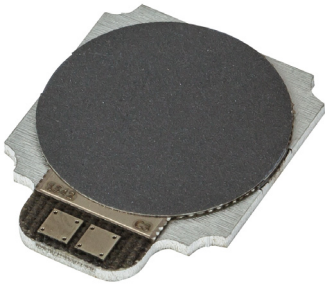
Mounted Thermal Detector



TD15A

Description

The TD15A features a round thermopile detector (Ø15 mm) for measuring power levels between 1 mW and 50 W with very short rise times of 0.6 s. The sensor is surface mounted on an aluminum metal plate. The active sensing area 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 metal plate has four quarter-hole mounting points with 1.6 mm radii to facilitate integrating the TD15A with other components.

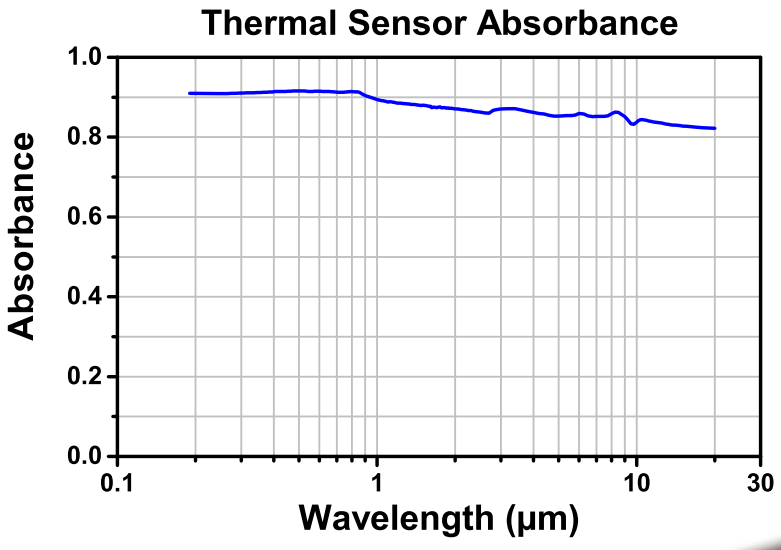
Please read the *Handling Instructions* document for information on mounting the thermal detector, making electrical connections, maintenance, and safety.

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

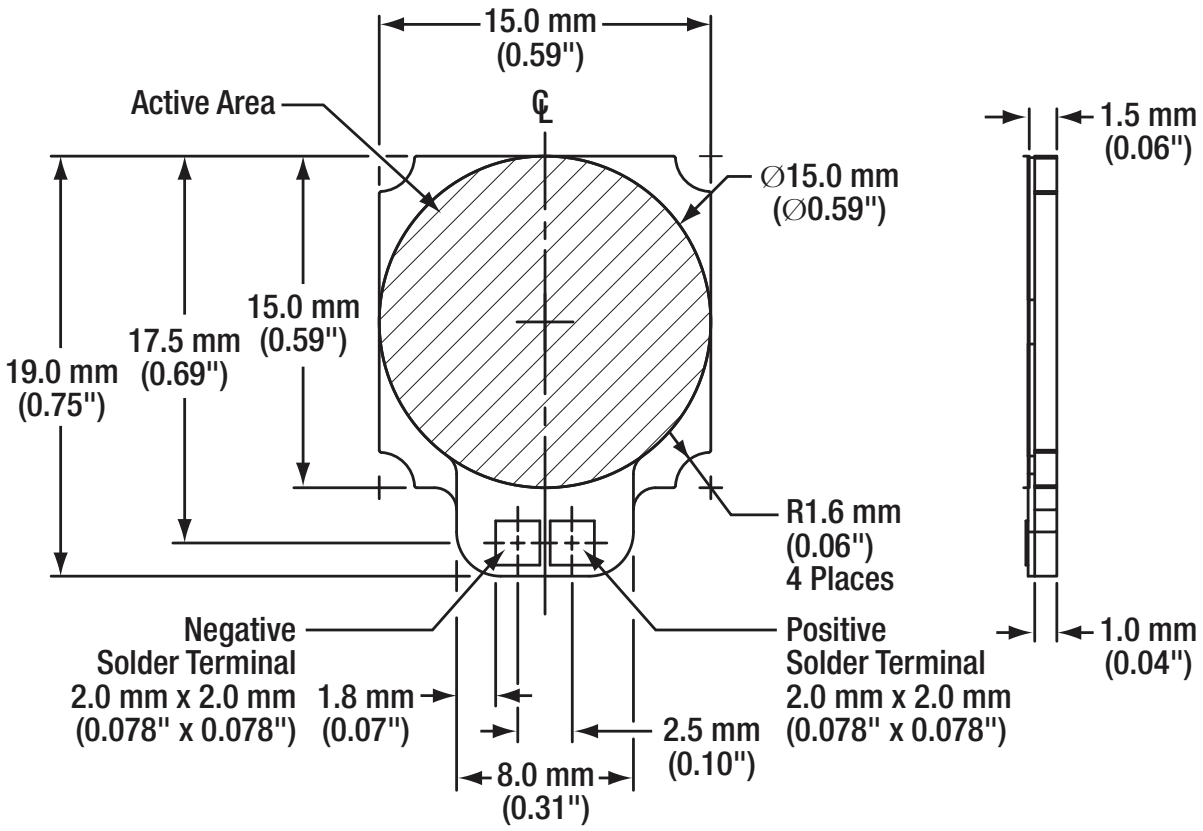
Specifications

TD15A	
Detector Type	Thermopile
Wavelength Range	190 nm - 20 µm
Optical Power Working Range[a]	1 mW - 50 W
Max Average Power Density[b]	1.5 kW/cm²
Max Pulse Energy Density	0.3 J/cm² (1 ns Pulse), 5 J/cm² (1 ms Pulse)
Typical Responsivity	1 mV/W
Linearity with Optical Power	±0.2%
Rise Time[c]	0.6 s
Active Senor Area	Ø15.0 mm (Ø0.59")
Active Area Uniformity	±1% (>1 mm Beam Diameter)
Detector Dimensions	15.0 mm x 19.0 mm x 1.5 mm (0.59" x 0.75" x 0.06")
Mounting	Four 1.6 mm (0.06") Radius Quarter-Hole Mounting Points
Connection	Wire

a. Mounting on appropriate heat sink is required.
b. Damage Threshold
c. Typical Natural Response Time (0 - 95%)



Drawing


15.0 mm
(0.59")
Active Area
℄
Ø15.0 mm
(Ø0.59")
1.5 mm
(0.06")
15.0 mm
(0.59")
17.5 mm
(0.69")
19.0 mm
(0.75")
R1.6 mm
(0.06")
4 Places
Negative
Solder Terminal
2.0 mm x 2.0 mm
(0.078" x 0.078")
1.8 mm
(0.07")
2.5 mm
(0.10")
8.0 mm
(0.31")
Positive
Solder Terminal
2.0 mm x 2.0 mm
(0.078" x 0.078")
1.0 mm
(0.04")