

Strained MQW Electro-Absorption Modulators with High Extinction Ratio and Low Capacitance

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ABSTRACT We fabricated an electro-absorption modulator for optical network system. We grew 12 pairs of strained InGaAs/InAlAs MQW by MOCVD, and etched a deep ridge waveguide buried by polyimide. The improved modulation properties of the device show it's polarization independent, high extinction ratio ($>40\text{dB}$) and low capacitance ($C = 0.6\text{pF}$) which can achieve an ultra-high frequency($>10\text{GHz}$). The device is be used in 10Gbps optical time division multiplex (OTDM) system as a signal generator.

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