



Gooch & Housego

Optoelectronics Packaging capability summary

enabling optical technologies

2009



光技術をサポートする

株式会社オプトサイエンス

<http://www.optoscience.com>

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Custom Photonic Packaging

- Actives design, manufacture, test and qualification
- Dedicated expert resources with extensive experience
- Fully equipped, purpose built, antistatic facility certified to ISO 9001/2000 with cleanroom facilities



Comprehensive capability enabling optical technologies

Photonics Packaging Philosophy

- Emphasis on custom products
 - Close customer co-operation
 - Experienced design team
 - Design for manufacture
- Target markets
 - Development projects
 - Research devices
 - Prototype to commercial product
 - Small/medium volume complex manufacture
 - Medical/Sensors/Comms/Military/Consumer etc
 - Provides a service that others do not support
 - Because volumes are too small
 - Because design/build problems

Design and development

- **Specialist designers of optoelectronic packaging**
 - In-house skill set
 - Custom design
 - Active and passive devices
 - Optical (Zemax support)
 - Mechanical (Solid Edge support etc)
 - Thermal
- **Extensive experience of practical packaging issues**
 - Design for manufacture
 - High speed (10Gb/s +)
 - Stable alignment and PM techniques
 - Thermal management
 - Hermetic design
 - Vacuum packaging
 - Fibre handling
 - Free space products
 - Bulk optics products
 - High Power
 - Single mode and PM RGB

Manufacture

- Fully equipped for
 - R&D samples (<10)
 - Prototype development (<100)
 - Small/medium volumes (>100)
 - Route for high volume sub-contract manufacture
- Comprehensive capability including
 - Precision die attach – eutectic, solders and epoxy
 - Wirebond – fine/fat wire, tape, Al/Au/Cu, wedge, ball bond, deep access
 - Hybrid assembly
 - Active alignment – sub micron multi-axis capability
 - Bulk optics align/fix capability
 - Special lens capability
 - Stable sub micron active attach technology
 - Micro spot welding, parallel gap welding,
 - Thermode and hot gas micro soldering
 - Induction heating systems
 - Glass sealing for hermetic feedthrough etc
 - Hermetic sealing – projection welding and seam sealing.
 - Laser welding
 - Hermetic fibre feedthroughs
 - Connectorisation
 - Extensive materials and piece-parts instant availability
 - Critical process clean room capability
 - ESD control

Virtually every packaging process available enabling optical technologies

Test and Qualification

- Gooch and Housego has a reputation for the highest quality and reliability
- Broad range of test facilities
 - Optical test
 - Leak test (gross & fine)
 - Burn-in
 - Environmental
- Equipped to undertake full Telcordia 468 and 1221 qualification programmes



Gooch and Housego Summary

Gooch & Housego is an international group specializing in the manufacture of precision optical, crystal and optoelectronic components for OEM's and research purposes. The Group offers a unique optical manufacturing and design capability making it a first choice manufacturer and technology partner for many of the photonic industry's leading OEM's and scientific institutions.

- Photonics packaging
- High performance fused couplers
- Integrated electronics/photonics module design and manufacture
- Precision Optics
- Optical Coatings
- Acousto Optics
- RF Electronics
- Electro Optics
- Single Crystal Growth