Abstracts

THz interconnect with low-loss and low-group velocity dispersion

R. Mendis and D. Grischkowsky. "THz interconnect with low-loss and low-group velocity dispersion." 2001 Microwave and Wireless Components Letters 11.11 (Nov. 2001 [MWCL]): 444-446.

We report the demonstration of a physically flexible, practicable THz interconnect with minimal pulse distortion and loss. The interconnect is a parallel-plate waveguide, with the TEM mode excited, constructed of two thin copper strips. The incoming 0.22 ps THz pulse broadens to 0.39 ps after propagating 250 mm in the waveguide and is also attenuated by a factor of ten. We show that this attenuation is mainly due to the finite conductivity of copper with some additional loss caused by the beam spread in the unguided dimension. The pulse broadening is due to the frequency-dependent loss since the group velocity dispersion is negligible.

❑ Return to main document.