Special Issue

Recent Advances in 3D Integration Technologies

Message from the Guest Editors

In recent decades, the semiconductor industry has consistently followed Moore's Law, which boosts computing power to the next level approximately every two years. However, with the deceleration of the fabrication node evolvement, 3D integration, which is interpreted as 'More than Moore', has started to demonstrate the potential to extend the lifespan of Moore's Law. 3D integration targets the integration of the transistors or chips not only horizontally, but most importantly, vertically, thus forming a new type of semiconductor chip that accommodates much higher transistor density, which enables huge compute power leaps as the stack goes beyond a single layer. Accordingly, this Special Issue seeks recent advances in 3D integration technologies, including research papers, communications, and review articles that focus on specific technology including, but not limited to, 3D interconnections, bonding techniques, thermal management, reliability, co-packaged optics, new materials and equipment for integration, and applications with 3D integration.

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