

Piezoelectric thin film & Piezoelectric device MgHfAlN film, World's Highest FoM

Overview

Lead zirconate titanate (PZT) has been widely used as a piezoelectric material in sensors, actuators, and related applications. However, **the presence of toxic Pb (lead) in PZT necessitates the search for safer alternatives.**

This innovative solution introduces a **MgHf co-doped AlN thin film** that exhibits exceptional piezoelectric properties.

The MgHfAlN film is not only **lead-free** but also achieves groundbreaking performance, boasting **the world's highest figure of merit (FoM) exceeding 45 GPa**. Additionally, its **piezoelectric strain constant (d33) exceeds 23 pm/V**, and it delivers an impressive **output power of 40 mW within a compact device size of just 1cc**.

This technology holds significant potential for applications in vibration-powered generator, electric field sensors, force sensors, slip sensors, and more.

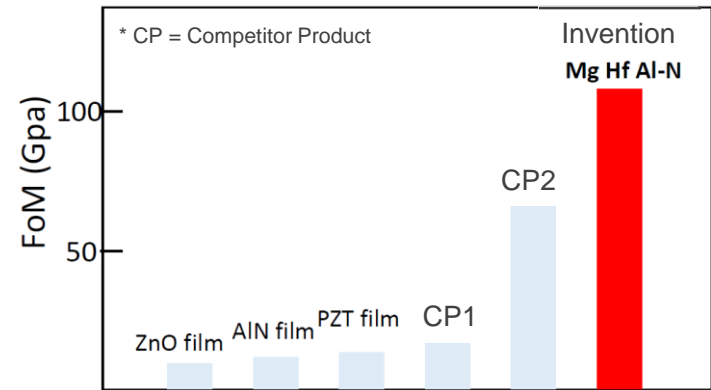
Product Application

- ❑ Vibration-powered generator
- ❑ Electric field sensors, force sensors, slip sensors, and more.

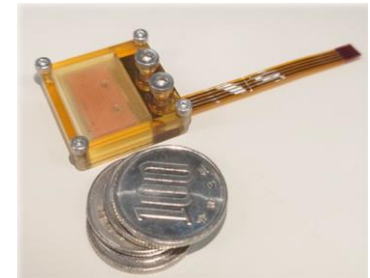
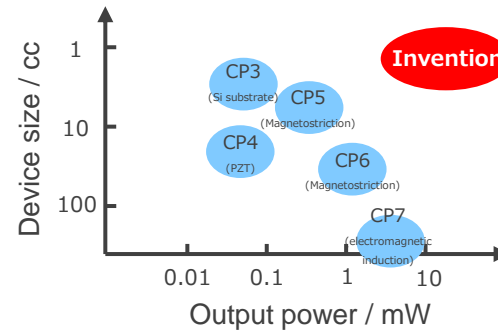
IP Data

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Features · Outstandings



Invention shows world's highest FoM



- High power generation performance (~40mW)
- No replacement, Compact design, Explosion-proof

Expected partner

- ❑ User company, Fabricator, Manufacturer
- ❑ Investor (VC, CVC)

Contact

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