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(19) **United States**(12) **Patent Application Publication****Fan et al.**(10) **Pub. No.: US 2022/0352709 A1**(43) **Pub. Date: Nov. 3, 2022**(54) **POWER CLAMP****Publication Classification**(71) Applicant: **Taiwan Semiconductor Manufacturing Company, Ltd.**,
Hsinchu (TW)(51) **Int. Cl.**
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CPC **H02H 9/046** (2013.01)(72) Inventors: **Ken-Hao Fan**, Hsinchu (TW); **Yu-Ti Su**, Tainan City (TW); **Tzu-Cheng Kao**, Hsinchu (TW); **Ming-Fu Tsai**, Hsinchu (TW); **Chia-Lin HSU**, Hsinchu (TW)(57) **ABSTRACT**(73) Assignee: **Taiwan Semiconductor Manufacturing Company, Ltd.**

An ESD power clamp device includes an ESD detection circuit; a controlling circuit coupled with the ESD detection circuit; a field effect transistor (FET) coupled with the controlling circuit, and an impedance element coupled with the FET. The FET includes a drain terminal coupled with a first supply node; a gate terminal coupled with the controlling circuit; a source terminal coupled with a second supply node via the impedance element; and a bulk terminal coupled with second supply node.

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