

# Abstracts

## Novel Schiffman Phase Shifters

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*J.L.R. Quirarte and J.P. Starski. "Novel Schiffman Phase Shifters." 1993 Transactions on Microwave Theory and Techniques 41.1 (Jan. 1993 [T-MTT]): 9-14.*

In a standard Schiffman phase shifter a coupled section and a uniform transmission line are used to give a differential phase shift. In order to achieve larger bandwidth it is necessary to use tight coupled sections which are difficult to realize. This paper shows how different configurations of coupled lines or parallel connected coupled lines can be used together with a uniform transmission line, another coupled lines or parallel connected coupled lines in order to obtain a differential phase shifter with loose coupled lines and the same performance as for the standard case. The measurements confirm the calculated results leading to a more realizable structure. Index Terms-Phase shifters, Schiffman sections, coupled transmission lines.

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