

Very High Open-Circuit Voltage in Dual-Gate
Graphene/Silicon Heterojunction Solar Cells

Ui Yeon Won, Thuc Hue Ly, Young Rae Kim,
Won Tae Kang, Yong Seon Shin, Kiyoun Lee,
Jinseong Heo, Kunnyun Kim, Young Hee Lee,
Woo Jong Yu



PII: S2211-2855(18)30614-1
DOI: <https://doi.org/10.1016/j.nanoen.2018.08.052>
Reference: NANOEN2982

To appear in: *Nano Energy*

Received date: 18 May 2018
Revised date: 20 August 2018
Accepted date: 21 August 2018

Cite this article as: Ui Yeon Won, Thuc Hue Ly, Young Rae Kim, Won Tae Kang, Yong Seon Shin, Kiyoun Lee, Jinseong Heo, Kunnyun Kim, Young Hee Lee and Woo Jong Yu, Very High Open-Circuit Voltage in Dual-Gate Graphene/Silicon Heterojunction Solar Cells, *Nano Energy*, <https://doi.org/10.1016/j.nanoen.2018.08.052>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Very High Open-Circuit Voltage in Dual-Gate Graphene/Silicon Heterojunction Solar Cells

Ui Yeon Won^{a1}, Thuc Hue Ly^{b1}, Young Rae Kim^a, Won Tae Kang^a, Yong Seon Shin^a, Kiyoun Lee^d, Jinseong Heo^d, Kunnyun Kim^c, Young Hee Lee^{b,c*}, Woo Jong Yu^{a*}

^aDepartment of Electrical and Computer Engineering, Sungkyunkwan University, Suwon 16419, Republic of Korea.

^bDepartment of Chemistry and Center of Super-Diamond & Advanced Films (COSDAF), City University of Hong Kong, Hong Kong SAR, People's Republic of China.

^cDepartment of Energy Science, Sungkyunkwan University, Suwon 16419, Republic of Korea.

^dSamsung Advanced Institute of Technology, Suwon-si, Gyeonggi-do, Republic of Korea.

^eKorea Electronics Technology Institute, Seongnam, Republic of Korea

micco21@skku.edu

leeyoung@skku.edu

*Corresponding Author.

Abstract:

Two dimensional (2D) layered materials and their heterojunctions with other materials are attracted because of their remarkable electrical and optical properties. In particular, graphene/semiconductor Schottky heterojunction is used for high performance solar cells. Here, we demonstrated very high open circuit voltage (V_{oc}) in graphene/silicon heterojunction solar

¹ U. Y. W. and T. H. L. contributed equally to this work.

Download English Version:

<https://daneshyari.com/en/article/10135978>

Download Persian Version:

<https://daneshyari.com/article/10135978>

[Daneshyari.com](https://daneshyari.com)