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(54) **RF SWITCH WITH IMPROVED ISOLATION AT TARGET FREQUENCIES**

(57) **ABSTRACT**

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A compact RF switch with improved isolation is presented. According to one aspect, the RF switch includes a basic single-pole single-throw (SPST) switch element that includes an inductor in parallel with a series FET transistor. An inductance of the inductor is selected to provide in combination with an off capacitance of the series FET transistor a resonance at a specific frequency of interest. The frequency of interest can be in-band or out-of-band, including the band's fundamental frequency or a harmonic thereof. According to another aspect, the inductor is conditionally coupled to the series FET transistor via a reduced size FET transistor. Complex RF switches can include a plurality of the SPST switch elements, each tuned to a same or different frequency of interest. According to yet another aspect, SPST switch elements in their OFF states can provide matching to an SPST element in the ON state.

