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(54) **DATA INPUT DEVICE AND PORTABLE ELECTRONIC DEVICE**

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(57) **ABSTRACT**

Embodiments include a data input device and a portable electronic device including such a data input device. The data input device may include a key sensing mechanism and a solid material layer provided above the key sensing mechanism. The solid material layer may include a least one cavity that may go through the whole of the solid material layer. The cavity may include an electroactive polymer and two electrodes for providing a key that may be changed in shape based on an applied voltage. One embodiment may also allow the registering of inputs in the key sensing mechanism based on a user pressing down the electroactive polymer on the key sensing mechanism.

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