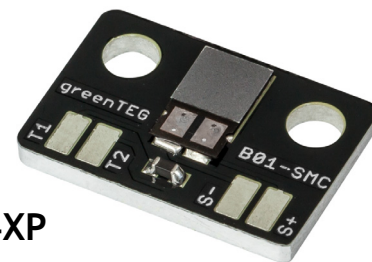


PCB-Mounted Thermal Detector



TD4XP

Description

The TD4XP features the compact TD4X thermopile-based detector mounted on a metal-core PCB and includes an integrated thermistor. The TD4XP measures optical power levels between 100 μW and 1 W. Its active sensing area of 4.4 mm x 4.4 mm possesses a nearly flat broadband spectral absorption ranging from the UV through the MIR, has negligible dependency on angle of incidence, and a homogeneous response over the full sensing area. The copper solder pads on the PCB facilitate electrical connection to the voltmeter and the thermistor. Two mounting holes allow for integration of the TD4XP with other components.

Please read the *Handling Instructions* document for information on mounting the thermal detector, making electrical connections, maintenance, and safety.

The *Handling Instructions* document can be downloaded at www.thorlabs.com/manuals.cfm.

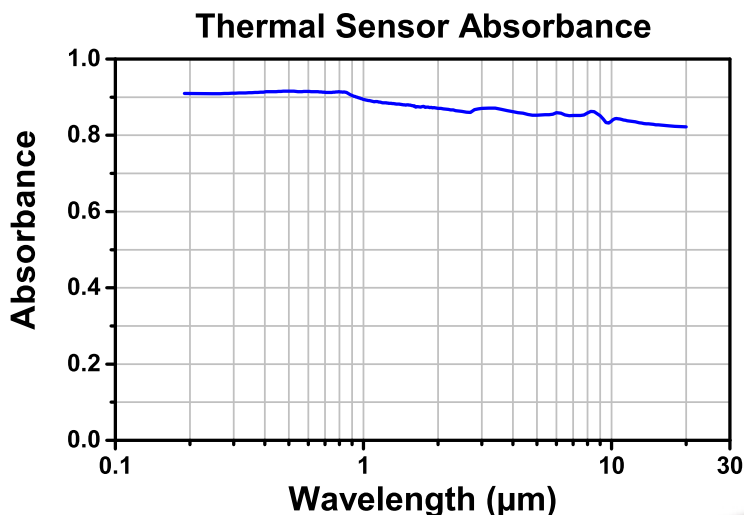
Specifications

TD4XP	
Detector Type	Thermopile
Wavelength Range	190 nm - 20 μm
Optical Power Working Range ^a	100 μW - 1 W
Max Average Power Density ^b	1.5 kW/cm ²
Max Pulse Energy Density	0.3 J/cm ² (1 ns Pulse), 5 J/cm ² (1 ms Pulse)
Typical Responsivity	>100 mV/W
Linearity with Optical Power	$\pm 0.2\%$
Rise Time ^c	1.1 s
Active Sensor Area	4.4 mm x 4.4 mm (0.17" x 0.17")
Active Area Uniformity	$\pm 1\%$ (>1 mm Beam Diameter)
Temperature Sensor	NTC Thermistor, 10 k Ω
Detector Dimensions	18.0 mm x 12.0 mm x 2.6 mm (0.71" x 0.47" x 0.11")
Mounting	Two $\varnothing 3.3$ mm ($\varnothing 0.13$ ") Mounting Holes
Connection	Wire

a. Mounting on appropriate heat sink is required.

b. Damage Threshold

c. Typical Natural Response Time (0 - 95%)



Drawing

