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标题: Ultra-compact sub-terahertz bandpass filter in 0.13 μm SiGe

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摘要: The design of an ultra-compact silicon-based bandpass filter in the sub-terahertz frequency range is explored. A filter with combline topology consisting of multilayered resonators and a cross-coupling capacitor has been designed in 0.13 μm SiGe. The dimensions of the implemented filter are 40 x 130 μm^2 , which are even smaller than a ground-signal-ground probing pad with 100 μm pitch. Meanwhile, the filter achieves a 3 dB bandwidth of about 32.0 GHz (22.0%) and an insertion loss of -7.7 dB at the centre frequency of 143 GHz.

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