

InP 基单片集成同一有源量子阱型探测器

为了实现片上微波信号的直接输出, 我们提出了基于 InP/InGaAsP 材料体系探测器与激光器采用同一有源量子阱结构的集成方案。所制备探测器与 Fabry-Parot 激光器的集成器件共脊波导, 采用湿法腐蚀加离子注入实现不同器件之间的电隔离, 隔离电阻约为 60 k Ω 。探测器在-3 V 反偏电压下, 暗电流低于 10 μ A, C 波段的响应度大于 0.4 mA/mW, -3-dB 带宽大于 10 GHz, 饱和输出电流大于 26 mA。

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