

**Abstract:** Microwave signal generation from the saturable absorber of a monolithic quantum dot passively mode-locked laser is presented. We observe a differential efficiency of 33% that measures the optical-to-RF power conversion. An optimum extraction efficiency of the saturable absorber of about 86% is also found. To assess the stability of the device, the mode-locking operation regime of the quantum dot device is analyzed and compared to the quantum well system. Our findings confirm that quantum dot mode-locked lasers are suitable candidates for the optical generation of RF signals in a compact and efficient semiconductor device.