

Supporting Information

SnO/ β -Ga₂O₃ heterojunction barrier Schottky diodes for depressed reverse leakage current and improved breakdown voltage

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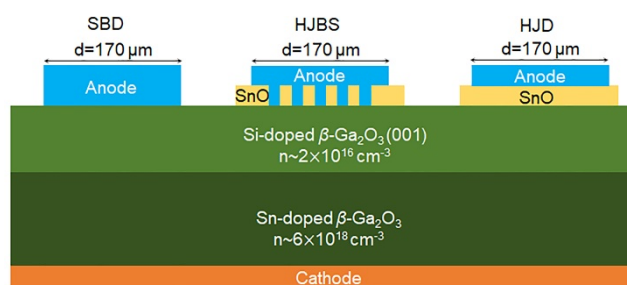


Fig. S1 Schematic cross section of β -Ga₂O₃ SBD, SnO/ β -Ga₂O₃ HJBS diode and SnO/ β -Ga₂O₃ HJD.

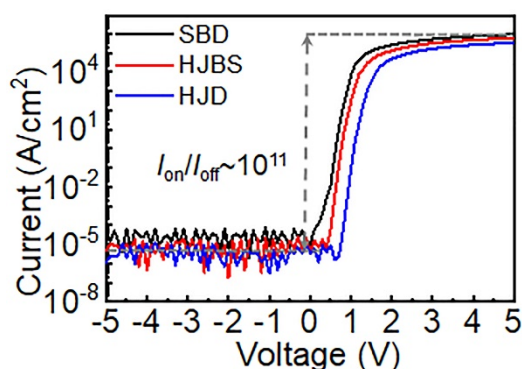


Fig. S2 The forward current-voltage (J - V) curves of β -Ga₂O₃ SBD, HJD and HJBS diode on a semi-logarithmic scale.

Table S1 Comparison of key parameters of previously reported NiO/ β -Ga₂O₃ HJBS diodes and this work.

Structures	W/L ($\mu\text{m}/\mu\text{m}$)	V_{on} (V)	$R_{\text{on,sp}}$ ($\text{m}\Omega\cdot\text{cm}^2$)	BV (V)	PFOM ($\text{GW}\cdot\text{cm}^2$)	Ref.
NiO/ β -Ga ₂ O ₃ HJBS diode	2.9/1.3	1.0	3.45	1715	0.85	[S1]
Embedded NiO/ β -Ga ₂ O ₃ HJBS diode	3/3	1.5	1.94	1340	0.93	[S2]
Fully conducted NiO/ β -Ga ₂ O ₃ HJBS diode	3/7	0.48	4.1	1347	0.44	[S3]
NiO/ β -Ga ₂ O ₃ HJBS diode	3/3	0.9	4.2	1000	0.24	[S4]
NiO/ β -Ga ₂ O ₃ HJBS diode	3/3	1.0	6.3	1450	0.33	[S5]
NiO/ β -Ga ₂ O ₃ HJBS diode	15(3)/3	1.09	7.5	2740	1.0	[S6]
Embedded NiO/ β -Ga ₂ O ₃ HJBS diode	1.5/2.5	1.12	3.56	1170	0.33	[S7]
SnO/ β -Ga ₂ O ₃ HJBS diode	3.16/2.93	1.2	5.1	1375	0.37	This work

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