## Chang-Chun Lee

## List of Publications by Year

 in descending order[^0]
Investigation of solder crack behavior and fatigue life of the power module on different thermal
cycling period. Microelectronic Engineering, 2013,107,125-129.
2.4
92
cycling period. Microelectronic Engineering, 2013, 107, 125-129.
4
Light degradation test and design of thermal performance for high-power light-emitting diodes.
Open-loop altitude-azimuth concentrated solar tracking system for solar-thermal applications. Solar
11 Reliability estimation and failure mode prediction for 3D chip stacking package with the application of wafer-level underfill. Microelectronic Engineering, 2013, 107, 107-113.
2.4 ..... 18
12 Solder joints layout design and reliability enhancement of wafer level packaging. , 0, , .17
13 Nanonetwork Thermosets from Templated Polymerization for Enhanced Energy Dissipation. Nano Letters, 2021, 21, 3355-3363. 9.1 ..... 17Interfacial Fracture Analysis of CMOS Cu/Low-\$k\$ BEOL Interconnect in Advanced PackagingStructures. IEEE Transactions on Advanced Packaging, 2009, 32, 53-61.
Development of Cu/Ni/SnAg Microbump Bonding Processes for Thin Chip-on-Chip Packages Via
15 Wafer-Level Underfill Film. IEEE Transactions on Components, Packaging and Manufacturing2.515Technology, 2012, 2, 1412-1419.
Comparison of Mechanical Modeling to Warpage Estimation of RDL-First Fan-Out Panel-Level16 Packaging. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2022, 12,
.

Electrical characteristics and reliability performance of IGBT power device packaging by chip

23 Sensitivity Design of DL-WLCSP Using DOE With Factorial Analysis Technology. IEEE Transactions on \begin{tabular}{l}
Advanced Packaging, 2007, 30, 44-55.

 24 

Reliability enhancements of chip-on-chip package with layout designs of microbumps. Microelectronic <br>
Engineering, 2014, 120, 138-145.
\end{tabular}

Prediction of interfacial adhesion strength of nanoscale Al/TiN films passed through patterned BEOL
interconnects. Materials Science in Semiconductor Processing, 2015, 39, 1-5.

28 | Reliability-Based Design Guidance of Three-Dimensional Integrated Circuits Packaging Using Thermal |
| :--- |
| Compression Bonding and Dummy Cu/Ni/SnAg Microbumps. Journal of Electronic Packaging, |
| Transactions of the ASME, 2014, 136, . |

29 3D structure design and reliability analysis of wafer level package with bubble-like stress buffer layer.
, 0, .

30 Adhesion investigation of low-k films system using 4-point bending test. Thin Solid Films, 2009, 517,
1.8

8
4875-4878.
$4.0 \quad 10$

Effect of Wafer Level Underfill on the Microbump Reliability of Ultrathin-Chip Stacking Type 3D-IC
31 Assembly during Thermal Cycling Tests. Materials, 2017, 10, 1220.

Induced thermo-mechanical reliability of copper-filled TSV interposer by transient selective annealing technology. Microelectronics Reliability, 2015, 55, 2213-2219.
1.7

7

Flexural Capability of Patterned Transparent Conductive Substrate by Performing Electrical Measurements and Stress Simulations. Materials, 2016, 9, 850.
2.9

Dependent Analyses of Multilayered Material/Geometrical Characteristics on the Mechanical
34 Reliability of Flexible Display Devices. IEEE Transactions on Device and Materials Reliability, 2018, 18,
2.0

7
639-642.

35 Stability of J-integral calculation in the crack growth of copper/low-K stacked structures. , 0, , .
37

> Investigation of Optical and Flexible Characteristics for Organic-Based Cholesteric Liquid Crystal
> Display by Utilizing Bending and Torsion Loadings. Journal of Display Technology, 2015, 11, 682-688.
1.26

Demonstration of an Equivalent Material Approach for the Strain-Induced Reliability Estimation of Stacked-Chip Packaging. IEEE Transactions on Device and Materials Reliability, 2020, 20, 475-482.
2.0

6

Investigation of interconnect design on interfacial cracking energy of AI/TiN barriers under a flexural load. Thin Solid Films, 2013, 544, 530-536.
1.8

Evaluation of Die Strength by Using Finite Element Method With Experiment Validation. IEEE
Transactions on Components, Packaging and Manufacturing Technology, 2014, 4, 1152-1158.
2.5

5

Mechanical property effects of Silâ^^xGex channel and stressed contact etching stop layer on
41 nano-scaled n-type metalâ€"oxideâ€"semiconductor field effect transistors. Thin Solid Films, 2014, 557,
1.8

316-322.

42 Assembly technology development and failure analysis for three-dimensional integrated circuit
integration with ultra-thin chip stacking. Microelectronic Engineering, 2016, 156, 24-29.
2.4

5
Mixed mode interfacial crack energy estimation of glass interposer and SiNx coatings by using
43 fracture mechanics based computer methods and experimental validations. Theoretical and Applied
$4.7 \quad 5$
Fracture Mechanics, 2018, 96, 790-794.

44 Comprehensive Investigation on Warpage Management of FOPLP with Multi Embedded Ring Designs. ,
2019, , .

| 45 | Adhesion enhancement of conductive graphene/PI substrates through a vacuum plasma system. Surface and Coatings Technology, 2020, 388, 125601. | 4.8 | 5 |
| :---: | :---: | :---: | :---: |
| 46 | A Resultant Stress Effect of Contact Etching Stop Layer and Geometrical Designs of Poly Gate on Nanoscaled nMOSFETs with a Si\<SUB\>1â^x\<\|SUB\>Ge\<SUB\>x\</SUB\> Channel. Journal of Nanoscience and Nanotechnology, 2015, 15, 2173-2178. | 0.9 | 4 |
| 47 | Flatness enhancement of the embedded interposer of 3D-ICs by using ring-type framework designs. Microelectronic Engineering, 2016, 156, 30-36. | 2.4 | 4 |
| 48 | Interfacial fracture investigation of patterned active matrix OLED driven by amorphous-Si TFTs under film-type packaging technology. Applied Surface Science, 2020, 510, 145428. | 6.1 | 4 |
| 49 | Reliability evaluation of ultra thin 3D-IC package under the coupling load effects of the manufacturing process and temperature cycling test. Microelectronic Engineering, 2021, 244-246, 111572. | 2.4 | 4 |

50 Warpage Estimation of Heterogeneous Panel-Level Fan-Out Package with Fine Line RDL and Extreme Thin
Laminated Substrate Considering Molding Characteristics., 2021, , .

1.8

3 and Nanotechnology, 2012, 12, 5402-5406.
0.93

57 A New Stress Migration Failure Mode in Highly Scaled Cu/Low-\$k\$ Interconnects. IEEE Transactions on Device and Materials Reliability, 2012, 12, 529-531.

Performance Investigation of Nanoscale Strained Ge pMOSFETs with a GeSn Alloy Stressor. Journal of Nanoscience and Nanotechnology, 2015, 15, 9158-9162.
0.93

Predictions and measurements of interfacial adhesion among encapsulated thin films of flexible
1.8
devices. Thin Solid Films, 2015, 584, 154-160.

Development and demonstration of equivalent material characteristics for microbump arrays utilized in failure estimation of chip-on-chip packaging. , 2016, , .

61 Adhesion investigation of stacked coatings in organic light-emitting diode display architecture.
Surface and Coatings Technology, 2016, 303, 226-231.

Layout Study of Strained Ge-Based pMOSFETs Integrated With S/D GeSn Alloy and CESL by Using
Process-Oriented Stress Simulations. IEEE Transactions on Electron Devices, 2018, 65, 4975-4981.

Simulated and experimental demonstrations of interfacial adhesive strength for released layer
utilized in flexible electronics. Thin Solid Films, 2020, 706, 138022.

Packaging reliability estimation of high-power device modules by utilizing silver sintering technology.
$64 \quad$ Microelectronics Reliability, 2020, 114, 113890.
1.7

3

65 Analytical Model Developed for Precise Stress Estimation of Device Channel Within Advanced Planar
MOSFET Architectures. IEEE Transactions on Electron Devices, 2020, 67, 1498-1505.

Performance characteristics of strained Ge p-FinFETs under the integration of lattice and self-heating stress enabled by process-oriented finite element simulation. Applied Physics Express, 2021, 14, 035504.
2.4

3

Micro Solder Joint Reliability and Warpage Investigations of Extremely Thin Double-Layered
Stacked-Chip Packaging. Journal of Electronic Packaging, Transactions of the ASME, 2022, 144,
1.8

Estimated approach development and experimental validation of residual stress-induced warpage
4.8

3
under the SiNx PECVD coating process. Surface and Coatings Technology, 2022, 434, 128225.
Impact of channel width and dummy length on performance enhancement in p-type metal oxide
69 semiconductor field effect transistor with a silicon-germanium alloy stressor. Journal of Vacuum
1.3

Science \& Technology B, 2009, 27, 1256.
Fracture prediction of dissimilar thin film materials in Cullow-k packaging. Journal of Materials Science: Materials in Electronics, 2010, 21, 787-795.

Layout designs of surface barrier coatings for boosting the capability of oxygen/vapor obstruction
utilized in flexible electronics. Applied Surface Science, 2018, 436, 183-188. utilized in flexible electronics. Applied Surface Science, 2018, 436, 183-188.

Intrinsic Stress Effect of Fabricated Processes on the Warpage and Microbump Reliability of Thin-Type 3D-ICs Packaging., 2018, , .

Simulation and Experimental Validations of EM/TM/SM Physical Reliability for Interconnects Utilized in Stretchable and Foldable Electronics. , 2019, , .

Drop Impact Analysis of AMOLED Display with Buffer Designs by Using Dynamic Finite Element Simulation. , 2019, , .

A Novel Warpage Reinforcement Architecture with RDL Interposer for Heterogeneous Integrated
Packages. , 2020, , .

Stress Impact of the Annealing Procedure of Cu-Filled TSV Packaging on the Performance of
78 Nano-Scaled MOSFETs Evaluated by an Analytical Solution and FEA-Based Submodeling Technique.
Materials, 2021, 14, 5226.

Surface Properties of Nano-Film Type Patterning Electrode on Flexible Substrate for Bending Test.
Science of Advanced Materials, 2017, 9, 17-21.

A hybrid bonding interconnection with a novel low-temperature bonding polymer system. , 2022, , .
2

81 Simulation of a nanoscale strained Si NMOSFET with a siliconâ€"carbon alloy stressor. Thin Solid Films,
2010, 518, S72-S75.

Mechanical reliability enhancement of flexible packaging with OLED display under bending loading conditions., 2011, , .

Impact of Strain Engineering on Nanoscale Strained InGaAs MOSFET Devices. Journal of Nanoscience and Nanotechnology, 2011, 11, 5623-5627.
$0.9 \quad 1$

Technology computer-aided design simulation study for a strained InGaAs channel n-type metal-oxide-semiconductor field-effect transistor with a high-k dielectric oxide layer and a metal gate
84 electrode. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, 032203
Stress Impact of a Tensile Contact Etch Stop Layer on Nanoscale Strained NMOSFETs Embedded with a
85 Stress impact of a Tensile Contact Etch Stop Stlon Stressor. Journal of Nanoscience and Nanotechnology, 2012, 12, 5342-5346.

Evaluation of $\mathrm{Cu} / \mathrm{Ni} / \mathrm{SnAg}$ microbump bonding processes for thin-chip-on-chip package using a wafer-level underfill film. , 2012, , .

Patterned film effects on the adhesion of AI/TiN barrier using fracture-energy based finite element analysis. Surface and Coatings Technology, 2013, 215, 400-406.

Reliability enhancement of ultra-thin chip assembly module in 3D-ICs integrations by the assistance of molding compounds. , 2014, , .
$1.2 \quad 1$
$0.9 \quad 1$

| 91 | Influence of Glass Transition Temperature of Underfill on the Stress Behavior and Reliability of Microjoints Within a Chip Stacking Architecture. Journal of Electronic Packaging, Transactions of the ASME, 2015, 137, . | 1.8 | 1 |
| :---: | :---: | :---: | :---: |
| 92 | The effect of CESL and dummy poly gate for n-type MOSFETs with short Si 0.75 Ge 0.25 channel. Vacuum, 2017, 140, 66-70. | 3.5 | 1 |
| 93 | Material lattice orientation effect of local $\mathrm{Si} 1-\mathrm{x}$ Ge x stressors on the width dependence of high-k metal gate PMOSFETs. Current Applied Physics, 2018, 18, S2-S7. | 2.4 | 1 |
| 94 | The development of estimated methodology for interfacial adhesion of semiconductor coatings having an enormous mismatch extent. Applied Surface Science, 2018, 440, 202-208. | 6.1 | 1 |
| 95 | Development of Real-Time Measurement Platform for Stretchable and Rollable Functions of Flexible Electronics under Multiple Dynamic Loads. Micromachines, 2020, 11, 106. | 2.9 | 1 |
| 96 | Improvements of Stress Migration in Nano-Scaled Copper Interconnects. Science of Advanced Materials, 2017, 9, 11-16. | 0.7 | 1 |
| 97 | Comprehensive Stress Effect of Thin Coatings and Siliconấ"Carbon Lattice Mismatch on Nano-Scaled Transistors with Protruding Poly Gate. Journal of Nanoscience and Nanotechnology, 2020, 20, 760-768. | 0.9 | 1 |
| 98 | Process-induced warpage and stress estimation of through glass via embedded interposer carrier with ring-type framework. Microelectronics Reliability, 2022, 129, 114476. | 1.7 | 1 |
| 99 | Corrections to "Enhancing the reliability of wafer level packaging by using solder joints layout design". IEEE Transactions on Components and Packaging Technologies, 2007, 30, 190-190. | 1.3 | 0 |
| 100 | Carrier backscattering characteristics of nanoscale strained complementary metal-oxide-semiconductor devices featuring the optimal stress engineering. Journal of Vacuum Science \& Technology B, 2009, 27, 1261. | 1.3 | o |
| 101 | Impact of strain engineering on InGaAs NMOSFET with an InGaAs alloy stressor. Thin Solid Films, 2010, 519, 1738-1742. | 1.8 | 0 |

Simulation-based sensitivity estimation of the geometric effect of poly gates on nanoscale n-type

109 | metal-oxide-semiconductor field-effect transistors with siliconấ"carbon alloy. Thin Solid Films, 2014, |
| :--- |
| $570,336-342$. |

$110 \quad$| Effects of array type of dummy active diffused region and gate geometries on narrow NMOSFETs with |
| :--- |
| SiC S/D stressors. , 2014, , . |

Effects of array type of dummy active diffused region and gate geometries on narrow NMOSFETs with

Fabrication, assembly, failure estimations of for ultra-thin chips stacking by using pre-molding technology., 2015, , .

$$
113 \text { Development of simulation-approach for 3D chip stacking with fine-pitch array-type microbumps. , 2015, }
$$

```
115 Accompanied arrangement effect of stretched gate width and dummy diffusion region on strained silicon PMOSFETs. , 2016, , .
```

117 Device layout effect of strained Ge-based NMOSFETs with Ge<inf> $1 \hat{a}^{\wedge} x</ \inf >$ Si<inf $>x</$ inf $>$ stressors. ,
2016, ,

Shallow trench isolation geometric influence of a recessed surface on array-type arrangements of

PMOSFET with a short channel. Materials Science in Semiconductor Processing, 2017, 70, 145-150.

Interaction influence of S/D GeSi lattice mismatch and stress gradient of CESL on nano-scaled
4.0

0

Effect of strained Ge-based NMOSFETs with Ge 0.93 Si 0.07 stressors on device layout. Solid-State
1.4

0
121 Electronics, 2017, 138, 113-118.

The achievement of the super short channel control in the magnetic Ge n-FinFETs with the negative capacitance effect. Vacuum, 2017, 140, 63-65.
3.5

0
123

Effect of contact-etch-stop-layer and Si $1-x$ Ge $x$ channel mechanical properties on nano-scaled short
channel NMOSFETs with dummy gate arrays. Microelectronics Reliability, 2018, 83, 230-234.
1.7

0

Magnifying the effective intrinsic stress of surface coating on the performance of nano-scaled
124 Ge-based high-k/metal gate device through superficial layout designs. Thin Solid Films, 2018, 660,
1.8 725-729.

Laminated process effect of high-density redistributed trace lines on the risk estimation of
induced-stress failure for 3D-IC embedded interposer. Microsystem Technologies, 2019, 25, 2021-2028.
2.0

Interactive Field Effect of Atomic Bonding Forces on the Equivalent Elastic Modulus Estimation of
$127 \quad$ Micro-Level Single-Crystal Copper by Utilizing Atomistic-Continuum Finite Element Simulation. Micro-Leve 20 ingle-Crystal
Molecules, 2020, 25, 5107.

128 Thermal Stressâ€"Induced Interfacial Failure Modes of Advanced Electronic Devices. , 2014, , 5495-5495. 0

Low Temperature SLID Bonding Approach in Fine Pitch Chip-stacking Structure with 30 1̂1/4m-pitch
129 Interconnections. Transactions of the Japan Institute of Electronics Packaging, 2020, 13,
0.4

0
E20-010-1-E20-010-4.
Microscopic mechanical simulation and experimental demonstration of deformed-induced failure for
130 Li-ion battery package in electric vehicle. Mechanics of Advanced Materials and Structures, 2023, 30,
2341-2352.


[^0]:    Source: https://exaly.com/author-pdf/4444273/publications.pdf
    Version: 2024-02-01

