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A package having a capacitor structure and a method of forming the same are provided. The package includes a first die; a second die bonded onto the first die; an isolation region disposed on the first die and laterally encapsulating the second die; at least one first through-via disposed aside the second die and penetrating through the isolation region; an electrode layer disposed on the at least one first through-via; and a capacitor dielectric layer disposed between the at least one first through-via and the electrode layer to separate the at least one first through-via from the electrode layer, wherein the at least one first through-via, the capacitor dielectric layer, and the electrode layer constitute a capacitor structure.

