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(54) **ELECTRONIC DEVICES WITH CARBON NANOTUBE PRINTED CIRCUITS**

(71) Applicant: **Apple Inc.**, Cupertino, CA (US)

(72) Inventors: **Ibuki Kamei**, San Jose, CA (US); **Timothy J. Rasmussen**, Sunnyvale, CA (US); **Trent K. Do**, Milpitas, CA (US)

(73) Assignee: **Apple Inc.**, Cupertino, CA (US)

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CPC ***H05K 1/0393*** (2013.01); ***H05K 1/111*** (2013.01); ***H05K 1/118*** (2013.01); ***H05K 3/4007*** (2013.01)

(58) **Field of Classification Search**

CPC Y10S 977/742; H01L 21/02602
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See application file for complete search history.

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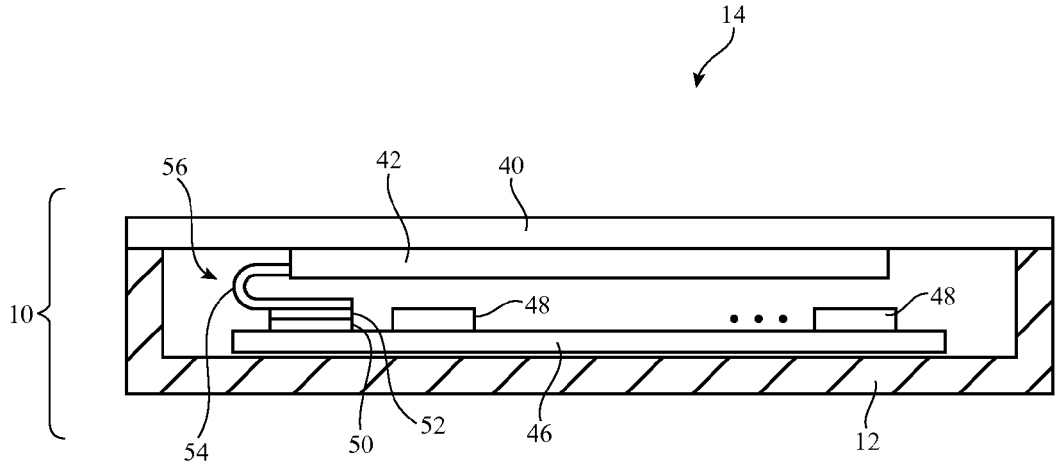
Primary Examiner — Moazzam Hossain
(74) *Attorney, Agent, or Firm* — Treyz Law Group, P.C.; G. Victor Treyz; Joseph F. Guihan

(57) **ABSTRACT**

An electronic device has structures such as substrates and internal housing structures. The substrates may be rigid substrates such as rigid printed circuit boards and flexible substrates such as flexible printed circuits, flexible touch sensor substrates, and flexible display substrates. Carbon nanotubes may be patterned to form carbon nanotube signal paths on the substrates. The signal paths may resist cracking when bent. A flexible structure such as a flexible printed circuit may have carbon nanotube signal paths interposed between polymer layers. Openings in a polymer layer may expose metal solder pads on the carbon nanotube signal paths. A stiffener may be provided under the metal solder pads. Polymer materials in the flexible structure may be molded to form bends. Bends may be formed along edges of a touch sensor or display or may be formed in a flexible printed circuit.

12 Claims, 16 Drawing Sheets