Abstracts

A low-loss time-delay phase shifter controlled by piezoelectric transducer to perturb microstrip line

Tae-Yeoul Yun and Kai Chang. "A low-loss time-delay phase shifter controlled by piezoelectric transducer to perturb microstrip line." 2000 Microwave and Guided Wave Letters 10.3 (Mar. 2000 [MGWL]): 96-98.

This paper presents a new time-delay phase shifter using a piezoelectric transducer (PET) on a microstrip line with computational and experimental results. Dielectric perturbation changes the line capacitance and propagation constant of the microstrip line. The phase of the microstrip line is varied, but insertion loss is not much affected. A maximum phase shift of 460/spl deg/ with respect to the unperturbed condition has been achieved with an increased insertion loss of less than 2 dB and a total loss of less than 4 dB up to 40 GHz, using the dielectric perturbation controlled by PET. The proposed phase shifter should have many applications in antenna beam steering and in other microwave and millimeter-wave circuits.

❑ Return to main document.