

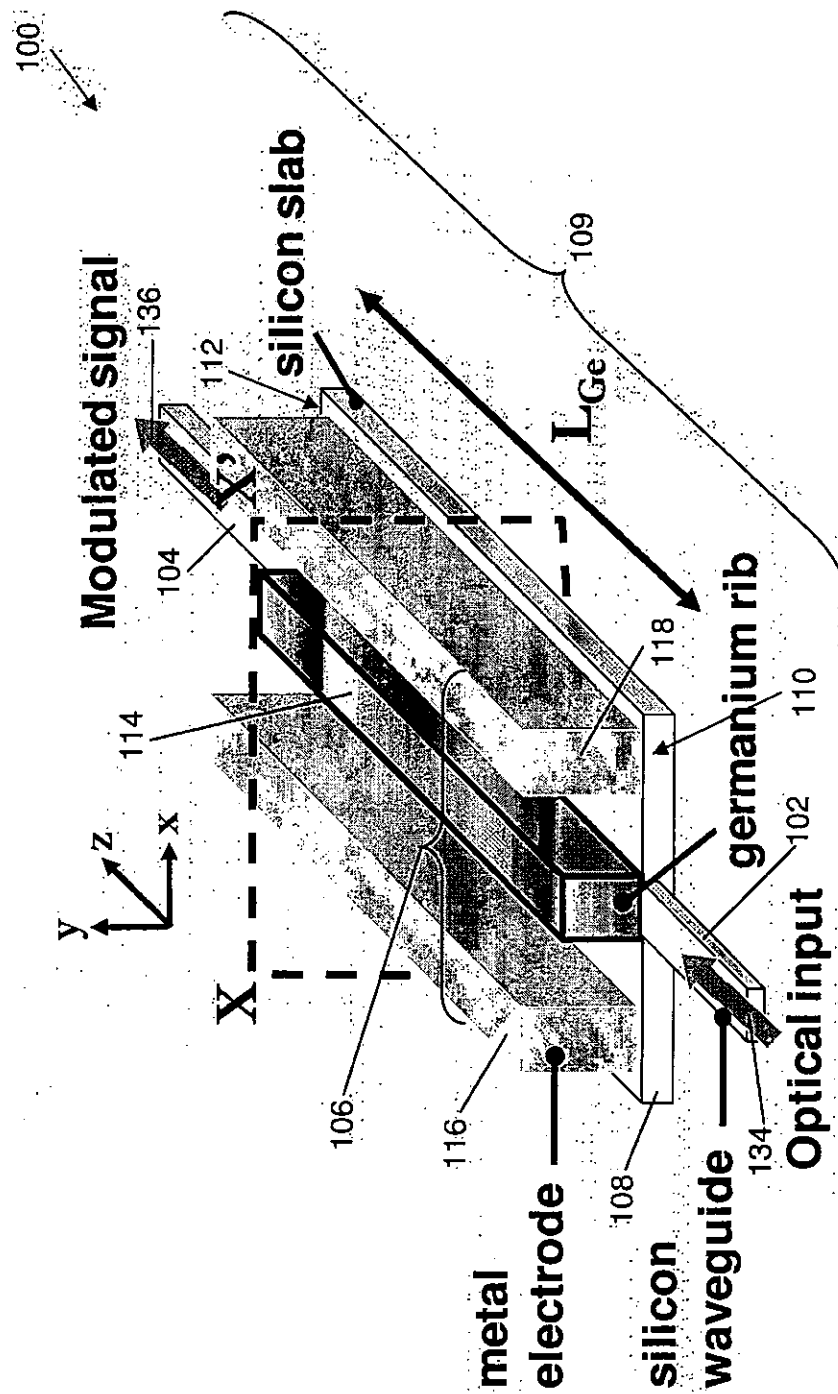


Figure 1a

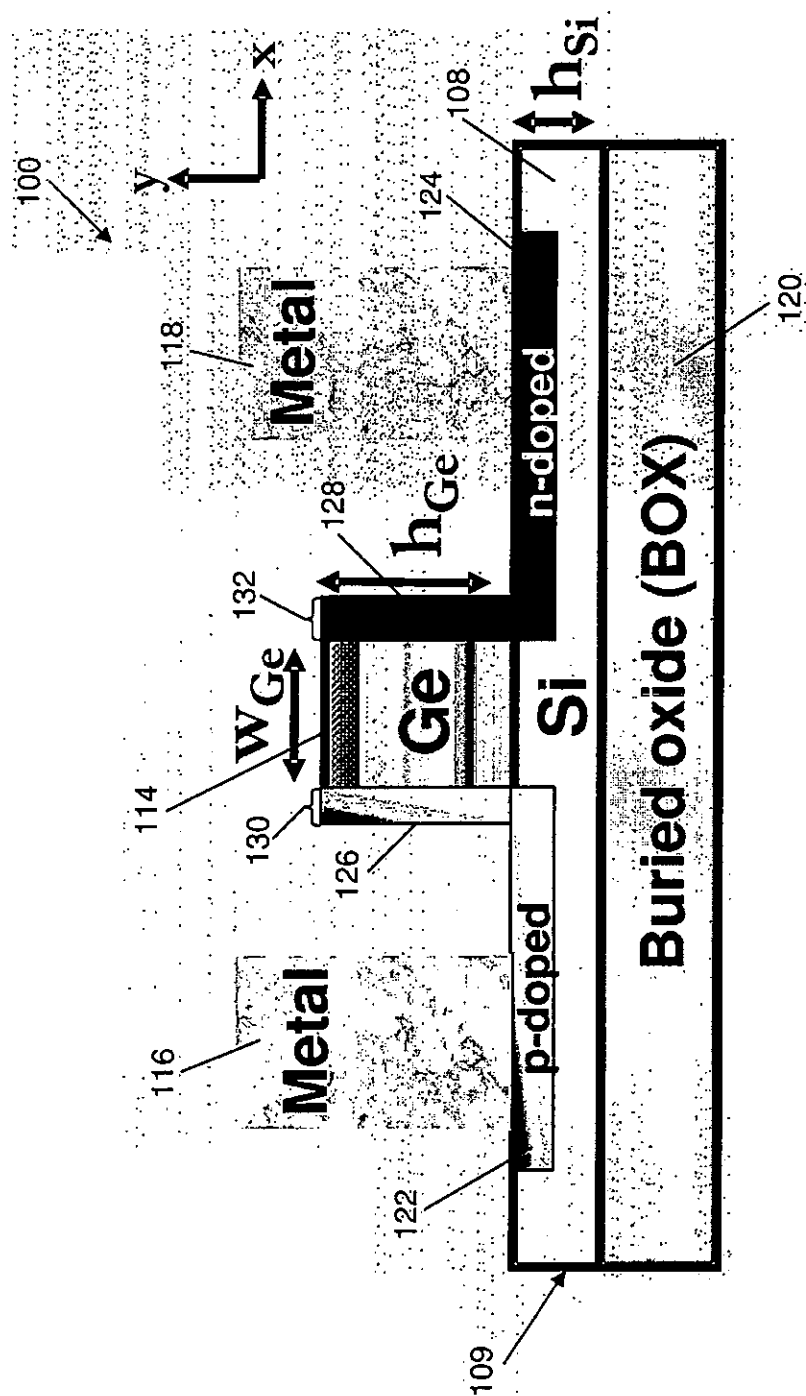


Figure 1b

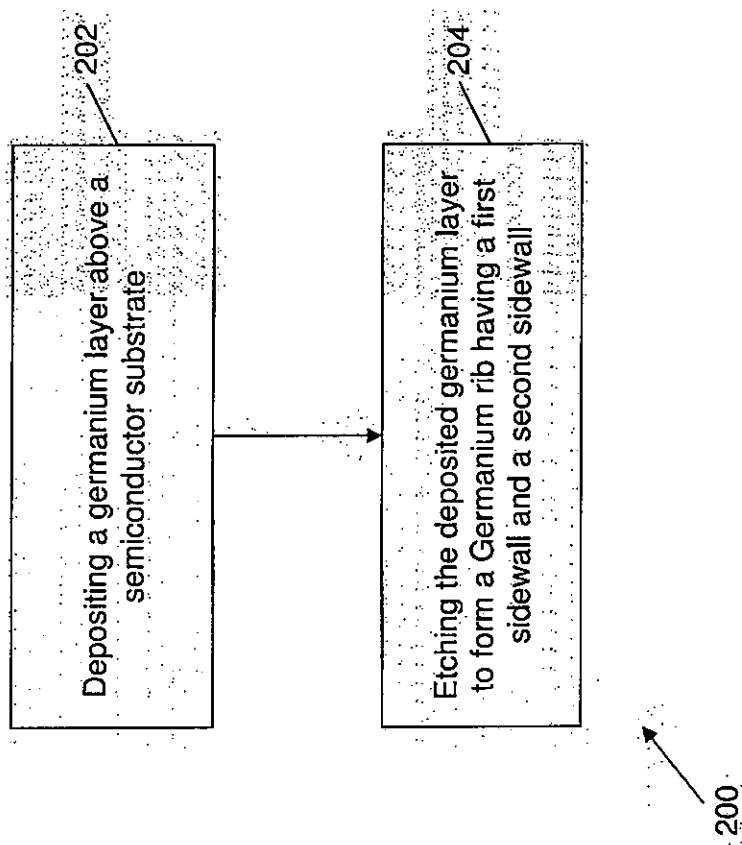
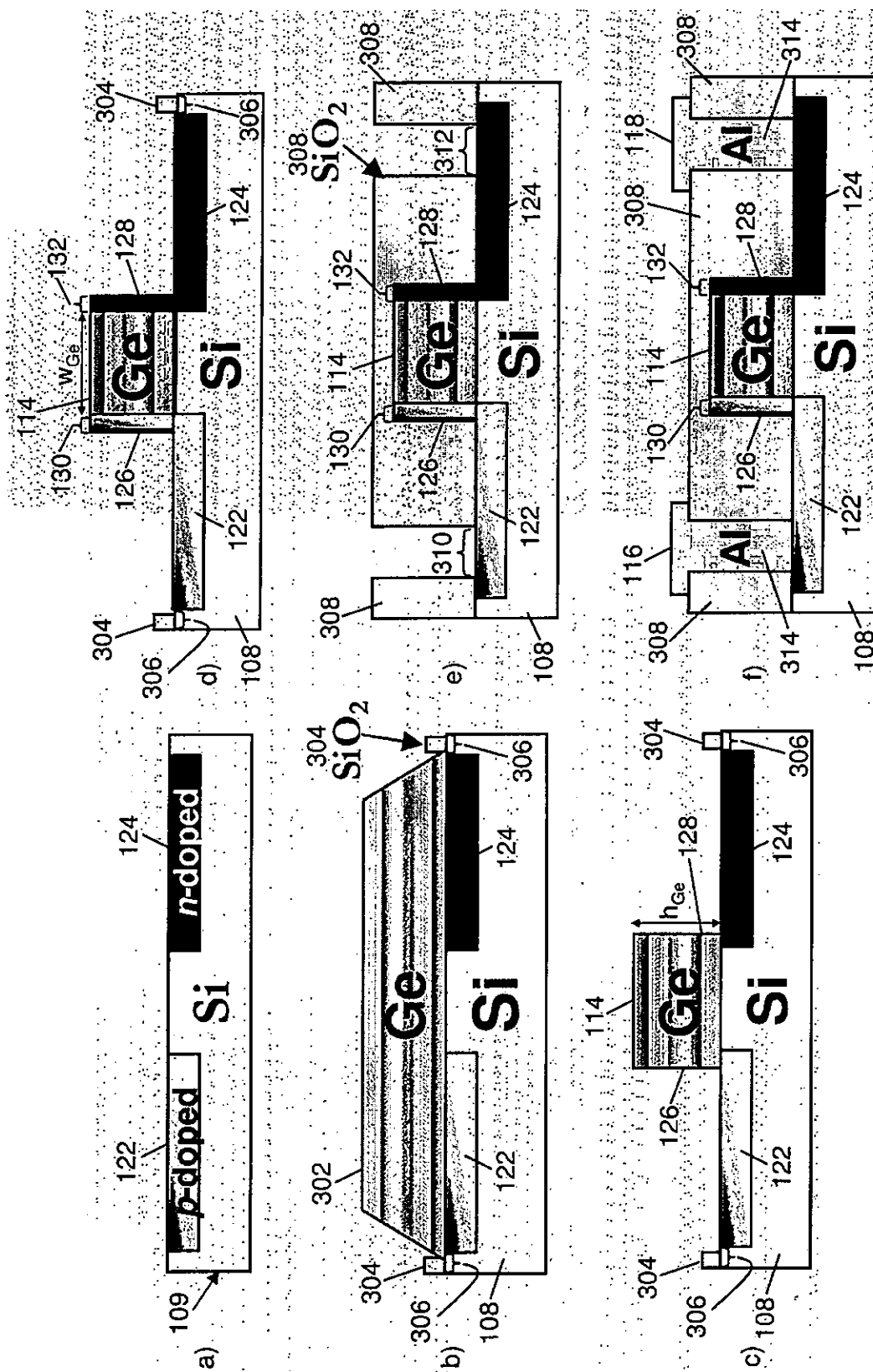


Figure 2



Figures 3a to 3f

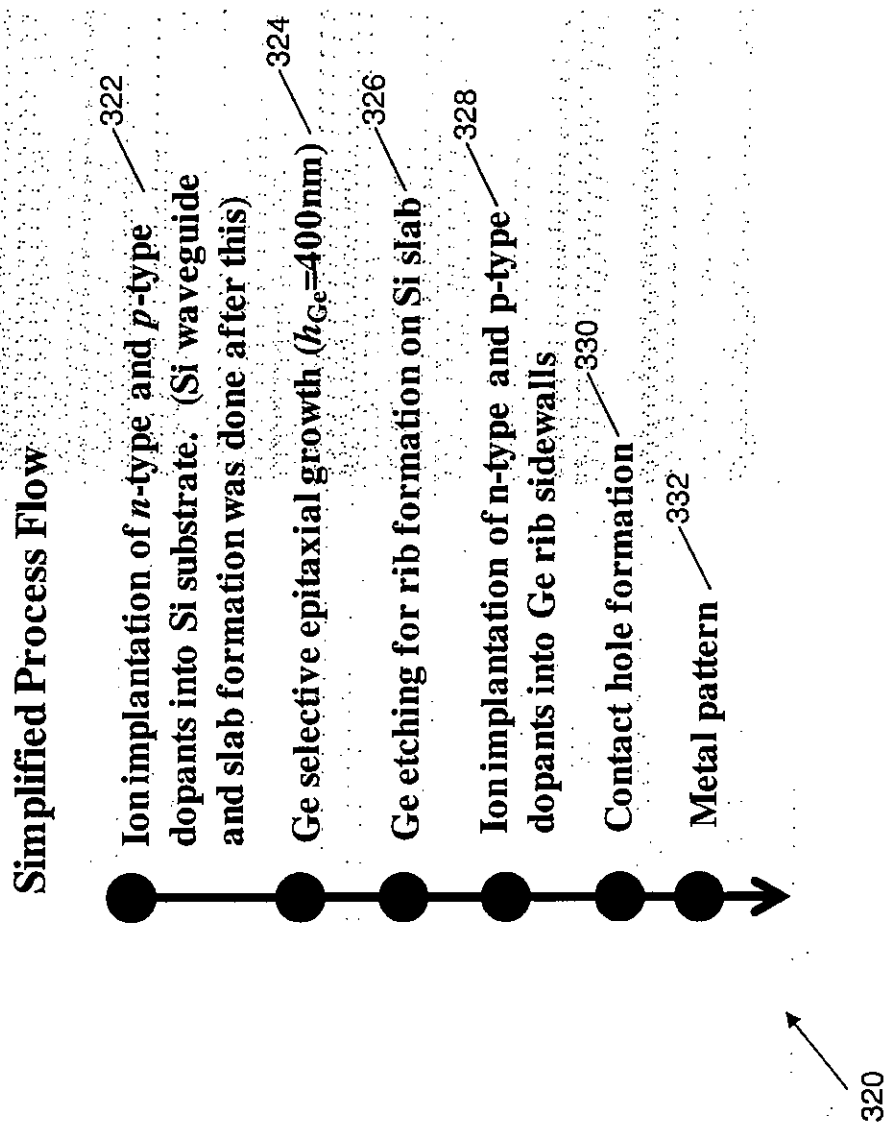


Figure 3g

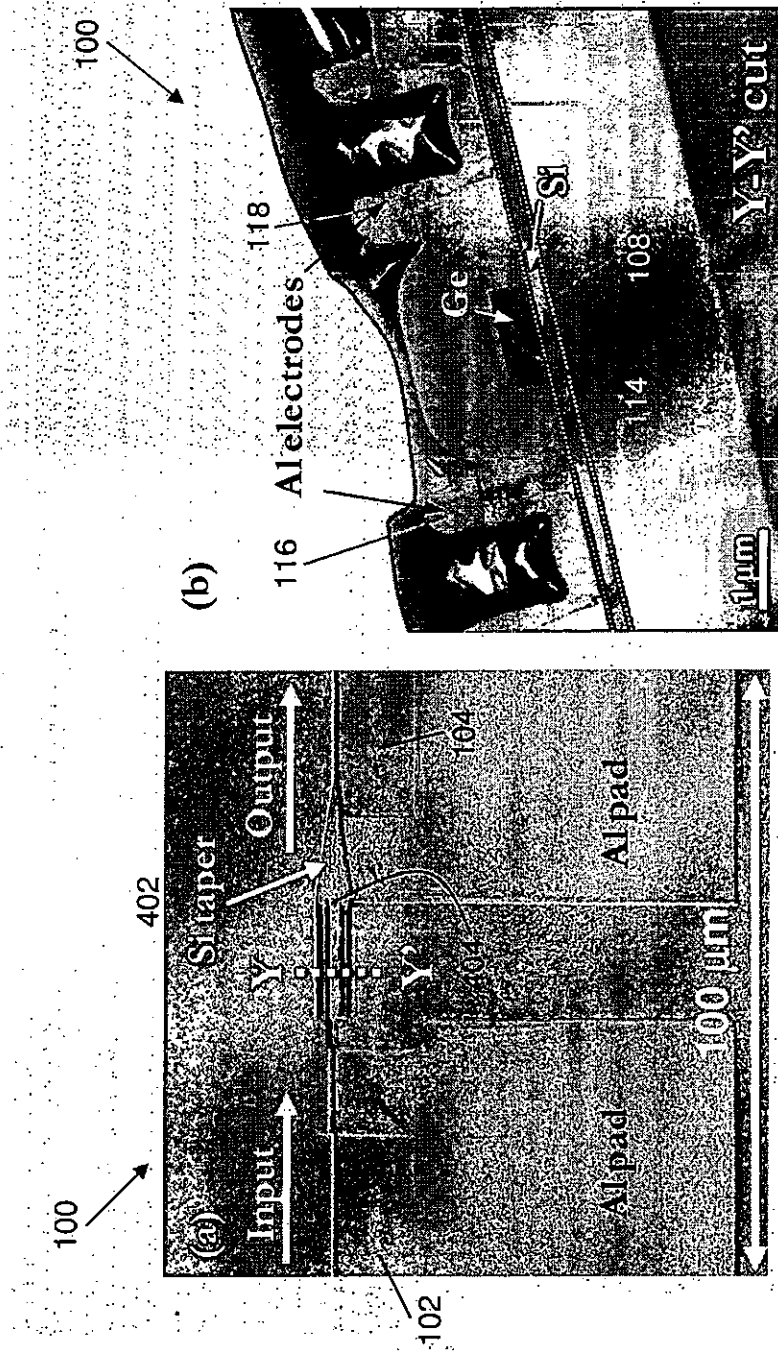


Figure 4

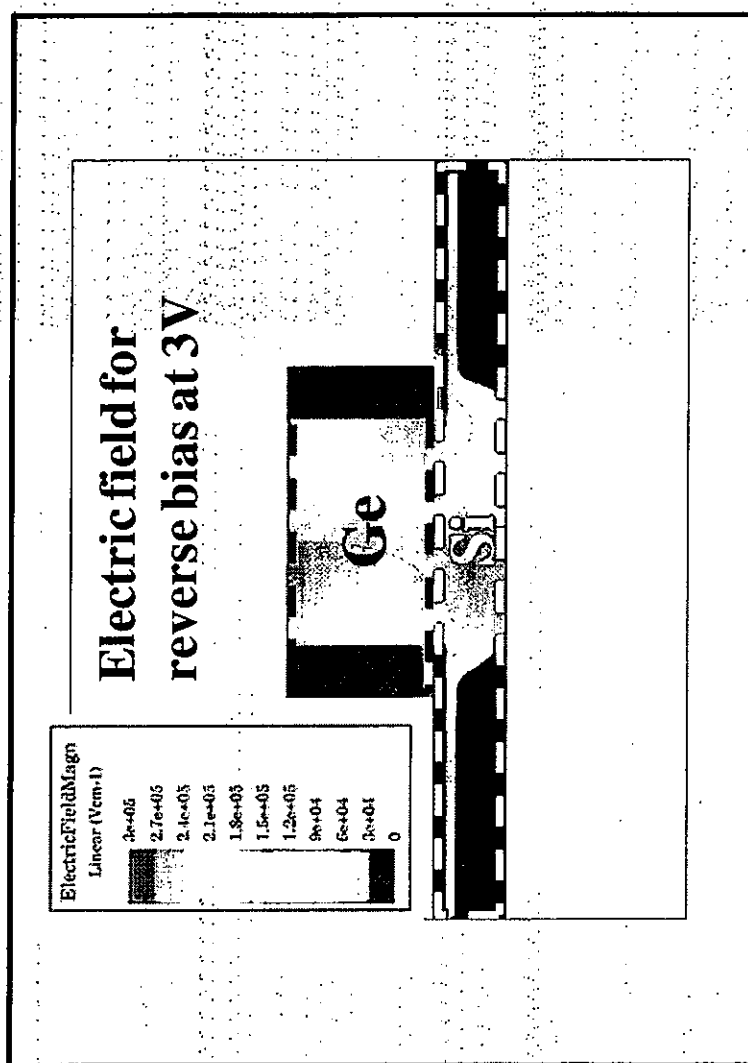


Figure 5

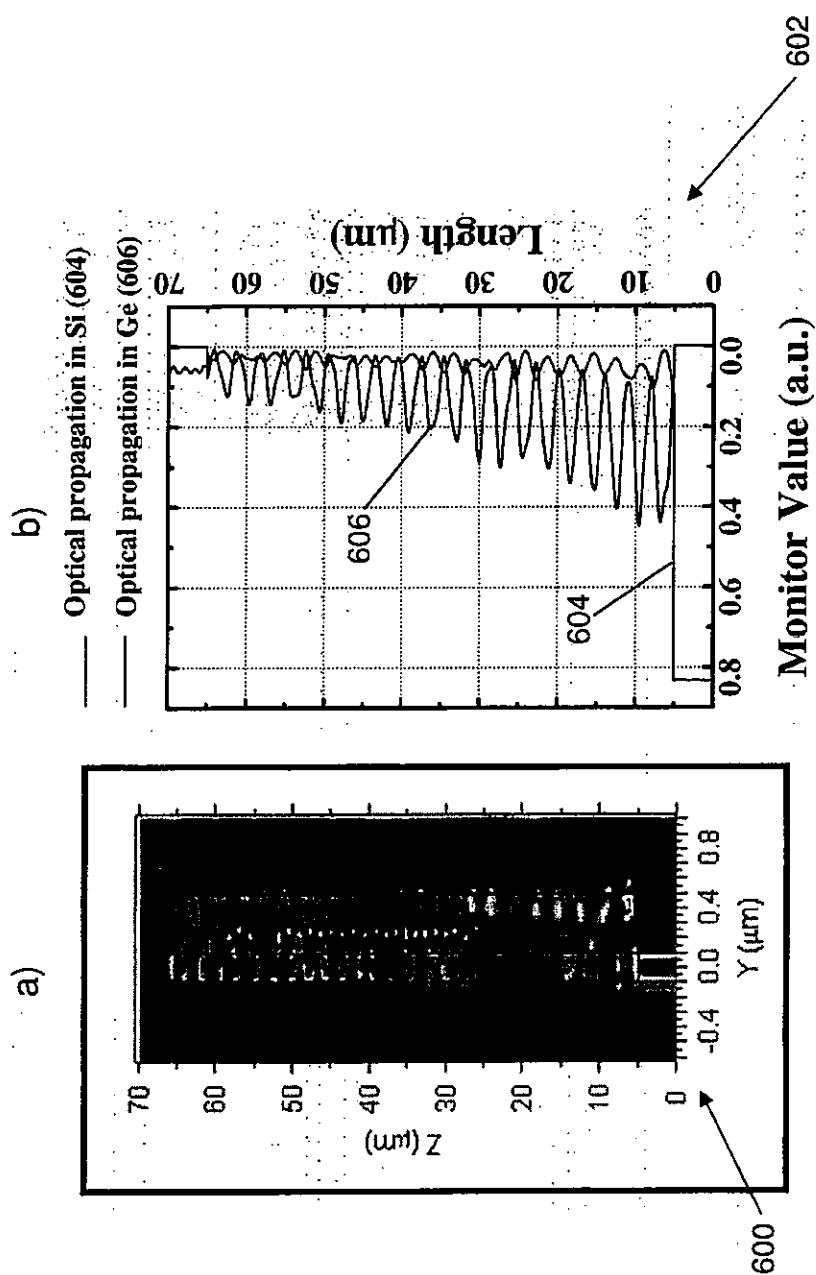


Figure 6

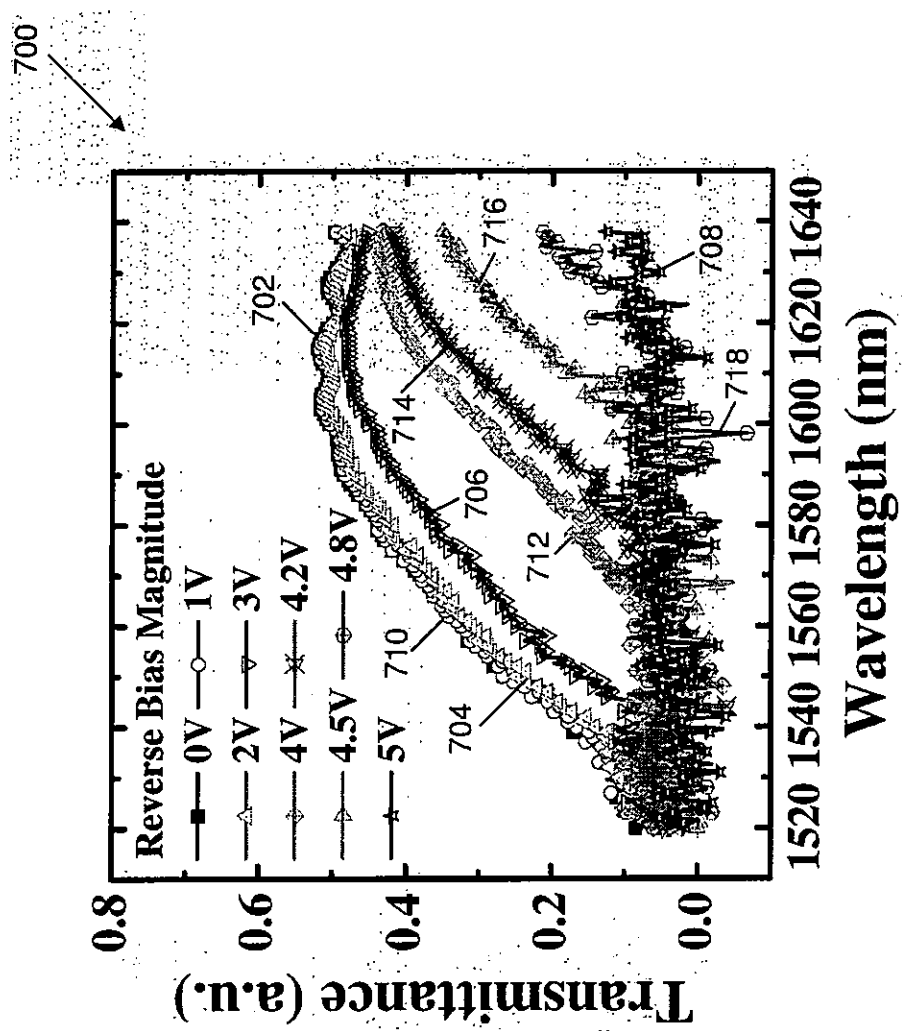


Figure 7

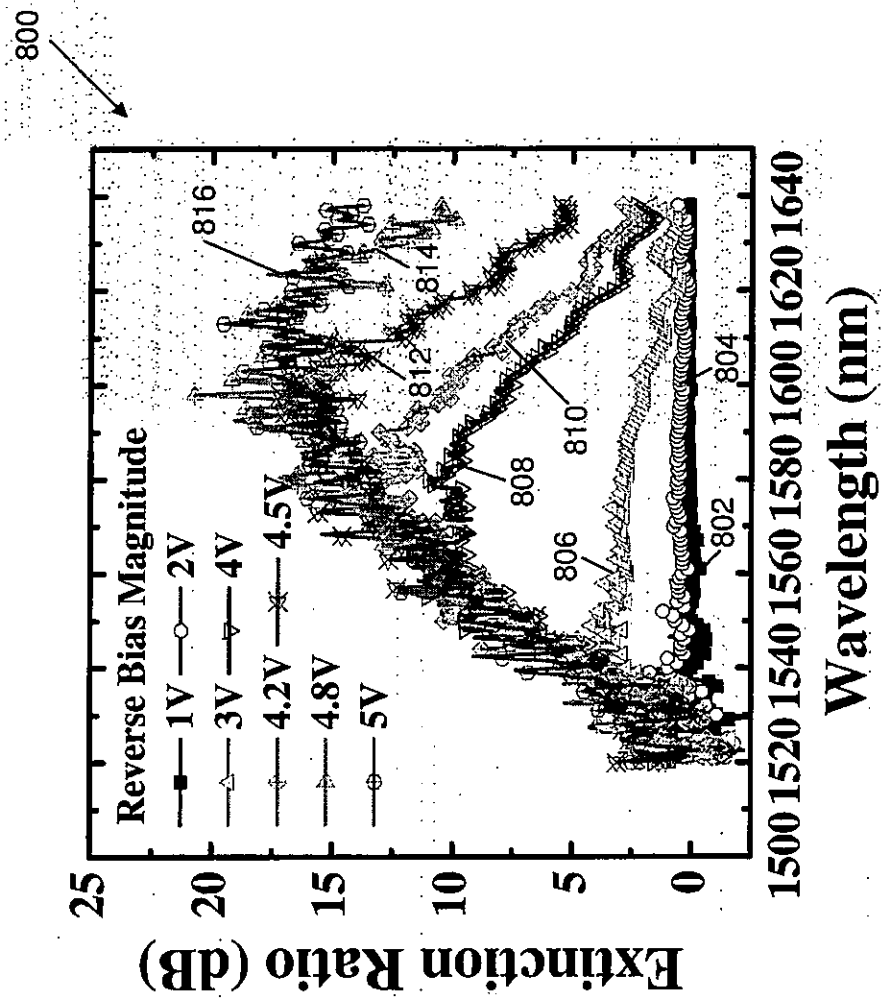


Figure 8a

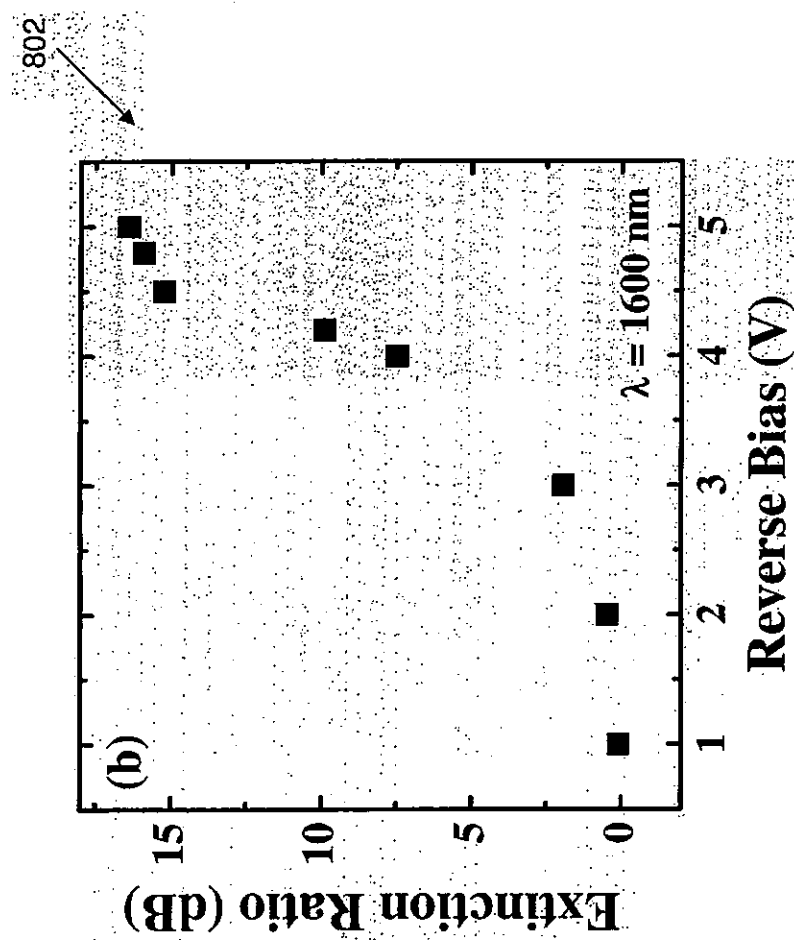


Figure 8b

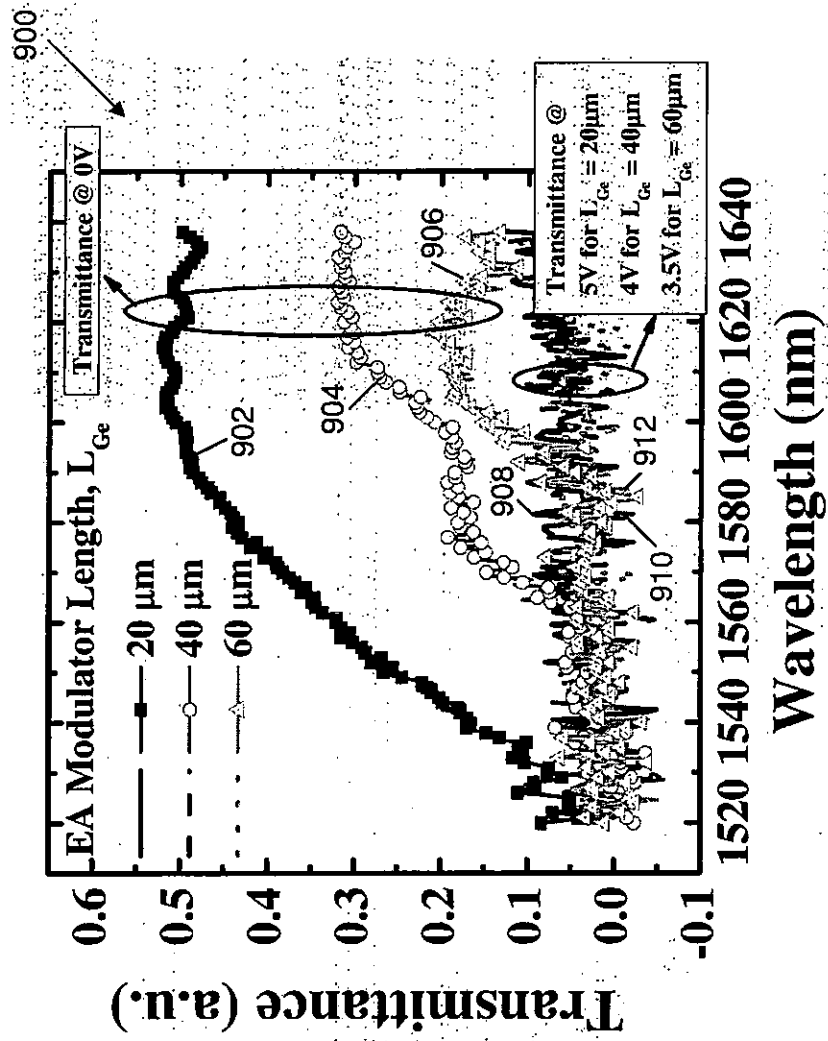


Figure 9

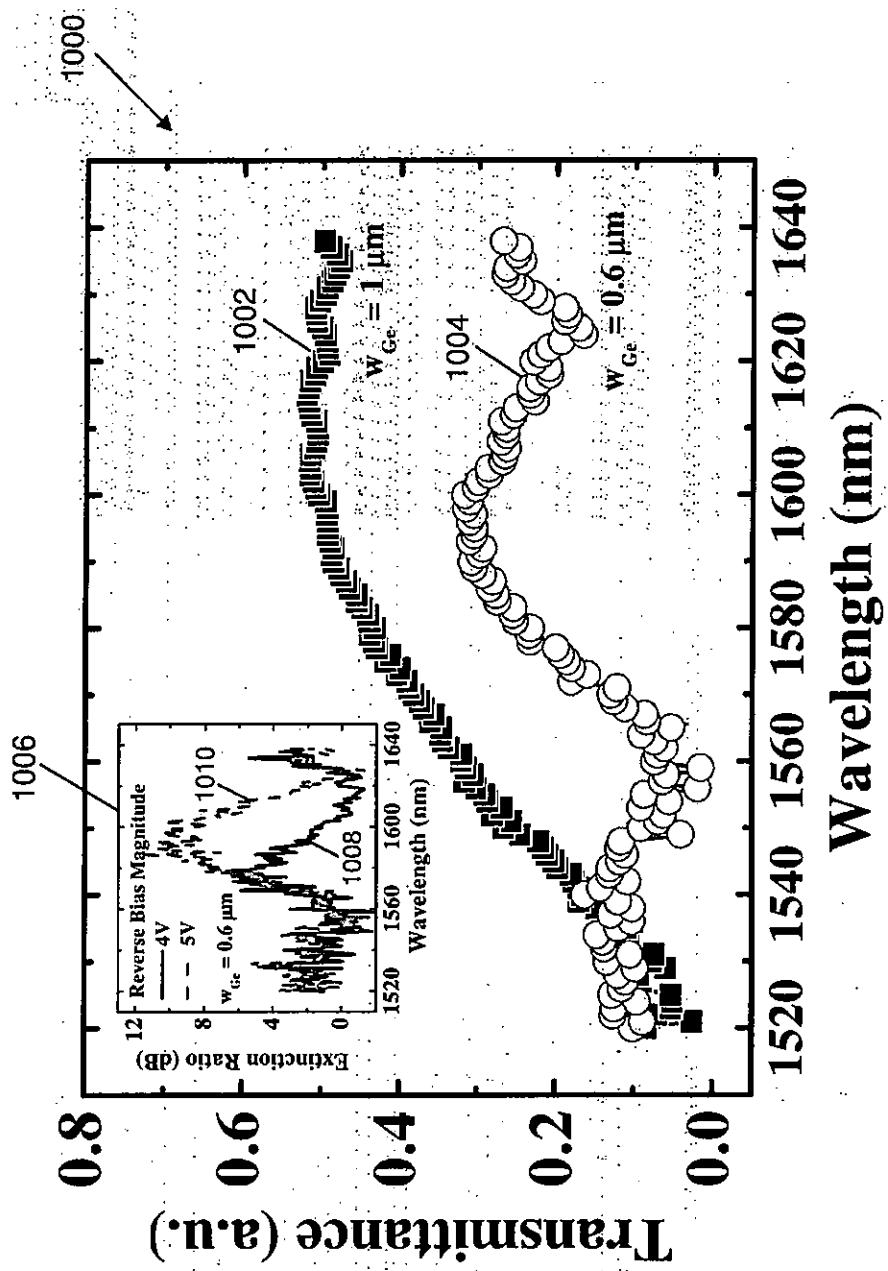
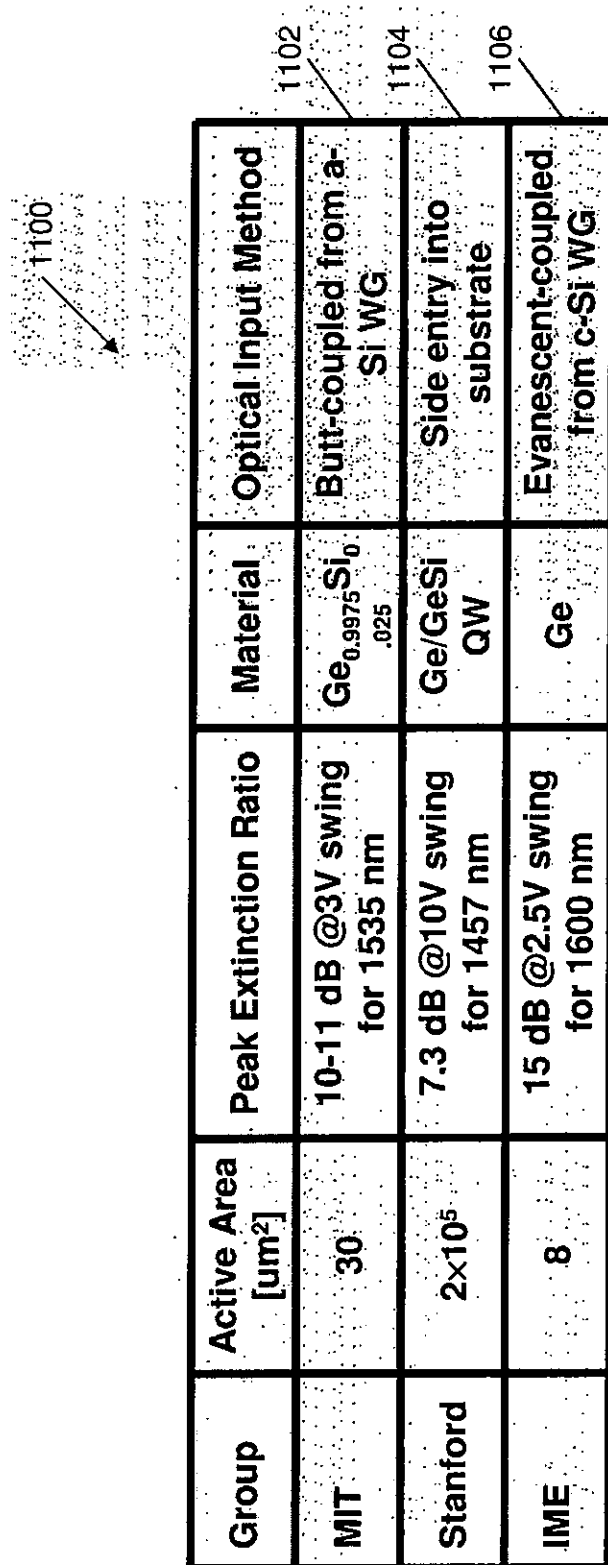


Figure 10



Group	Active Area [μm^2]	Peak Extinction Ratio	Material	Optical Input Method
MIT	30	10-11 dB @3V swing for 1535 nm	$\text{Ge}_{0.9975}\text{Si}_{0.025}$	Butt-coupled from a-Si WG
Stanford	2×10^5	7.3 dB @10V swing for 1457 nm	Ge/GeSi QW	Side entry into substrate
IME	8	15 dB @2.5V swing for 1600 nm	Ge	Evanescent-coupled from c-Si WG

Figure 11