

Figure 1. (a) Cross sectional schematic of blanket-grown laser on planar GaP/Si substrate with ultralow threading dislocation density (TDD) after thermal cyclic annealing (TCA). (b) Pocket-grown laser directly on SiO₂/Si. (c) New platform for reduced TDD and reduced polycrystal formation, where TCA is applied to a planar buffer prior to SiO₂ and passive structure deposition.

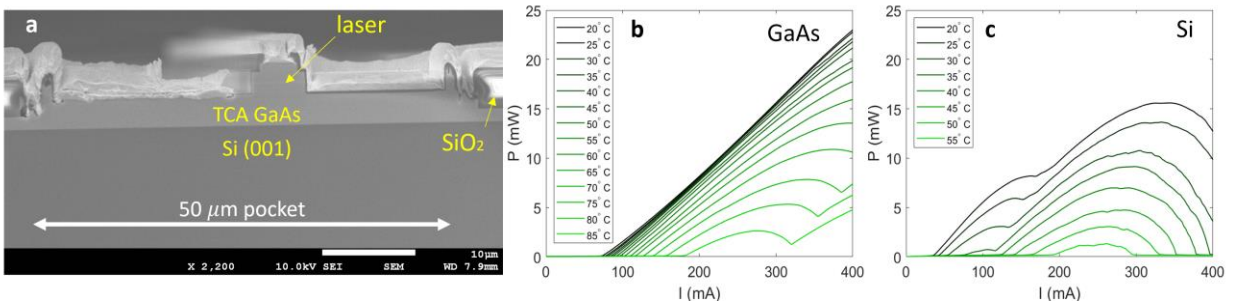


Figure 2. (a) Cross sectional scanning electron microscope image of pocket laser on TCA GaAs/GaP/Si. (b) Comparison of laser light-current characteristics at elevated temperature for blanket GaAs or (c) Si pocket-grown substrate devices.