

SEMILAB DLS-83D Deep Level Transient Spectroscopy



Description

The DLS-83D offers a fully automatic measurement mode, as well as provides complete interpretation of the measured data, including impurity identification and concentration determination without any need for user interaction.

The Deep Level Transient Spectroscopy (DLTS) is the best technique for monitoring and characterizing deep levels caused by intentionally or unintentionally introduced impurities and defects in semiconductor materials and complete devices. It is an extremely versatile method for determining all parameters associated with deep traps, including energy level, capturing cross-section and concentration distribution. It allows the identification of the impurities, and is capable of detecting contamination concentrations below 109 atoms/cm3.



Features and system specifications:

- Highest sensitivity (109 atoms/cm3) for detection of trace levels of contamination
- Interfacing to a broad range of cryostats
- Wide range of measurement modes:
 - o temperature scan
 - frequency scan
 - o depth profiling
 - o C-V characterization
 - o capture cross-section measurement
 - \circ optical injection
 - o constant capacitance feedback loop
 - conductance transient measurements
 - MOS interface state density distribution
- controlled by digital and analog settings to allow real ease of operation
- sample quality test by I-V, C-V
- full computer control with extensive software support, complete library database for accurate contamination identification