

The Complete Solution For PZT MEMS

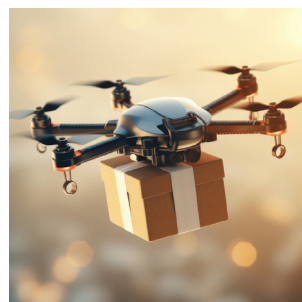


Our Integrated product development experience

- Pairs AMFitzgerald's expertise in MEMS development with MEMS Infinity's aerospace-grade prototyping and manufacturing capability in PZT MEMS
- Facilitates global access to MEMS Infinity's thin-film PZT, available for 150 and 200mm wafers
- Leverages proprietary data on thin-film PZT to improve accuracy of MEMS design and modeling, minimizing the need for design-build-test cycles and accelerating product development

UNLOCK COMMERCIAL POTENTIAL OF PIEZOELECTRIC MEMS DEVICES

- ultrasound transceivers
- micro-speakers
- micro-mirrors
- microfluidic actuators and valves
- and more



TYPICAL FABLESS DEVELOPMENT CYCLE FOR MEMS



VERSUS

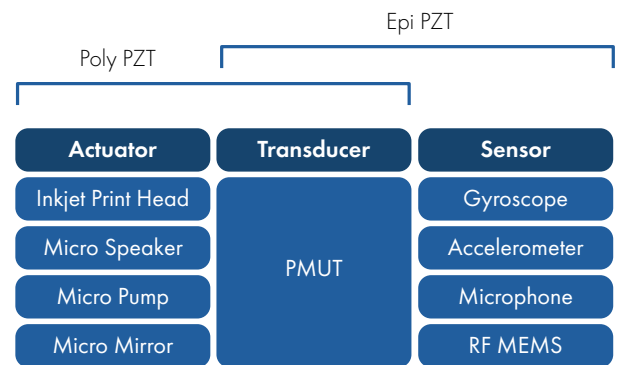
OUR COMPLETE SOLUTION FOR PZT MEMS



Our alliance helps speed innovative products to market—from feasibility analysis to full production.

SUPERIOR THIN-FILM PZT FROM MEMS INFINITY

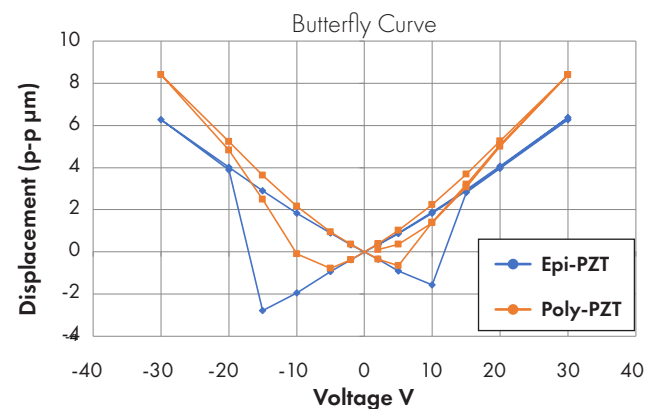
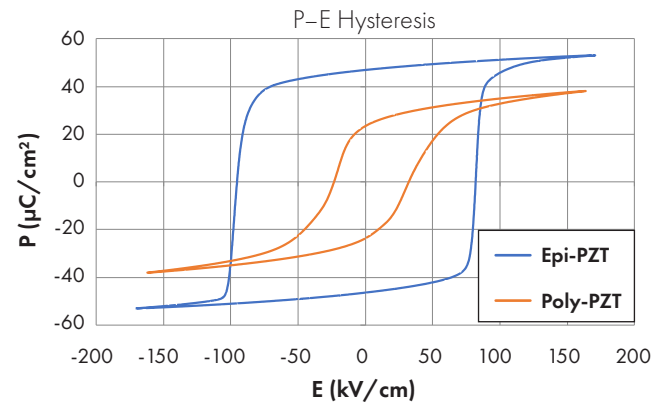
- sputter-deposited above 500°C
- polycrystalline PZT films with high d_{31} piezoelectric response suited for actuators
- epitaxial PZT films with low ϵ_r dielectric constant suited for transducers and sensors



CHARACTERISTICS

Type	Poly-PZT	Epi-PZT	
PZT composition	MPB	Ti rich	MPB
ϵ_r	900	235	354
$-d_{31}$	240pm/V	139pm/V	170pm/V
FOM($\propto d_{31}^2/\epsilon_r$)*	40GPa	52GPa	52GPa
$\tan\delta$	<0.03	<0.03	
Stress (tensile)	30MPa	200MPa	
Wafer type	Bulk Si or SOI		
Wafer size	150 mm or 200 mm		
PZT thickness	<5 nm	2 nm	

* Figure of Merit for Transducer



AMFitzgerald

CONTACT US

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MEMS Infinity