

Comparative Analysis of Ferroelectric Properties and Reliability in MFM Capacitors with Varied HZO Layer Thicknesses

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Abstract

We examined the impact of varying dielectric thicknesses (5nm, 7nm, 9nm, 20nm) on the reliability of metal-ferroelectric-metal (MFM) structures using Hafnium Zirconium Oxide (HZO). In-situ ALD ensured high-quality thin-film interfaces. Lifetime analysis and hysteresis loops were demonstrated to understand how dielectric thickness affects MFM performance, providing optimization insights.

Keywords - Ferro, HZO, dielectric thickness, MFM