

Graphene-Metal oxide hybrid thin film transistor

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Although the graphene has high carrier mobility, it is hard to use as a switching material due to its gapless property. We adopt zinc oxide based semiconductor to overcome this. The oxide semiconductor will cut off the current flow through the graphene by depleting itself with gate bias which penetrates the graphene layer. Thus we can enhance the on/off ratio which is crucial as an efficient switching device.

References

- [1] W. Song, S. Y. Kwon, S. Myung, M. W. Jung, S. J. Kim, B. K. Min, M.-A. Kang, S. H. Kim, J. Lim and K.-S. An, *Scientific Reports*, 4 (2014) 4064.
- [2] H. Zhu, A. Liu, F. Shan, W. Yang, C. Barrow and J. Liu, *RSC Advances*, 7 (2017) 2172.

Figures

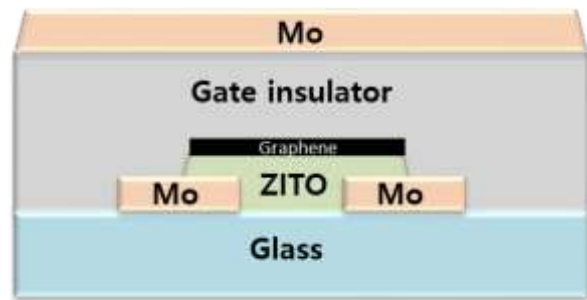


Figure 1: Schematic of Graphene-Metal oxide hybrid thin film transistor

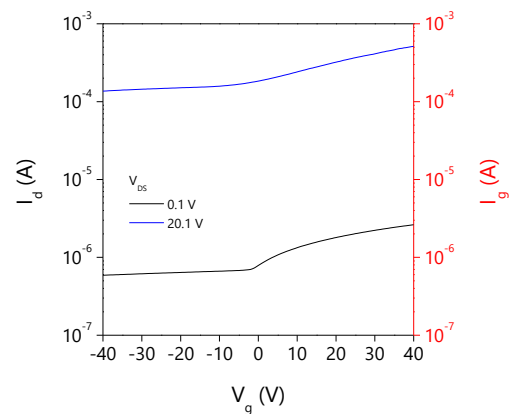


Figure 2: Transfer curve of the fabricated device