

SMARTCOATINGS

MONITORING AND POWERING ELECTRONICS
IN REMOTE PLACES WITH A PERFORMING
VIBRATION ENERGY HARVESTER



Fast moving mechanical parts
with no possible wiring and/or
very harsh environment

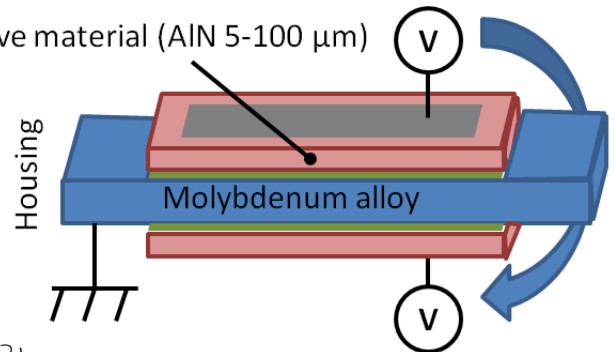
Embedded electronics with
difficult access and need for
absolute long term reliability
(no failure allowed)



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A powerful AlN on metal based energy harvester

- Piezoelectric layer grown on metal
- Tunable low frequency (5-500 Hz)
- Sturdy (deposited on metal plate)
- Small (typical size 10*50 mm)
- High voltage allowed (>30 volts)
- Powerful ($>10 \mu\text{W}/\text{cm}^2$, $>280 \mu\text{W}/\text{cm}^3$)



PATENTED TECHNOLOGY



BENEFITS

- Long term reliability (years)
- Resisting to 500°C air temperature
- High electrical resistivity ($> 10^8 \text{ Ohm.cm}$)
- Perfect adherence (chemical bonding)
- Thick active layer (5-100 μm) : more power
- Can tolerate damage due to ductile substrate
- No lead, no rare materials

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COATINGS

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