

Specifications TF-LFA L54

TF-LFA L54	
Sample dimensions	Any shape with lateral dimensions between 2 mm x 2 mm and 25 mm x 25 mm
Thin film samples	Standard version*
	With measurement range extension*
	<p>Low conductive material: From 30 nm to 20 µm</p> <p>Moderate conductive material: From 200 nm to 20 µm</p> <p>High conductive material: From 1 µm to 20 µm</p>
	<p>Low conductive material: From 10 nm to 20 µm</p> <p>Moderate conductive material: From 10 nm to 20 µm</p> <p>High conductive material: From 80 µm to 20 µm</p>
Temperature range	-100 °C up to 500 °C Sample holder for 4" Wafer (only RT)
Measured properties	<p>Thermal conductivity: 0.01 W/mK - 2000 W/mK</p> <p>Thermal diffusivity: 0.01 mm²/s - 1200 mm²/s</p> <p>Thermal interface resistance: 0.1 MW/m²K - 100 MW/m²K</p> <p>Volumetric specific heat capacity: 0.1 MJ/m³K - 10 MJ/m³K</p> <p>Thermal effusivity: 1000 Ws^{1/2}/m²K - 100000 Ws^{1/2}/m²K</p>
Options	Anisotropy
	Sample mapping
	Camera
	<p>Hardware and Software extension to extend the capabilities of the system to measure the in-plane thermal transport properties. Thus anisotropy investigations can be performed.</p> <p>Scanning multiple positions of the sample pointwise or clusterwise. Mapping area: 10mm² Stepsize: 50 µm</p> <p>Allows the user to view the present sample surface and the position of the laser beams to record the actual measurement position.</p>
Atmosphere	inert, oxidizing or reducing vacuum up to 10 E-4
Pump laser	CW Laser (405 nm, 300 mW, modulations frequency up to 200 MHz)

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Probe laser	CW Laser (532 nm, 15 mW)
Photodetector	Si Avalanche Photodetector, active diameter: 0.2 mm, bandwidth: DC - 400 MHz
Power supply	AC 100 V ~ 240 V, 50/60 Hz, 1 kVA
Software	Included. Software package using multi-layer analysis for calculation of thermophysical properties

*Actual thickness range depends on sample