

ABSTRACT OF DISCLOSURE
ESD PROTECTION DEVICE WITH A TUNABLE HOLDING VOLTAGE FOR A HIGH
VOLTAGE PROGRAMMING PAD

An ESD protection device with a tunable holding voltage is disclosed. Embodiments include: providing a silicon-controlled rectifier (SCR) having a first n-type layer with a cathode connection, a first p-type layer with a first control connection, a second n-type layer with a second control connection, and a second p-type layer with an anode connection; coupling the anode connection to a power rail; coupling the cathode connection to a ground rail; providing a tunable holding voltage control unit including a first NMOS having a first gate, a first drain, and a first source, wherein during an ESD event, the first NMOS is turned off and a holding voltage of the SCR is low; coupling the first drain to the first control connection; coupling the first source to the ground rail; and coupling the first gate to a program circuit.

Figure 3