Figure captions

Chapter 1

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Chapter 2

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Chapter 3

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Fig. 3-12. Breakdown voltages (V_B) after hybrid etch of Schottky diodes for $Al_{0.15}Ga_{0.85}N$. All samples were etched by ICP with the flow rate of

Cl_2/N_2=10/10 sccm, ICP/RF powers of 600/100 W, pressure 100 mtorr for 60 s followed by PEC etch by 0.04 M $KOH_{(aq)}$ under 100 mW/cm^2 of UV exposure.

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Fig. 3-18. ESCA spectra of Cl atoms in n-GaN after hybrid etch.

Chapter 4

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Fig. 4-17. Leakage current density *v.s.* applied voltage of WN$_x$/n-GaN.

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Chapter 5

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