Linseis Messgeräte GmbH | Vielitzerstr. 43 | D-95100 Selb

TF-LFA L54

Frequency Domain Thermoreflectance

Specifications

	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***
	Low conductive material: From 30 nm to 20 µm Moderate conductive material: From 200 nm to 20 µm High conductive material: From 1 µm to 20 µm	Low conductive material: From 10 nm to 20 µm Moderate conductive material: From 10 nm to 20 µm High conductive material: From 80 µm to 20 µm
Temperature range	-100 °C up to 500 °C Sample holder for 4“ Wafer (only RT)	
Measured properties	Thermal conductivity: 0.01 W/mK - 2000 W/mK Thermal diffusivity: 0.01 mm^2/s - 1200 mm^2/s Thermal interface resistance: 0.1 MW/m^2K - 100 MW/m^2K Volumetric specific heat capacitiy: 0.1 MJ/m^3K - 10 MJ/m^3K Thermal effusivity: 1000 $Ws1/2/m^2K$ - 100000 $Ws1/2/m^2K$	

*Actual thickness range depends on sample

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Options	**Anisotrophy**	**Sample mapping**	**Flexible Probe Laser**
	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 **Patented: EP4459262B1**	Scanning multiple positions of the sample pointwise or clusterwise. Mapping area: 10 mm² Stepsize: 50 µm	Selectable transducer material (e.g., gold, aluminium, molybdenum, etc.) with optimized probe laser wavelengths to ensure reliable signal detection. An optional dual-laser setup provides maximum flexibility by supporting both transducer materials within one system.
Atmosphere	inert, oxidizing or reducing vaccuum up to 10 E^{-4}		
Integrated Camera	Allows the user to view the present sample surface and the position of the laser beams to record the actual measurement position.		
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 - 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		