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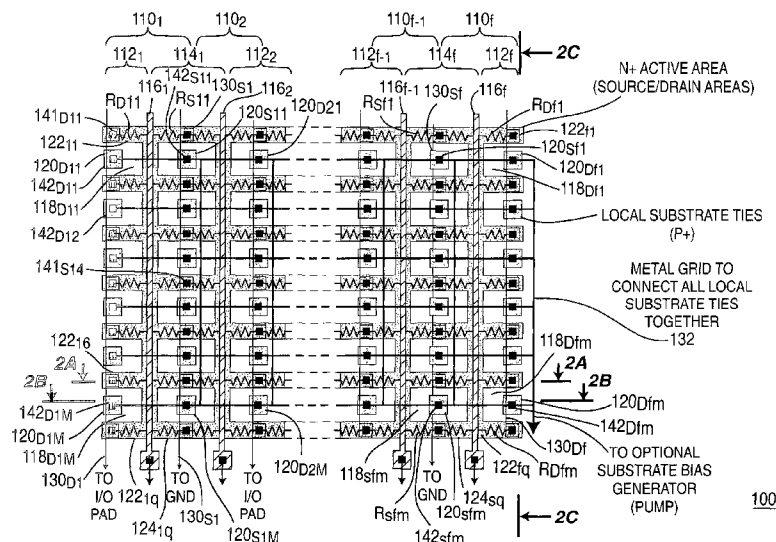
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(54) **Title: ELECTROSTATIC DISCHARGE (ESD) PROTECTION DEVICE WITH SIMULTANEOUS AND DISTRIBUTED SELF-BIASING FOR MULTI-FINGER TURN-ON**



(57) **Abstract:** An ESD protection device (150) including a simultaneously biased multi-finger turn-on MOS device for a semicon-
ductor integrated circuit (IC) having protected circuitry. The ESD protection circuit (150) includes a multi-fingered NMOS transistor
(100), where each finger (110) has a drain (112) and a source (114) for respectively coupling between an I/O pad (20) of the IC and
ground (15), as well as a gate (116) for biasing the finger. An ESD detector (310) includes a PMOS transistor (311) having a source
for coupling to the I/O pad of the IC, and a gate coupled to a supply voltage (90) of the IC. A parasitic capacitance (900) is formed
between the supply line (91) of the IC and ground (15). A transfer circuit (320) having a first diode (321) is coupled between the
drain of the PMOS transistor and the gate of each finger of the NMOS transistor.

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