

## **PCB-Mounted Laser Power Detectors**

## **FEATURES**

- gRAY Laser Detector on a metal-core PCB (acts as heat sink), no thermal integration needed
- 100 μW to 5 W power range
- Sensitive to all wavelengths from UV to MIR
- Integrated NTC thermistor
- Simple, compact and robust mounting
- Optional: NIST/PTB traceable calibration

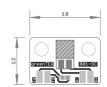


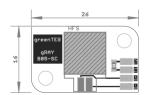


gRAY B05-SMC

Product Name	gRAY B01-SMC	gRAY B05-SMC
Article Number	A-071356	A-071351
Detector Type	Thermopile	Thermopile
Spectral Range [µm]	0.19 - 15	0.19 - 15
Board Dimensions (w x I) [mm]	18 x 12	26 x 16
PCB Base Material	1.5 mm alu-core PCB	1.5 mm alu-core PCB
Product Thickness (t) [mm]	2.0	2.0
Sensing Area (a x b) [mm x mm]	4.4 x 4.4	10.0 x 10.0
Max. Power [W]	1 (additional cooling necessary by heat sink)	5 (additional cooling necessary by heat sink)
Power Resolution <sup>a</sup> [µW]	10	10
Min. Detectable Power [μW]	100	100
Max. Average Power Density [kW/cm²]	1.5	1.5
Max. Energy Density <sup>b</sup> [J/cm <sup>2</sup> ]	0.125 (@ 1064 nm, 10 ns) 0.173 (@ 266 nm, 4.8 ns)	0.125 (@ 1064 nm, 10 ns) 0.173 (@ 266 nm, 4.8 ns)
Min. Sensitivity <sup>c</sup> (Z) [mV/W]	100	100
Temperature Dependence of Z [%/°C]	0.125	0.125
Integrated Temperature Sensor	NTC 10 kOhm	NTC 10 kOhm
Rise Time (0-95%) [s]	1.1	1.1
Linearity with Power [±%]	0.2	0.2
Operating Temperature Range Min / Max [°C]	-50 / 100	-50 / 100
Cooling Method	Conduction, convection	Conduction, convection
Electrical Connection	Solder pads	Solder pads
Mounting Method	Screws (2 x M3) and/or thermal glue gSKIN® MOUNT-1213 (A-018884)	Screws (2 x M3) and/or thermal glue gSKIN® MOUNT-1213 (A-018884)

Experimentally evaluated values under optimal steady state conditions.
Limited by noise of measurement device
Carried out by certified LIDT laboratory.
For applications with highest precision requirements, greenTEG recommends an optical calibration once the gRAY sensor is integrated into the final system.





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