

AST-MWIR (Workstation) Mid-Wave Infrared Inspection System

MWIR Thermography is highly effective as a non-contact diagnostic tool for quickly identifying where thermal problems are occurring providing a good solution for performing package-level reliability testing, detecting defective cells, damaged bond wires, voids in die attach, or localized shorts that produce visible hot regions (hot spot detection) when inspecting power modules, busbars, or assemblies under load as a solution for rapid fault localization and analysis to flag abnormal heating & defect detection.

AST-MWIR System enables thermally identifiable defects within the mid-wave 3-5 μ m IR band where power devices typically operate, provides optimum thermal contrast for inspection and detecting surface & sub-surface defects.

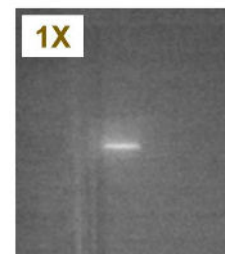
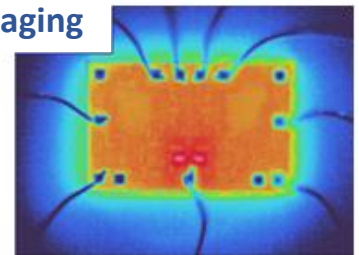
APPLICATIONS

- Detection of Thermally Identifiable Defects within the Mid-Wave 3-5 μ m IR Band
- Thermal Detection to 20 mK
- Thermal Imaging Hot Spot Detection in Power Semiconductors, Modules, & Devices
- MWIR Thermography Solutions for Package-level Reliability Testing & Rapid Fault Localization
- Process & System Monitoring: Inline Inspection of Power Modules, Busbars, or packaged power chips & assemblies under load to flag abnormal heating
- Thermo Graphic Applications in Semiconductor, Medical Devices, Aerospace, & Material Sciences

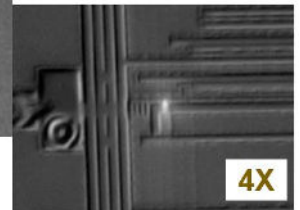


AST Mid-Wave Infrared Inspection System

Thermal Imaging



Hot Spot Detection



Mid-Wave Infrared Inspection System

SPECIFICATIONS

CAPABILITY OVERVIEW

- Thermographic Microscope for detection of defects using MWIR band (3-5 microns)
- Thermal detection to 20 mK
- Fully integrated & self-contained workstation with dual probe platforms
- Supports “Black Body” option for enhanced sub-surface defect detection
- Advanced system & image analysis software
- InSb FPA on a closed cycle dewar (no LN2 required)
- Magnifications from macro to 1x, 2.5x, 4x, 5x, and 8x
- Spatial resolution below 10 microns
- (Optional) “Lock-In Thermography” option available to detect weak thermal signals for capturing subtle subsurface defects
- (Optional) Cooled MWIR camera (InSb/MCT) option for high frame rate & detection sensitivity

PLATFORM DESCRIPTION

- 200mm x 200mm Travel Precision X-Y Stage, Motorized
- 150mm Travel Z-axis, Motorized
- Workstation Rack-Mount Computer with ScopeViewer™ Software
- Integrated Probe Platforms on each side of X-Y Stage
- Magnification from Macro to 1x, 2.5x, 4x, 5x, and 8x
- InSb FPA on a closed cycle dewar (no LN2 required)
- Cooled InSb/MCT MWIR camera is optional

SOFTWARE

- ScopeViewer3 Software Application Suite
- Flexible Part-Programming
- Advanced Vision Tools & Metrology Features
- Full Recipe Control of all Imaging Functions
- Recipe Generation in Python Layer

