

TΩCS[®]

Three-Omega Characterization System

Thermal conductivity and diffusivity
Stunningly simple. Abundantly accurate.



A straightforward solution. From solids to liquids.

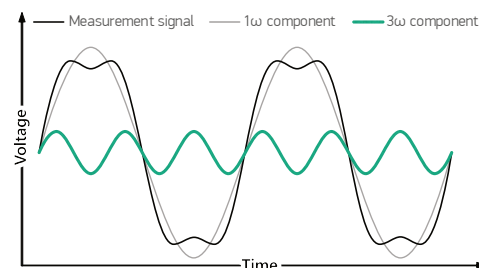
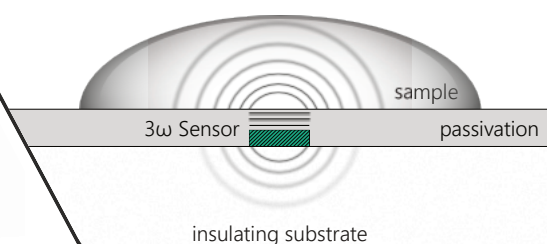
TOCS is a compact rapid characterization system for a wide range of samples from various material classes to obtain thermal conductivity and diffusivity within a few minutes.

Sample range

- Liquids and suspensions
- Gels, pastes and oils
- Filled greases
- Pads and soft materials

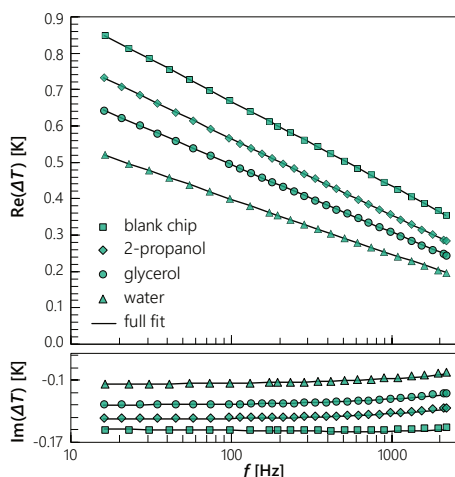
System features

- Compact benchtop system
- Re-usable test chips
- Removable sample holder
- Complete hard- and software solution
- Compatible with any other 3-omega measurement structure

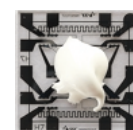
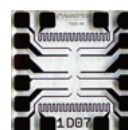


Thermal conductivity and diffusivity

The bi-directional model fit of the 3-omega method simultaneously yields thermal conductivity and diffusivity of the tested material. Thermal conductivity, in particular, is available within a minute.

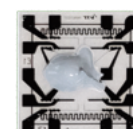


- All-in-one software suite
- Very fast measurement with high reproducibility
- Curing and non-curing materials
- Measurement in application-specific environments
 - Vacuum or protective gas
 - Elevated temperatures
 - High atmospheric pressures



Ceramic-filled thermal grease

Curing gap filler



Ga-based liquid metal

Silver-filled thermal grease

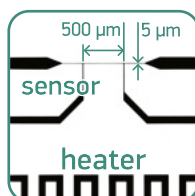
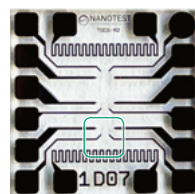
Your system, your rules

TOCS supports the use of any 3-omega-capable sensor structure plug-and-play. Out of the box. You don't have your own chips or sensors at hand?

Do not despair: We have the right one for you.

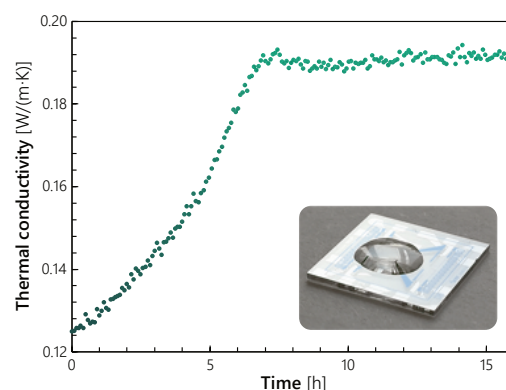
Our chip

- Borosilicate glass chip
- 12 × 12 mm² size
- Three 3-omega sensor structures
- Two independent heaters
- Low-budget consumable



Curing and measuring in-situ yields thermal characteristics with high thermal and time resolution.

This example is a common epoxy curing at room temperature.



learn more

nanotest.eu/tocs