

Metallization

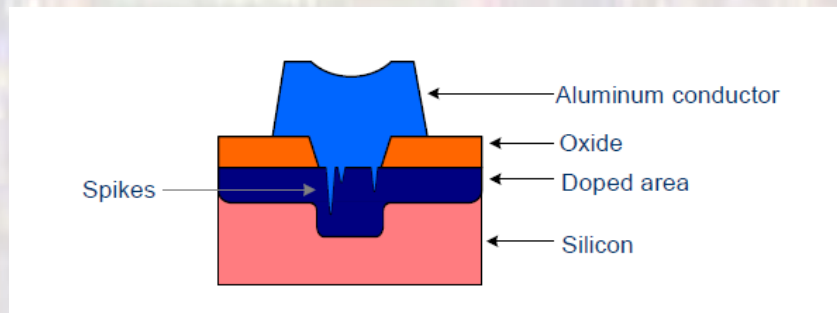
Last updated 3/7/19

Metallization

- Metallization
 - Depositing a conductor onto the wafer
- Characteristics
 - Good conductance
 - Must form a contact (connection) to Si
 - Easy to pattern/process
 - Does not corrode
- Typically
 - Al compounds
 - Au (gold)
 - Cu (copper)

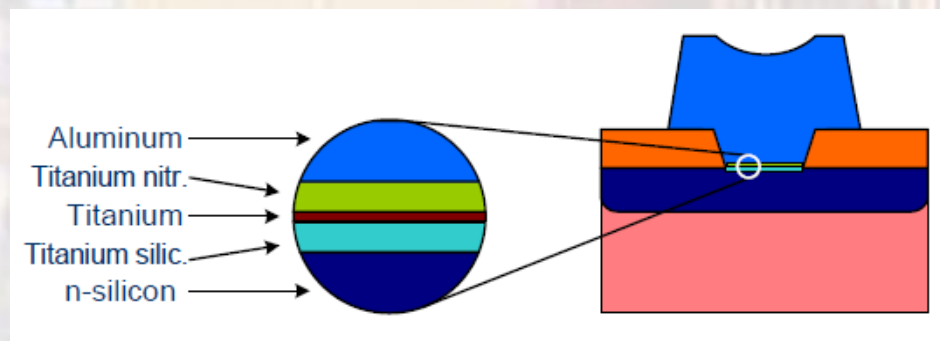
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 - Aluminum was the traditional choice but it has issues
 - Pure Al can diffuse through the silicon destroying junctions



Src: www.halbleiter.org

- Complex layering processes required



Src: www.halbleiter.org

Metallization

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 - Copper works better for newer technologies
 - Lower resistance
 - Supports smaller geometries
 - Copper issues
 - Cannot be patterned in the traditional (easy) ways
 - Dual damascene process

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 - Dual Damascene Process

