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(71) Applicant *(for all designated States except US)*: **ADVANCED MICRO DEVICES, INC.** [US/US]; One AMD Place, Mail Stop 68, P.O. Box 3453, Sunnyvale, CA 94088-3453 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **FUSELIER, Mark, B.** [US/US]; 12232 Barrel Bend, Austin, TX 78748 (US). **EHRICHS, Edward, E.** [US/US]; 4800 Canyonwood Drive, Austin, TX 78735 (US). **RAY, S., Doug** [US/US]; 255 Secretariat Drive, Austin, TX 78737 (US). **WEINTRAUB, Chad** [US/DE]; Theresienstrasse 9c, 01097 Dresden (DE). **BULLER, James, F.** [US/US]; 6908 Indica Cove, Austin, TX 78759 (US).

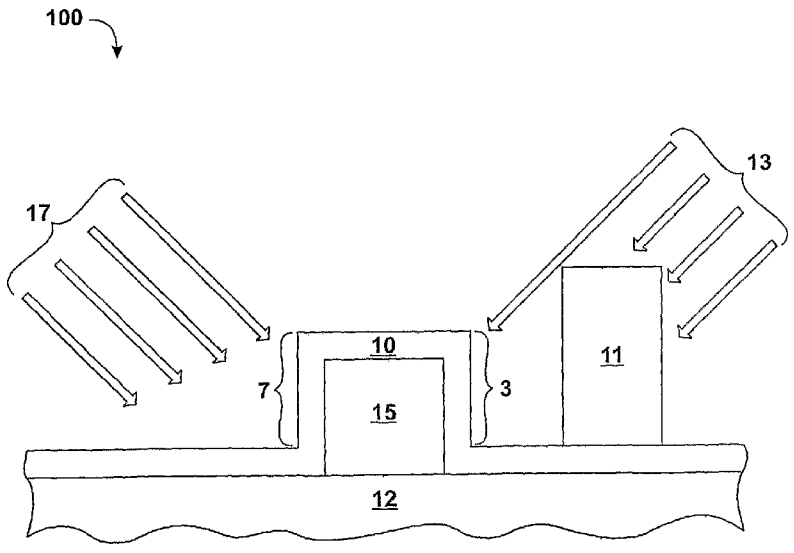
(74) Agent: **DRAKE, Paul, S.**; Advanced Micro Devices, Inc., 5204 East Ben White Boulevard, Mail Stop 562, Austin, TX 78741 (US).

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(54) Title: METHOD FOR ASYMMETRIC SIDEWALL SPACER FORMATION



(57) Abstract: A method for asymmetric spacer formation integratable into a manufacturing process for integrated circuit semiconductor devices is presented. The method comprises forming a gate structure (15) over a substrate, and forming a sidewall layer (10) overlying the gate structure and substrate, wherein the sidewall layer comprises a first portion overlying a first sidewall of the gate structure. A photoresist structure (11) is formed adjacent to the first portion, and subjected to an ion beam. The photoresist structure serves to shield at least part of the first portion from the ion beam. During irradiation, the wafer is oriented such that a non-orthogonal tilt angle exists between a path of the ion beam (13, 17) and a surface of the first sidewall. Formation of asymmetric spacers is possible because radiation damage to unshielded sidewall portions permits subsequent etches to proceed at a faster rate.

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FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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