



PCB-Mounted Laser Power Detectors

FEATURES

- gRAY Laser Detector on a metal-core PCB (acts as heat sink), no thermal integration needed
- 100 μ W 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



Product Name	gRAY B01-SMC	gRAY B05-SMC
Article Number	A-071356	A-071351
Detector Type	Thermopile	Thermopile
Spectral Range [μ m]	0.19 - 15	0.19 - 15
Board Dimensions (w x l) [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 ^a [μ W]	10	10
Min. Detectable Power [μ W]	100	100
Max. Average Power Density [kW/cm ²]	1.5	1.5
Max. Energy Density ^b [J/cm ²]	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 ^c (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)

^a Experimentally evaluated values under optimal steady state conditions.

^b Limited by noise of measurement device

^c Carried out by certified LIDT laboratory.

^c For applications with highest precision requirements, greenTEG recommends an optical calibration once the gRAY sensor is integrated into the final system.

