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(57) Abstract :

METHOD FOR FABRICATING FLEXIBLE ELECTRONIC DEVICES VIA ASSEMBLY OF INORGANIC STRUCTURES OF VARIED DIMENSIONS FOR NANO, MICRO, AND CHIP-SCALE INTEGRATION ABSTRACT The invention relates to a method for fabricating flexible electronic devices through the assembly of inorganic structures of varied dimensions, encompassing Nano, micro, and chip-scale components, for seamless integration on a flexible substrate. The process involves depositing nanostructures using precise deposition techniques, arranging microstructures with controlled positioning, and affixing chip-scale structures through adhesive or bonding processes. A flexible encapsulation layer is applied for enhanced flexibility and environmental protection. The resulting flexible electronic devices find applications in wearable electronics, flexible displays, and biomedical devices. The innovative integration approach offers versatility and adaptability, catering to diverse electronic applications requiring flexibility, durability, and diverse functionality.

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