Abstracts

On-Chip Pulse Transmission in Very High Speed LSI/VLSIs

H. Hasegawa and S. Seki. "On-Chip Pulse Transmission in Very High Speed LSI/VLSIs." 1984 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 84.1 (1984 [MCS]): 29-33.

Using single and coupled metal-insulator-semiconductor (MIS) microstrip line models for interconnection, on-chip pulse delay and crosstalk in very high-speed LSI/VLSIs, are analyzed. The result shows (1) inapplicability of lumped capacitance approximation for interconnection in very high-speed LSI/VLSIs (t /sub pd/ <100 ps), (2) superiority of semi-insulating substrates over semi-conducting substrates, (3) importance of driving capability of device to achieve high speeds at LSI/VLSI level and (4) importance of crosstalk in interconnection design.

❑ Return to main document.