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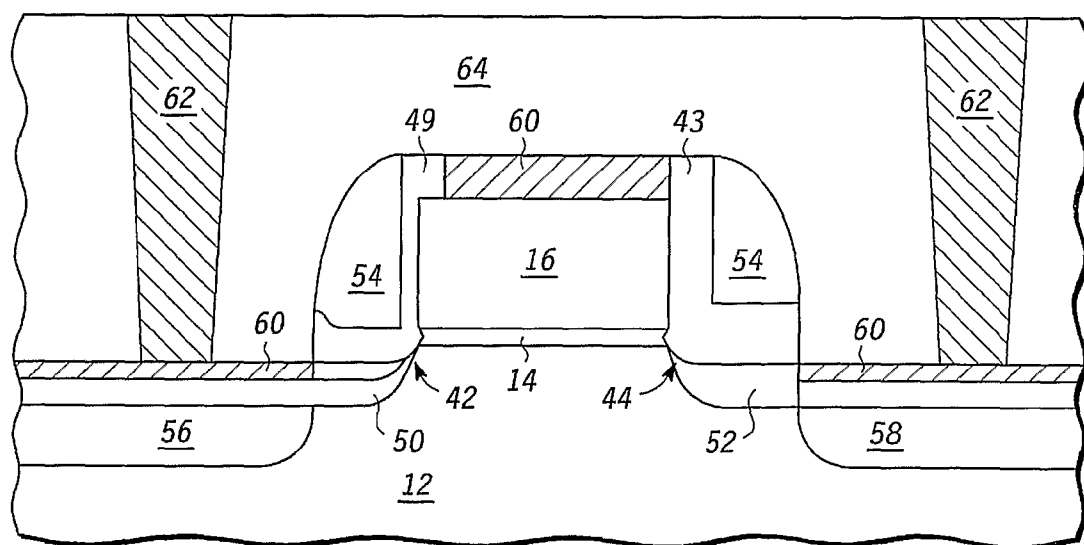
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(54) Title: METHOD OF FORMING A SEMICONDUCTOR DEVICE HAVING ASYMMETRIC DIELECTRIC REGIONS AND STRUCTURE THEREOF



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(57) Abstract: A method for forming a semiconductor device (10) including forming a semiconductor substrate (12); forming a gate electrode (16) over the semiconductor substrate having a first side and a second side, and forming a gate dielectric under the gate electrode. The gate dielectric has a first area (42) under the gate electrode and adjacent the first side of the gate electrode, a second area (44) under the gate electrode and adjacent the second side of the gate electrode, and a third area (14) under the gate electrode that is between the first area and the second area, wherein the first area is thinner than the second area, and the third area is thinner than the first area and is thinner than the second area.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC: **H01L 21/425**(2006.01),**23/58**(2006.01)

USPC: 438/525,528,981;257/638

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B. FIELDS SEARCHED

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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,127,248 (KIM) 03 October 2000 (03.10.2000), Figs 2C-2E.	1-20
A	US 6,806,584 B2 (FUNG et al.) 19 October 2004 (19.10.2004), Fig. 15.	1-20



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