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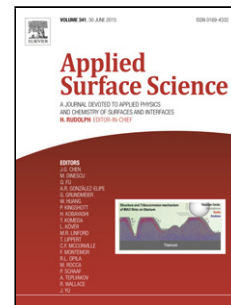
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Ohmic contacts to Gallium Nitride materials

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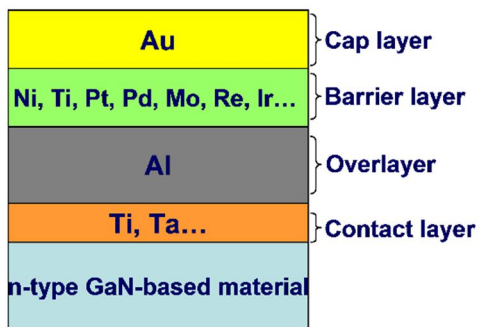
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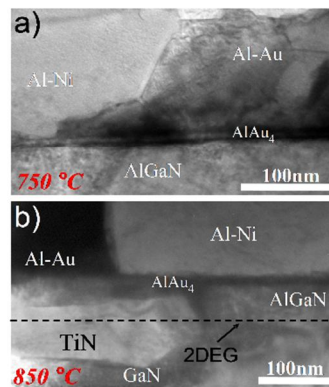
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Graphical abstract

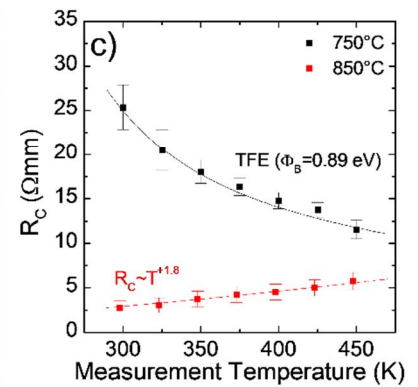
Typical metal schemes used for Ohmic contacts to n-type GaN-based materials



Cross section of Ti/Al/Ni/Au contacts to AlGaN/GaN heterostructures after annealing



Temperature dependence of the contact resistance R_c



Highlights:

- Ohmic contacts are a crucial issue for wide band gap semiconductors devices
- This paper reviews the mechanisms of Ohmic contact formation on GaN-based materials
- Ti/Al-based contacts and multilayers (Ti/Al/X/Au) are used for n-type GaN
- Ni/Au-based bilayers are used for Ohmic contacts to p-type GaN
- Several parameters affect Ohmic contact formation to AlGaN/GaN heterostructures
- “Au-free” contacts are important for the integration of GaN technology on Si-fabs

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