Self-rectifying resistive switching behavior observed in Al_2O_3-based resistive switching memory devices with *p*-AlGaN semiconductor bottom electrode

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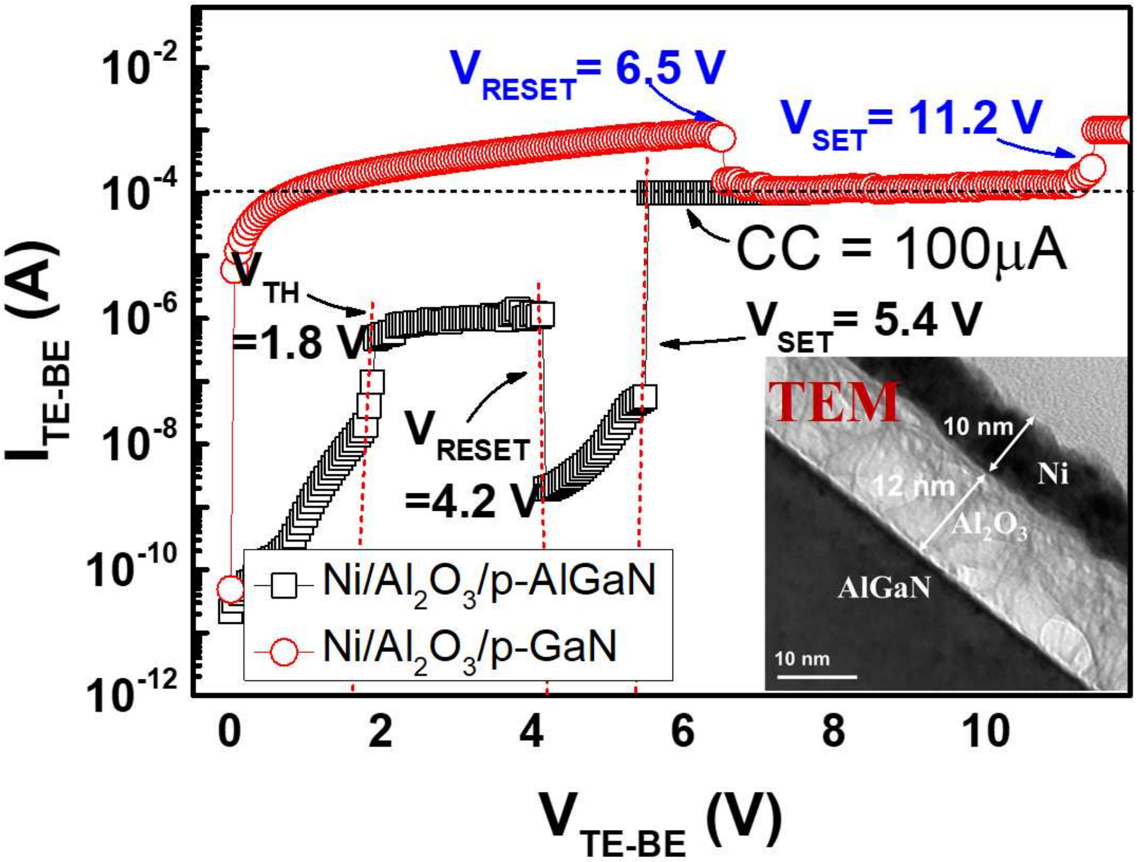
10^{-2}
10^{-4}
10^{-6}
10^{-8}
10^{-10}
10^{-12}
I_{TE-BE} (A)
0
2
4
6
8
10
V_{TE-BE} (V)
V_{RESET}= 6.5 V
V_{SET}= 11.2 V
CC = 100μA
V_{TH} =1.8 V
V_{SET}= 5.4 V
V_{RESET} =4.2 V
Ni/Al_2O_3/p-AlGaN
Ni/Al_2O_3/p-GaN
TEM
10 nm
Ni
12 nm
Al_2O_3
AlGaN
10 nm