

SPECIFICATIONS

Thermophysical properties and heat transfer optimization are increasingly important for industrial applications. Non-destructive optical methods are now widely used to measure thermal diffusivity and conductivity in solids, powders, and liquids. Thin film properties are critical in industries like optical media, thermoelectrics, LEDs, and semiconductors, where films differ from bulk materials and are essential for thermal management.

TF-LFA

Sample dimensions:	Any shape between 2mm x 2mm and 25mm x 25mm lateral size		
Thin film samples:	10nm up to 20 μ m* (depends on sample)		
Temperature range:	RT, RT up to 200/500°C Sample holder for 4" Wafer (only RT)		
Measured properties	Thermal conductivity Thermal diffusivity Thermal interface resistance Volumetric specific heat capacity Thermal effusivity		
Options	Anisotropy	Sample mapping	Camera
	Measurement of cross-plane and in-plane thermal properties	Scanning multiple positions of the sample pointwise or clusterwise. Mapping area: 10 mm ² Stepsize: 50 μ m	Allows the user to view the present sample surface and the position of the laser beams to record the actual measurement position.
Atmosphere:	inert, oxidizing or reducing vacuum up to 10E-4		
Diffusivity Measuring range:	0.01mm ² /s up to 1200mm ² /s (depends on sample)		
Pump laser:	CW Laser (405 nm, 300 mW, modulations frequency up to 200 MHz)		
Probe laser:	CW Laser (532 nm, 25 mW)		
Photodetector	Si Avalanche Photodetector, active diameter: 0.2 mm, bandwidth: DC - 400MHz		
Power supply	AC 100V ~ 240V, 50/60 Hz, 1 kVA		
Software	Included. Software package using multi-layer analysis for calculation of thermophysical properties		

*actual thickness range depends on sample