Technical Specifications

NETZSCH

	NanoTR	*PicoTR*
Pump laser	Pulse width: 1 ns Wave length: 1550 nm Beam diameter: 100 µm	Pulse width: 0.5 ps Wave length: 1550 nm Beam diameter: 45 µm
Probe laser	CW laser Wave length: 785 nm Beam diameter: 50 µm	Pulse width: 0.5 ps Wave length: 775 nm Beam diameter: 25 µm
Physical properties/ quantities	Thermal diffusivity and effusivity, interfacial resistance	Thermal diffusivity and effusivity, interfacial resistance
Measurement time	Less than 30 seconds	Less than 5 minutes
Sample film thickness (RF mode)	Resins: 30 nm ... 2 µm Ceramics: 300 nm ... 5 µm Metals: 1 µm ... 20 µm	Resins: 10 nm ... 100 nm Ceramics: 10 nm ... 300 nm Metals: 100 nm ... 900 nm
Sample film thickness (FF mode)	Thicker than 1 µm	Thicker than 100 nm
Substrate	Optical properties: opaque/transparent Size: 10 ... 20 mm square Thickness: 1 mm or less	Optical properties: opaque/transparent Size: 10 ... 20 mm square Thickness: 1 mm or less
Thermal diffusivity	Range: 0.01 ... 1000 mm^2/s Accuracy: ±7.9% (for CRM 5810-a in RF mode, 543.8-nm thickness TiN) Repeatability: ±5%	Range: 0.01 ... 1000 mm^2/s Accuracy: ±6.2% (for CRM 5808-a in RF mode, 421-nm thickness Mo) Repeatability: ±5%
Software	Calculation of thermal properties, multi-layer analysis, database	Calculation of thermal properties, multi-layer analysis, database
Power supply	AC100 V ~240 V (±10%); 50/60 Hz, 0.5 kVA	AC100 V ~240 V (±10%); 50/60 Hz, 1.5 kVA
Weight	40 kg	90 kg
Temperature range (selectable)	RT / RT ... 500°C	RT / RT ... 500°C / -100 ... 500°C
X-Y scanning in FF mode (optional)	10 x 10 mm area, 1µm resolution	8 x 14 mm area, 2 µm resolution