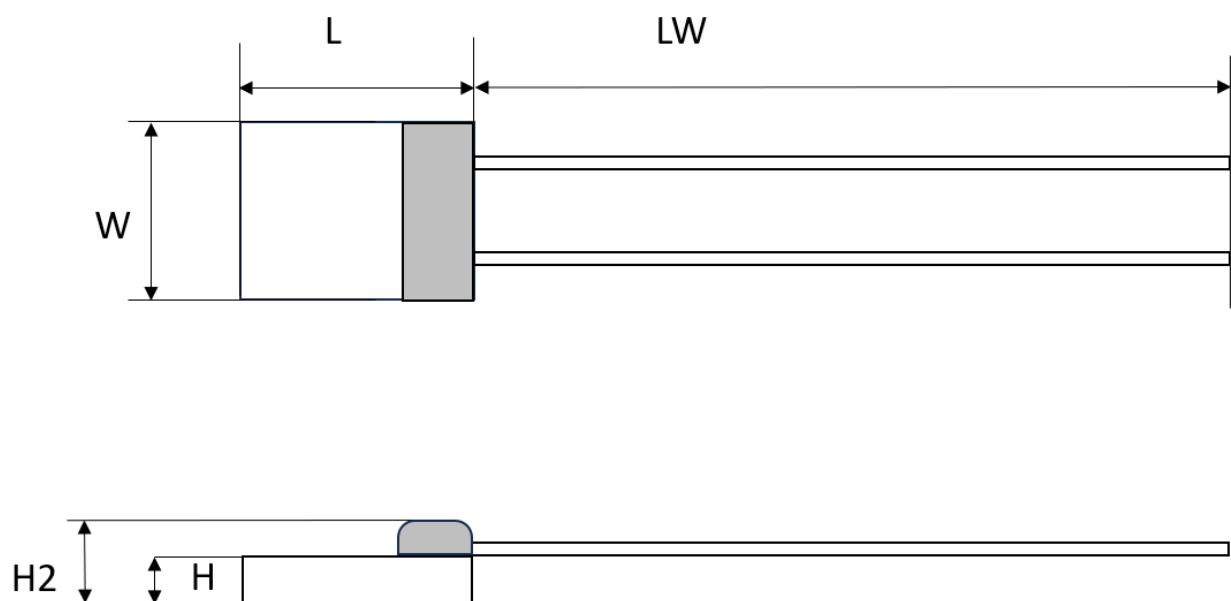
For targeted heating of small spaces



Benefits & characteristics

- Targeted heating of tiny spaces
- High precision
- High temperature stability
- Positive temperature coefficient

Illustration ¹²



	L	W	H1	H2	LW
	Length	Width	Substrate height	Total height	Wire length
Tolerance	± 0.1 mm	± 0.1 mm	± 0.1 mm	± 0.3 mm	LW < 30 mm: ± 1 mm LW ≤ 30 mm: ± 1.5 mm

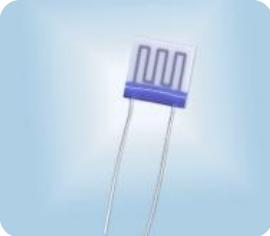
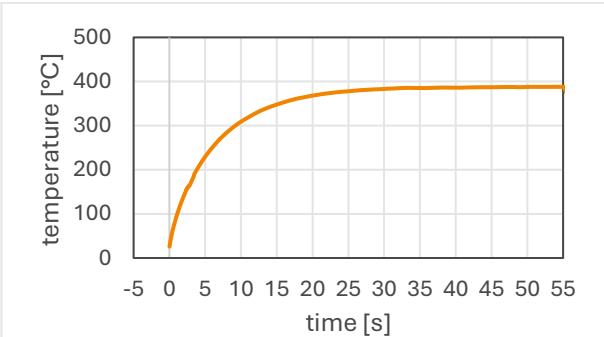
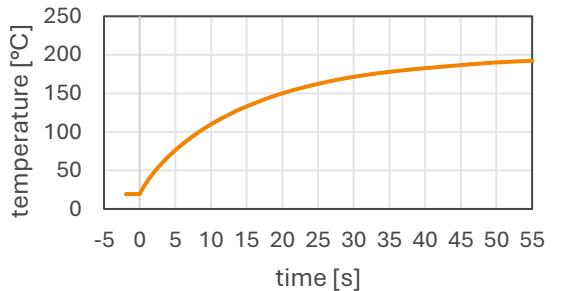
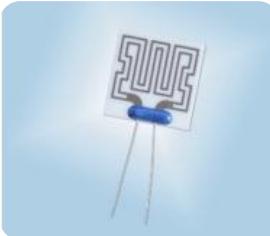
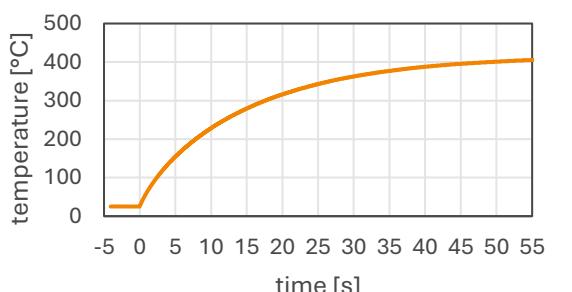
¹ For actual size, see dimensions in chapter order information

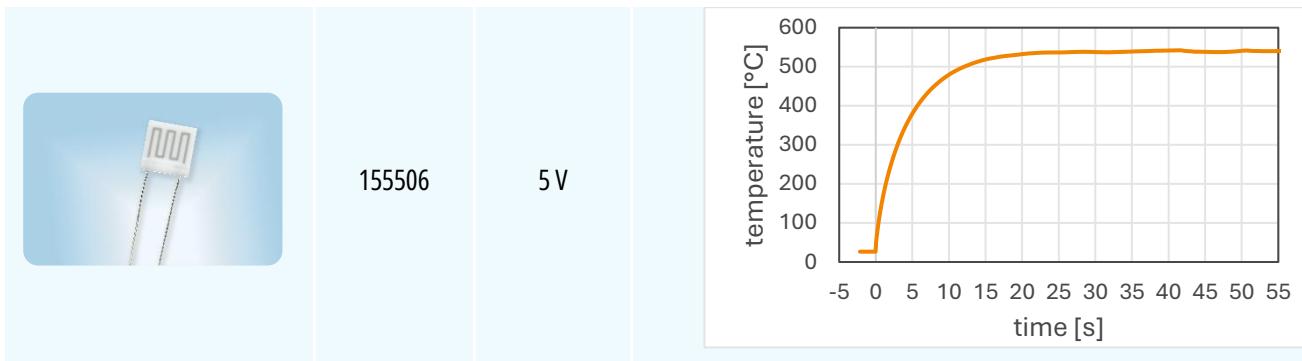
² All dimensions are in mm



Heat-up curves

- Heat-up curves measured through thermography in still laboratory air
- Temperature values are given as average values over active area, excluding glass cover
- During heat-up measurements, no thermal load is applied to heaters
- Supply voltages specified in tables are applied as constant DC voltage

Heater Model	Order Code	Supply voltage	Heat-up curves																								
	154078	5 V	 <p>A line graph showing the heat-up curve for heater 154078. The x-axis is labeled 'time [s]' and ranges from -5 to 55. The y-axis is labeled 'temperature [°C]' and ranges from 0 to 500. The curve starts at (0,0) and rises steeply, leveling off around 400°C after approximately 25 seconds.</p> <table border="1"><caption>Estimated data points for heater 154078</caption><thead><tr><th>time [s]</th><th>temperature [°C]</th></tr></thead><tbody><tr><td>0</td><td>0</td></tr><tr><td>2</td><td>150</td></tr><tr><td>5</td><td>250</td></tr><tr><td>10</td><td>300</td></tr><tr><td>20</td><td>350</td></tr><tr><td>30</td><td>380</td></tr><tr><td>40</td><td>390</td></tr><tr><td>50</td><td>395</td></tr><tr><td>55</td><td>395</td></tr></tbody></table>	time [s]	temperature [°C]	0	0	2	150	5	250	10	300	20	350	30	380	40	390	50	395	55	395				
time [s]	temperature [°C]																										
0	0																										
2	150																										
5	250																										
10	300																										
20	350																										
30	380																										
40	390																										
50	395																										
55	395																										
	154081	6 V	 <p>A line graph showing the heat-up curve for heater 154081. The x-axis is labeled 'time [s]' and ranges from -5 to 55. The y-axis is labeled 'temperature [°C]' and ranges from 0 to 250. The curve starts at (0,0) and rises steadily, leveling off around 190°C after approximately 40 seconds.</p> <table border="1"><caption>Estimated data points for heater 154081</caption><thead><tr><th>time [s]</th><th>temperature [°C]</th></tr></thead><tbody><tr><td>0</td><td>0</td></tr><tr><td>5</td><td>20</td></tr><tr><td>10</td><td>50</td></tr><tr><td>20</td><td>100</td></tr><tr><td>30</td><td>140</td></tr><tr><td>40</td><td>160</td></tr><tr><td>50</td><td>175</td></tr><tr><td>55</td><td>175</td></tr></tbody></table>	time [s]	temperature [°C]	0	0	5	20	10	50	20	100	30	140	40	160	50	175	55	175						
time [s]	temperature [°C]																										
0	0																										
5	20																										
10	50																										
20	100																										
30	140																										
40	160																										
50	175																										
55	175																										
	154082	10 V	 <p>A line graph showing the heat-up curve for heater 154082. The x-axis is labeled 'time [s]' and ranges from -5 to 55. The y-axis is labeled 'temperature [°C]' and ranges from 0 to 500. The curve starts at (0,0) and rises steeply, leveling off around 400°C after approximately 20 seconds.</p> <table border="1"><caption>Estimated data points for heater 154082</caption><thead><tr><th>time [s]</th><th>temperature [°C]</th></tr></thead><tbody><tr><td>0</td><td>0</td></tr><tr><td>2</td><td>100</td></tr><tr><td>5</td><td>200</td></tr><tr><td>10</td><td>280</td></tr><tr><td>20</td><td>350</td></tr><tr><td>30</td><td>380</td></tr><tr><td>40</td><td>400</td></tr><tr><td>50</td><td>400</td></tr><tr><td>55</td><td>400</td></tr></tbody></table>	time [s]	temperature [°C]	0	0	2	100	5	200	10	280	20	350	30	380	40	400	50	400	55	400				
time [s]	temperature [°C]																										
0	0																										
2	100																										
5	200																										
10	280																										
20	350																										
30	380																										
40	400																										
50	400																										
55	400																										
	155358	9 V	 <p>A line graph showing the heat-up curve for heater 155358. The x-axis is labeled 'time [s]' and ranges from -5 to 55. The y-axis is labeled 'temperature [°C]' and ranges from 0 to 1000. The curve starts at (0,0) and rises steeply, leveling off around 850°C after approximately 30 seconds. At 45 seconds, the temperature drops sharply to about 650°C.</p> <table border="1"><caption>Estimated data points for heater 155358</caption><thead><tr><th>time [s]</th><th>temperature [°C]</th></tr></thead><tbody><tr><td>0</td><td>0</td></tr><tr><td>2</td><td>400</td></tr><tr><td>5</td><td>600</td></tr><tr><td>10</td><td>750</td></tr><tr><td>20</td><td>820</td></tr><tr><td>30</td><td>850</td></tr><tr><td>40</td><td>850</td></tr><tr><td>45</td><td>850</td></tr><tr><td>48</td><td>650</td></tr><tr><td>50</td><td>650</td></tr><tr><td>55</td><td>650</td></tr></tbody></table>	time [s]	temperature [°C]	0	0	2	400	5	600	10	750	20	820	30	850	40	850	45	850	48	650	50	650	55	650
time [s]	temperature [°C]																										
0	0																										
2	400																										
5	600																										
10	750																										
20	820																										
30	850																										
40	850																										
45	850																										
48	650																										
50	650																										
55	650																										



Order information

Product name	Order Code	Dimensions (L x W x H/ H2,LW)	Resistance [Ω] at 0°C (± 20%)	Materials	Temperature range [°C]
HST.P05R0.0505.63A.4W.020	154078	5 x 5 x 0.6/ 1.1, 20	5	Platinum heater on Al ₂ O ₃ with Ag-wire, Ø 0.25 mm	-50 to +400
HST.P05R0.0505.38Z.10W.015	155506	5 x 5 x 0.4/0.9, 15	5	Platinum heater on ZrO ₂ with Pt-wire, Ø 0.2 mm, 15 mm long	-50 to +850
HST.P11R0.1010.63A.2L.020	154081	10 x 10 x 0.6/ 1.1, 20	11	Platinum heater on Al ₂ O ₃ with Cu/Ag wire, AWG28, PTFE insulated, red	-50 to +200
HST.P05R8.1515.63A.4W.020	154082	15 x 15 x 0.6/ 1.1, 20	5.8	Platinum heater on Al ₂ O ₃ with Ag-wire, Ø 0.25 mm	-50 to +400
HST.P05R0.0505.63A.10W.015	155358	5 x 5 x 0.6/ 1.1, 15	5	Platinum heater on Al ₂ O ₃ with Pt-wire, Ø 0.2 mm	-50 to +850

For customized heater options contact us!



Innovative Sensor Technology IST AG • Stegrütistrasse 14 • 9642 Ebnat-Kappel • Switzerland
+41 71 992 01 00 • info@ist-ag.com • www.ist-ag.com

All mechanical dimensions are valid at 25 °C ambient temperature, if not differently indicated • All data except the mechanical dimensions only have information purposes and are not to be understood as assured characteristics • Technical changes or product specifications without previous announcement reserved • The information on this data sheet was examined carefully and will be accepted as correct; No liability in case of mistakes • Load with extreme values during a longer period can affect the reliability • The material contained herein may not be reproduced, adapted, merged, translated, stored, or used without the prior written consent of the copyright owner • All rights reserved.