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Accession number:20122915253466
Title:Failure mechanism of THz GaAs photoconductive antenna
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Source title:Applied Physics Letters
Abbreviated source title:Appl Phys Lett
Volume:101
Issue:1
Issue date:July 2, 2012
Publication year:2012
Article number:011910
Language:English
ISSN:00036951
CODEN:APPLAB
Document type:Journal article (JA)
Publisher:American Institute of Physics, 2 Huntington Quadrangle, Suite N101, Melville, NY 11747-4502, United States
Abstract:We investigated the failure mechanism of THz GaAs photoconductive antenna using high resolution x-ray diffraction topography. From these studies, it was found that grain boundaries are formed during the high frequency device operation. This results in the segregation of gold at the boundaries causing electromigration of the metal between the gold micro-strips. This disrupts the photocurrents from being produced by femtosecond laser thus preventing terahertz beam generation from the photoconductive antennae leading to device failure. © 2012 U.S. Government.
Number of references:14
Main heading:Microwave antennas
Controlled terms:Gallium arsenide - Gold - Grain boundaries - Semiconducting gallium - X ray diffraction
Uncontrolled terms:Beam generation - Device failures - Failure mechanism - GaAs - High frequency devices - High resolution X ray diffraction - Micro-strips - Photoconductive antennas - Tera Hertz
Classification code:547.1 Precious Metals - 712.1.1 Single Element Semiconducting Materials - 716 Telecommunication; Radar, Radio and Television - 804 Chemical Products Generally - 931.3 Atomic and Molecular Physics - 933.1 Crystalline Solids
DOI:10.1063/1.4733476
Database:Compendex