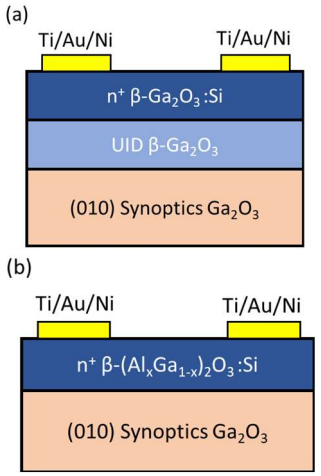

Figure 1 – Schematic of fabricated test structures on (a) β-Ga_2O_3 (b) β-$(Al_xGa_{1-x})_2O_3$

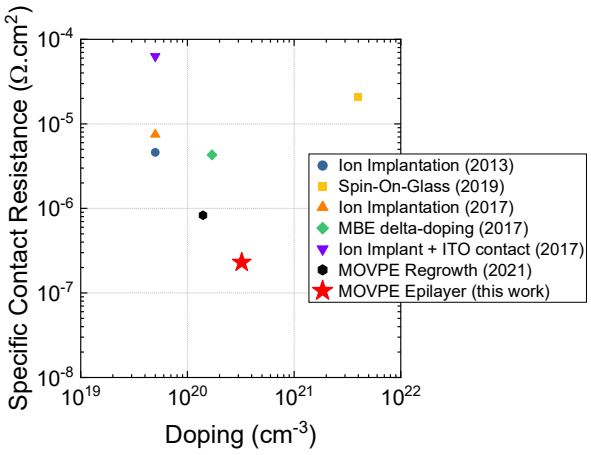

Figure 2 – Benchmark of reported β-Ga_2O_3 specific contact resistance values

	Electron Concentration n (cm^{-3})	n^+ GO Thickness (nm)	Sheet Resistance (Ω/□)	Pre-Anneal Specific Contact Resistance ρ_c (Ω.cm^2)	Post-Anneal Specific Contact Resistance ρ_c (Ω.cm^2)
β-Ga_2O_3	$1.77x10^{20}$	145	96.6	$2.12x10^{-6}$	$6.11x10^{-7}$
	$2.51x10^{20}$	65	71.8	$1.67x10^{-6}$	$2.48x10^{-7}$
	$3.23x10^{20}$	170	29.8	$1.12x10^{-7}$	**$2.30x10^{-7}$**
β-$(Al_{0.12}Ga_{0.88})_2O_3$	$1.23x10^{20}$	76	216	$6.96x10^{-6}$	**$2.18x10^{-6}$**
β-$(Al_{0.16}Ga_{0.84})_2O_3$	$1.22x10^{20}$	111	284	$3.56x10^{-5}$	$5.77x10^{-5}$
β-$(Al_{0.22}Ga_{0.78})_2O_3$	$5.49x10^{19}$	83.5	608	$2.01x10^{-4}$	**$4.56x10^{-4}$**

Table 1 – Electrical Properties and epilayer thicknesses of β-Ga_2O_3 and β-$(Al_xGa_{1-x})_2O_3$ structures

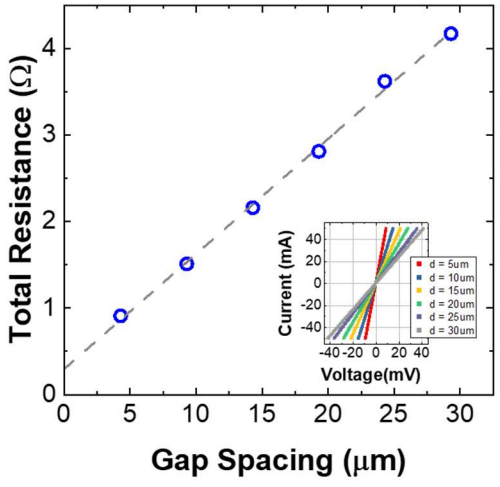

Figure 3 – TLM measurement and I-V curve of lowest specific resistance Ga_2O_3 sample

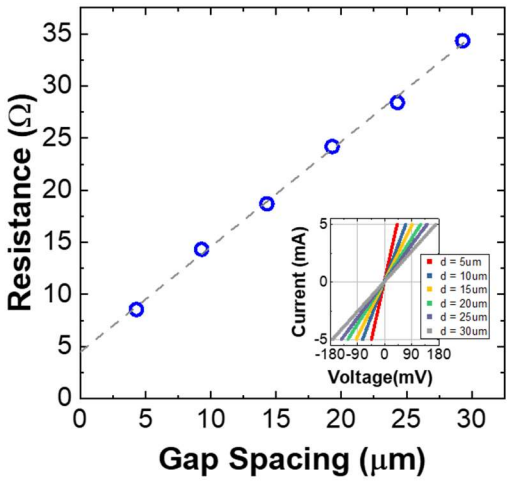

Figure 4 – TLM measurement and I-V curve of lowest specific resistance β-$(Al_{.12}Ga_{.88})_2O_3$ sample