NANOTEST
Berliner Nanotest und Design GmbH

TIMA 5

Description

TIMA – Thermal Interface Material Analyzer – is a comprehensive measurement system for thermal material characterization aiming at materials with low to medium thermal conductivity and covering all material classes from solids to highly viscous liquids ($\eta \gg 10^3$).

TIMA complies with the ASTM standard D 5470-17 for application-related thermal characterization of TIM2 material and offers a wide range of measurements beyond the standard. The test stand is a benchtop system and comes with a powerful and easy-to-use software suite that minimizes the time to result.

Technical Specification

System

System type	Benchtop material characterization system	
Footprint (w × d)	35 × 40	cm^2
Height	75	cm
Weight	50	kg
Power supply	100 … 230	VAC
	50 … 60	Hz
	600	W

Measurement

Measurement type	Thermal steady-state characterization	
Applied standards	ASTM D 5470-17	
Output	Thermal resistance	cm^2K/W
	Thermal conductivity	W/(m·K)
	Thermal interface resistance	cm^2K/W
Resolution	0.01	cm^2K/W

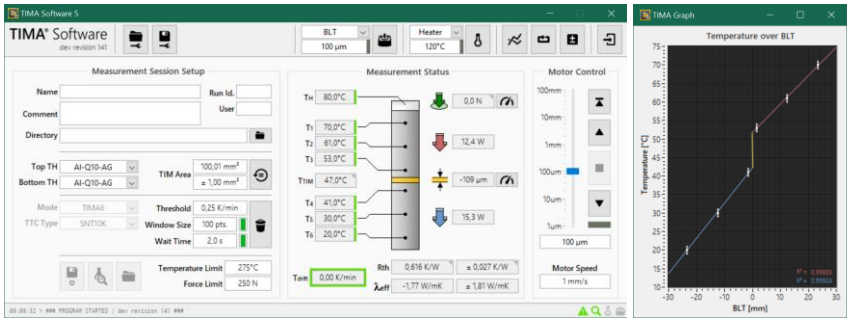
Sample

	min	max	
Sample size (round, diameter)	8	24	mm
Sample size (square, edge length)	10	17.5	mm
Sample thickness	0.002	25	mm
Sample temperature	30	150	°C
Sample mechanical loading	-3.5	3.5	MPa
	-500	500	Psi

Sensor accuracy

Sensor temperatures	± 0.2	K
Sample temperature	± 0.05	K
Sample thickness	± 3	µm
Mechanical load	± 1	N

Software screenshot



Key features

- Full ASTM D 5470 compliance
- Compact and all-in-one
- Automated measurement
- Equally convenient as comprehensive
- High thermal and mechanical loading

Key functions

- Thermal resistance measurement
- Thermal conductivity determination
- Thermal interface resistance analysis
- Thermo-mechanical aging investigation

Scope of samples

- Thermal interface material
  - Pastes and greases
  - Gap pads and fillers
  - Foils and sheets
- Cured material
  - Mold compound
  - Underfiller
  - Adhesives
- Substrates and interposer