Lock-in IR Thermography for Functional Testing of Electronic Devices

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Abstract

Lock-in thermography (LIT), which is a standard tool in nondestructive testing (NDT), is also very advantageous for electronic device testing (EDT). In this contribution the special points of view of LIT applied in EDT are reviewed. For example, in EDT the power generation is usually not sinusoidal but square-shaped (on / off), and the lock-in correlation is gegerally synchronized to the frame rate of the IR camera. As for NDT the display of the phase image suppresses the emissivity contrast, but in EDT also the display of the 0° image or the -90° image may be advantageous. A novel kind of the realization of synchroneous undersampling is described.

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