Abstracts

A New Approach to the Design of LED Based Gb/s Digital Fiber Optic Link

J.Y. Lin, A.S. Daryoush, V. Gershman and W. Rosen. "A New Approach to the Design of LED Based Gb/s Digital Fiber Optic Link." 1994 MTT-S International Microwave Symposium Digest 94.3 (1994 Vol. III [MWSYM]): 1663-1666.

A local area fiber optic network operating at rates above 1.25 Gb/s using LED as the optical transmitter and a novel receiver/clock recovery was developed. A LED driver circuit has been designed to compensate for the bandwidth roll-off of the LED above 500MHz by means of an active current shaping network. Since the conventional approaches to the receiver/clock recovery circuit consumes power in range of watts, a low power consuming design method is also presented, which extracts the clock signal from ECL compatible data stream above Gb/s. Its performance is evaluated through a 1.25 Gb/s LED-based fiber optic transmission experiment.

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