

Electronic Supplementary Information:

Growth behavior and electrical performance of Ga-doped ZnO nanorod/p-Si heterojunction diodes prepared using hydrothermal method

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	Precursor materials	Temperature (°C)	Time (h)
Our samples	Zn(NO ₃) ₂ ·6H ₂ O, Ga(NO ₃) ₃ ·xH ₂ O, C ₆ H ₁₂ N ₄	95	4
Ref. 30	Zn(CH ₃ COO) ₂ ·2H ₂ O, Ga(NO ₃) ₃ ·xH ₂ O, NaOH	110	15
Ref. 33	Zn(CH ₃ COO) ₂ ·2H ₂ O, Ga(NO ₃) ₃ ·xH ₂ O, NaOH	100	15
Ref. 41	Zn(NO ₃) ₂ ·6H ₂ O, Ga(NO ₃) ₃ ·xH ₂ O, C ₆ H ₁₂ N ₄	60	6

Table S1. Detailed experimental conditions of the present and other studies

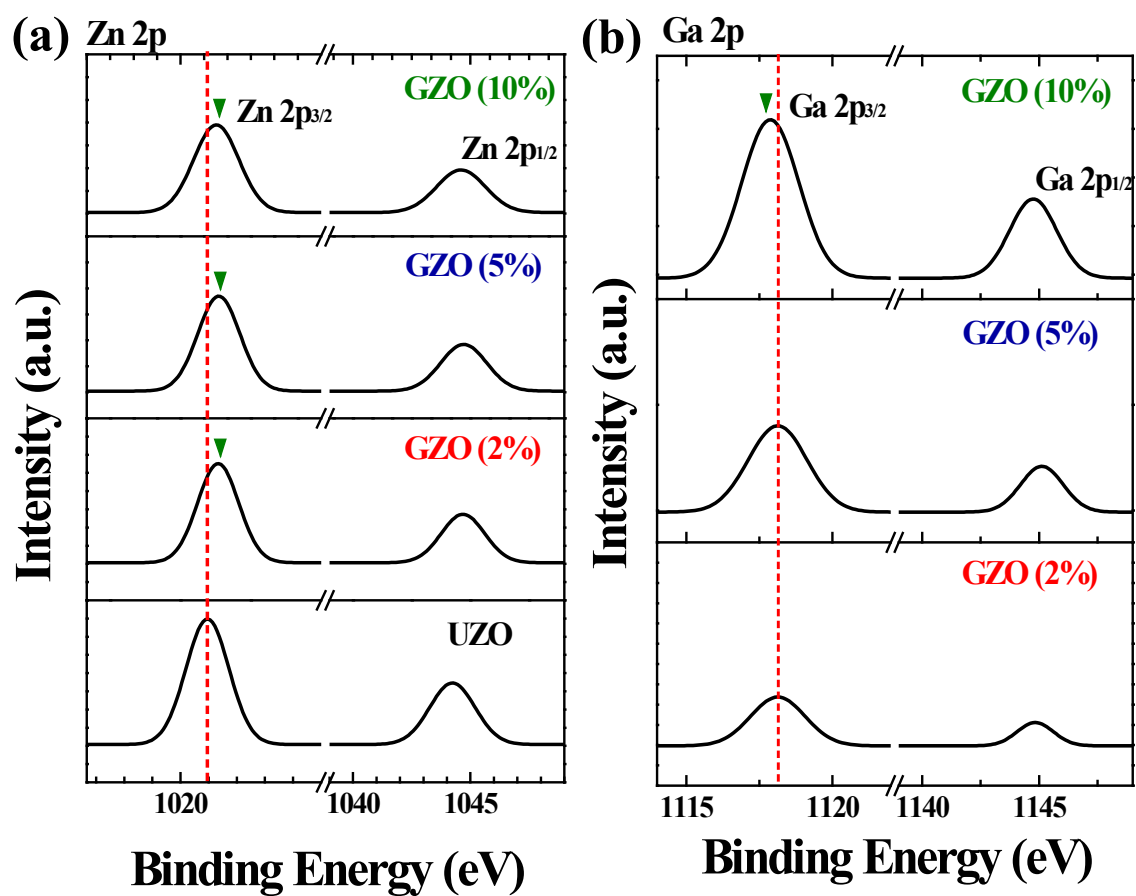


Fig. S1 XPS spectra of the narrow scan (a) Zn 2p of the UZO and GZO samples and (b) Ga 2p of the GZO samples

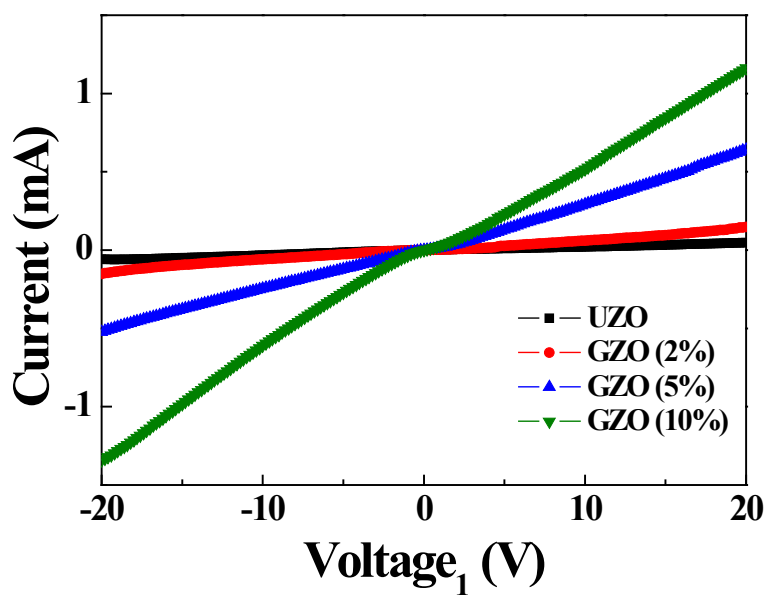


Fig. S2 I- V_1 characteristics of the UZO and GZO (2~10%) nanorods with Al electrodes

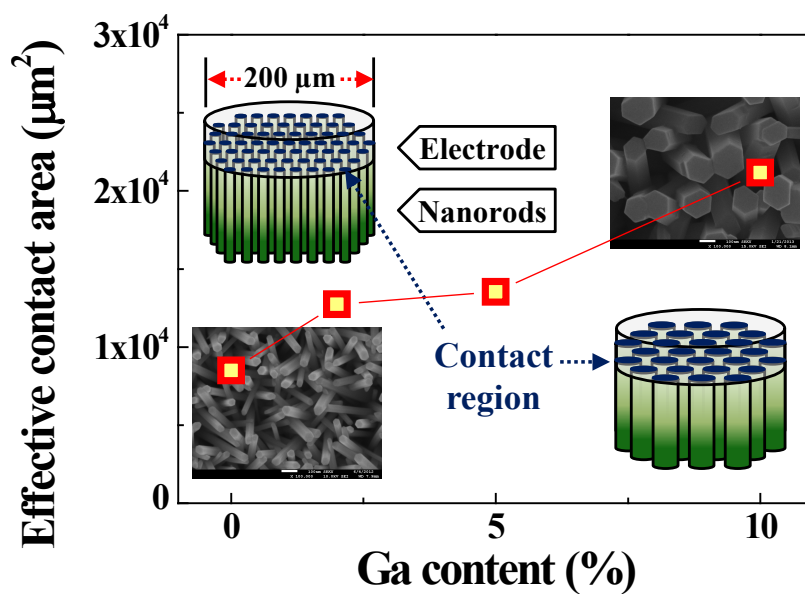


Fig. S3 Calculated effective contact area between the nanorods and Al electrode with respect to Ga content. The insets show the FE-SEM plan-view images of the UZO and GZO (10%) nanorods and the schematic diagram showing the effective contact region between the nanorods and Al electrode.