

## 1.1.2.7 High Power Thermal Sensors

### 1.1.2.7.2 High Power Water Cooled Thermal Sensors

#### 0.5W to 300W

##### Features

- High powers
- Water cooled
- Up to 300W
- Ø50mm aperture



Model	L250W	L300W-LP2-50
<b>Use</b>	<b>General purpose</b>	<b>High power densities and long pulses</b>
Absorber Type	Broadband	LP2
Spectral Range $\mu\text{m}$	0.19 - 20	0.35-2.2, 10.6 <sup>(a)</sup>
Absorption	~88%	>96% from 0.35 to 1.1 $\mu\text{m}$ , 75% for 10.6 $\mu\text{m}$
Aperture mm	Ø50mm	Ø50mm
<b>Power Mode</b>		
Power Range	1W - 250W	0.5W - 300W
Power Scales	250W / 30W	300W / 30W
Power Noise Level	50mW	20mW
Maximum Average Power Density kW/cm <sup>2</sup>	10 at 250W 14 at 100W	12 at 300W 20 at 150W
Response Time with Meter (0-95%) typ. s	2.5	2.5
Power Accuracy +/-%	3	3 <sup>(a)</sup>
Linearity with Power +/-%	2	1.5
<b>Energy Mode</b>		
Energy Range	120mJ - 200J	200mJ - 300J
Energy Scales	200J / 30J / 3J	300J / 30J / 3J
Minimum Energy mJ	120	200
Maximum Energy Density J/cm <sup>2</sup>		
<100ns	0.3	0.07
1 $\mu\text{s}$	0.4	0.6
0.5ms	5	35
2ms	10	90
10ms	30	270
Cooling	water	water
Recommended water flow at full power <sup>(b)</sup>	3 liter/min	3 liter/min
Accessories for High Power Sensors	See pages 77-81	See pages 77-81
Weight kg	0.6	0.6
Compliance	CE, China RoHS	CE, China RoHS
Version		
<b>Part number</b>	<b>7Z02688</b>	<b>7Z02776</b>

Notes: (a)

This LP2 sensor is calibrated for 0.35 - 1.1 $\mu\text{m}$  and 10.6 $\mu\text{m}$ . For other wavelengths in the spectral range 1100 - 2200nm there is an additional calibration uncertainty of up to 1%.

Notes: (b)

Water temperature range 18-30°C. Water temperature rate of change <1°C/min. Pressure drop across sensor 0.03MPa.

