

Sample	Specific R_C (Ω^*cm^2)	Mobility ($cm^2/V\cdot s$)	R_{sh} ($\Omega/sq.$)	N_{sh} (cm^{-2})
A (0.3 μm)	1.99×10^{-4}	71	4082	2.15×10^{13}
B (0.5 μm)	1.77×10^{-5}	115	4513	1.20×10^{13}
C (1.0 μm)	2.25×10^{-6}	116	6585	8.12×10^{12}

Table 1. Specific contact resistance from TLM and mobility, sheet resistance, and sheet carrier concentration from room temperature Hall measurements on each MOCVD stack.

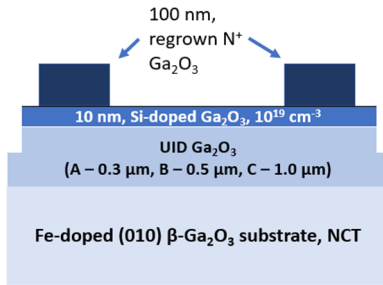


Fig. 1. Cross-section schematic of the MOCVD structures grown on Fe-doped (010) β - Ga_2O_3 substrates from NCT.

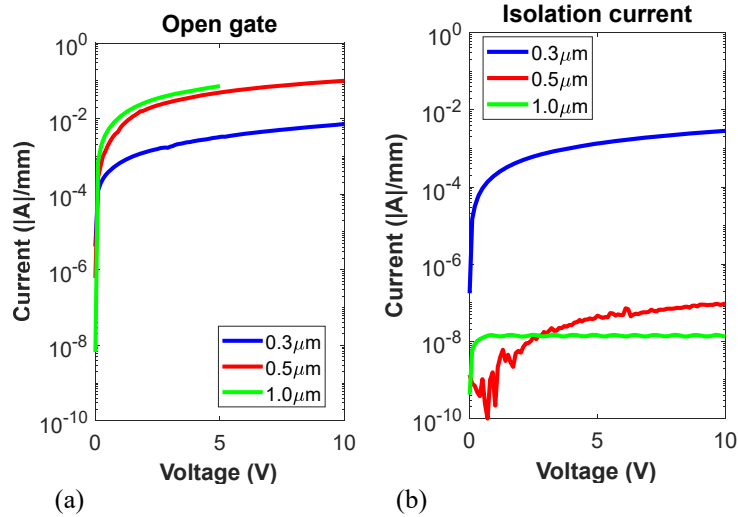


Fig. 2. (a) Open gate J - V characteristics and (b) isolation current of each MOCVD sample (A – blue), (B – red), (C – green).

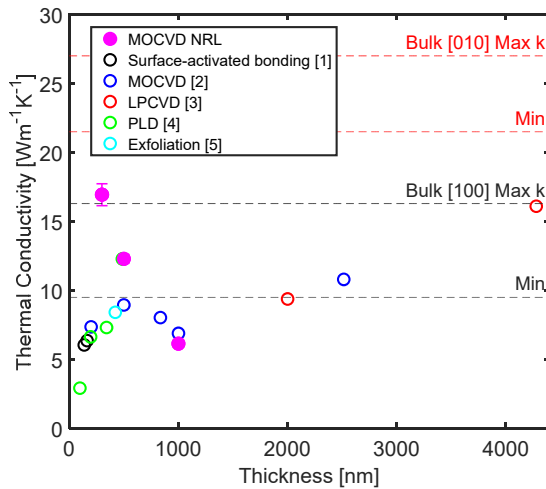


Fig. 2. Thermal Conductivity of this work measured by FDTR compared to literature. References: [1] Z. Cheng et al., ACS Appl Mater Interfaces, vol. 12, no. 40, pp. 44943–44951, Oct. 2020. [2] Y. Song et al., ACS Appl. Mater. Interfaces, vol. 13, p. 38490, 2021. [3] Y. Song et al., ACS Appl. Mater. Interfaces, vol. 13, p. 38490, 2021. [4] N. Blumenschein et al., Oxide-Based Materials and Devices IX (2018). [5] Z. Cheng et al., APL Mater, vol. 7, no. 3, p. 031118, Mar. 2019.

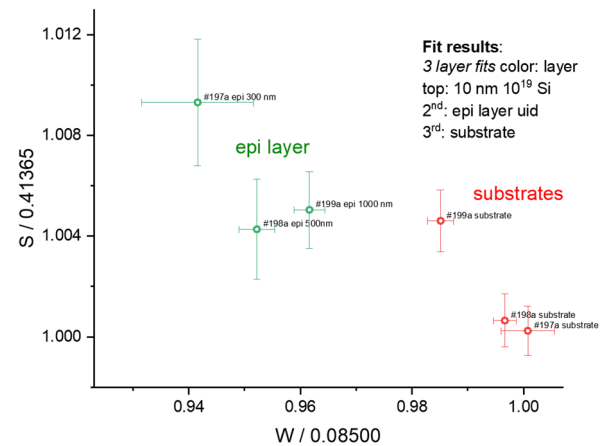


Fig. 3. Normalized S vs. W plot for 3-layer fit of positron annihilation spectra for the three samples.

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