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Pulsed DC magnetron sputtered titanium nitride thin films for localized heating applications in MEMS devices

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Research highlights

- TiN thin films have been synthesised using pulsed dc magnetron sputtering technique at various substrate temperatures.
- Structural, surface, mechanical and electrical properties have been investigated.
- Correlation between process parameter, structure, electrical and mechanical properties has been established.
- Microheater patterns were fabricated with lower resistive TiN film and their heating capabilities were calibrated.
- Maximum temperature of 250 °C is achieved by applying a power of 2.8W to the microheater.

Abstract

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