Process Manager: Reference ZPM2006PM

Location: Bristol, UK

About

At Zero Point Motion we are redefining the limits of inertial sensors to enable high precision positioning and navigation. Our mission is providing exquisitely low-noise readout of acceleration and rotation using cavity optomechanics in a hybrid micro-electro-mechanical systems (MEMS) and photonic integrated circuit (PIC) chip.

We're an early stage start-up founded in 2020 to commercialise technology invented by the CEO Dr Lia Li, with a founding team comprised of eminent semiconductor veterans. We operate a fabless business model, and are VC funded.

We are seeking enthusiastic technical engineers to join our team and shape our technology design, strategy, and workflow. Together we will bring aerospace/defence levels of sensor performance to commercial mass markets and transform indoor, autonomous and GNSS-denied navigation. Can you help us disrupt the inertial sensing market?

Zero Point Motion is based in Bristol, and supports virtual working practices where applicable.

Role Overview

We are looking for a process engineer with experience in MEMS and/or PIC chip processing who has, or is seeking to, transition to a management role. You will draw upon your hands-on experience (e.g. DRIE, DUV, e-beam, TSVs, eutectic bonding, deposition techniques like LPCVD and PECVD) to interact and manage relationships with external Foundry partners. As a fabless company we do not require any experimental work or process development in-house, although occasional opportunities may arise with our partners. Our collaborative culture of knowledge exchange means no prior experience in inertial sensors is required, just your enthusiasm to learn.

You will be responsible for both the strategy and execution associated with using Foundries for the fabricaton and packaging of our optical inertial sensors. Your expertise in process engineering will influence key discussions with R&D facilities, foundries and packaging houses, with focus on maintaining high performance, high yield and low cost fabrication. The role will involve the interpretation and validation of analytical data and the development of MEMS and PIC processes.

You will be part of our core technical team working with an experienced group of electronic engineers, physicists, chip designers and hardware engineers in a fast-paced environment that requires self-motivation and a willingness to embrace new ideas. We want dynamic people that

understand the scale and nature of our goal, who can challenge our assumptions. This is an exciting opportunity for a packaging engineer to move out of hands-on work and into strategy and project management.

What you'll accomplish

- Collaborate with the PIC and MEMS design team to align design with Foundry process capabilities, including prototyping strategy, production strategy and Foundry engagement. Lead discussions with foundries and packaging houses.
- Create internal design rules, design verification checks and other documentation or automation to fast track checking of key performance parameters influenced by fabrication
- Project manage the internal cycle of design, tape-out, analysis and testing with respect to the Foundry
- Process development together with process integration, including failure analysis
- Optimize MEMS and PIC fabrication using design of experiments (DOEs) and statistical
- methods to improve process parameters and yields as well as reduce costs
- Document all fabrication records and write SOPs
- Assist and support product QA/QC, packaging, and inventory

The critical attributes we'll use to compare candidates

- Demonstratable experience of process engineering for R&D and product development
- Experienced in using documentation and software to track process metrics, decisions and pinpoint solutions
- A passion to learn how to scale MEMS and PIC devices into high volume products and to apply this knowledge to affect design
- Hands-on testing experience or to manage outsourced testing
- SPC, MSA, D/P-FMEA, control plan know-how
- Flexibility and team working skills
- Understanding of MEMS device physics and experience in MEMS process development:
    - Deposition methods such CVD (e.g. Epitaxy, LPCVD, PECVD), PVD (e.g. ICP, evaporation, sputtering), and Electroplating,
    - Lithography including D-UV, Thick Film / Thin Film Photoresist processing,
    - Etch methods such as Wet Etch, Dry Etch - RIE / Deep RIE
    - Release Layer Processing
    - Dicing and packaging experience

Must-have-skills

- Undergraduate / Masters / PhD in Physics or Engineering
- 2+ years relevant experience
- Strong know-how in microfabrication processes and analysis of these processes
- Experience with working within small engineering teams or research groups
- Demonstrate a strong discipline for thorough documentation
- Ability to distil and communicate scientific information effectively with the wider team
- Highly adaptable, good communication and interpersonal skills

Good-to-have skills

- Experience in wafer level packaged products, wafer bonding e.g. fusion bonding, eutectic bonding
- Experience in quality assurance testing to fulfil requirements in real application environments

Package

- Competitive salary
- Generous company package including share options, Royal London pension, and sick pay
- Flexible working arrangements

Location & Travel

Zero Point Motion's office and lab space is located in the Bristol University Quantum Technologies Innovation Center amongst likeminded start-up companies. There will be a occasional travel throughout the UK and abroad for conferences, meetings and engineering visits.

Zero Point Motion is determined to foster belonging and empowerment at work. We are committed to providing a work environment where there's a zero-tolerance approach to discrimination, and everyone is treated with respect. Equity, diversity and inclusion are central to our mission and we strongly encourage candidates of all different backgrounds and identities to apply. If you need assistance or an accommodation due to a disability, please contact us.