深光谷科技
SHENZHEN PHOTONICS VALLEY

TGV Optoelectronic Interposer Solution OEM Tape-out Service

Introduction:

Based on the mature and reliable 8-inch wafer-level manufacturing process, Shenzhen Optical Valley Technology can realize TGV interposer wafers that support wiring bandwidths above 110GHz through laser induction, deep silicon etching and rewiring (RDL), and micro-bump processes; it provides 4/8/16-channel standardized solutions, compatible with the pin definitions of mainstream optical chips (such as EML, VCSEL, silicon photonics, lithium niobate) and electrical chips (such as DML, DRV, TIA, DSP), and uses laser direct writing optical waveguide technology and 2.5D/3D stacking packaging technology to achieve high integration of optoelectronic hybrid packaging; while supporting wafer-level TGV interposer customization, it can MPW customize multi-solution wafers, significantly reducing the cost of large-scale production. With the advantages of low crosstalk, high-speed signal integrity and ultra-high integration, it can effectively solve the bottleneck problem of ultra-high-speed optical engine packaging and become a key technology for high-speed optical interconnection in the next generation of data centers.

Performance characteristics:

- 6/8/12-inch wafer-level TGV process, support MPW multi-solution customization
- 3-layer RDL and micro-bump process on both sides, wiring bandwidth exceeds 110GHz
- Support optoelectronic chip Flipchip packaging, EML/silicon photonic solution channel standardization
- Support low-loss optical waveguide laser direct writing
- Support three-dimensional structure grooving, support low-loss optical coupling

Attached below: Silicon photonic module TGV solution, EML module TGV solution

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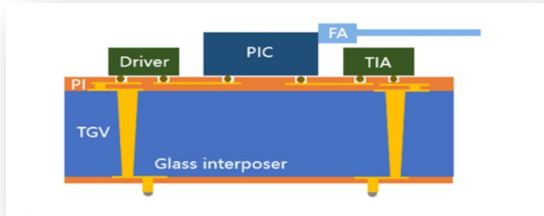
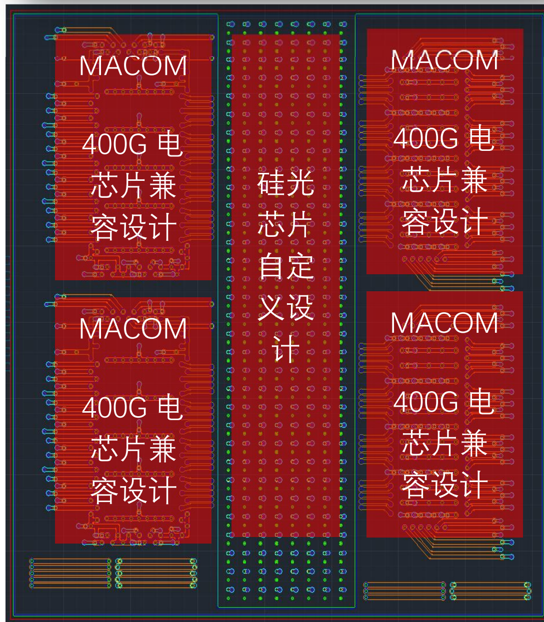
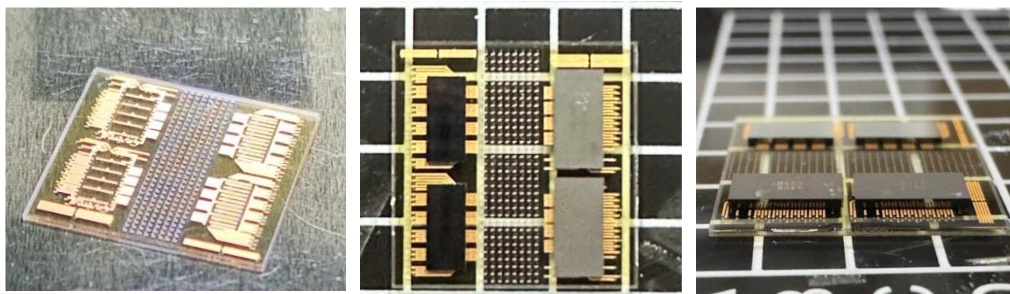
Silicon photonic module TGV solution





参数	指标
尺寸	1cm*1cm*230μm
TGV深度	200-500μm
RDL层数	TOP 2 BOT 1
布线带宽	>110GHz
Bump	有/SnAg
开槽	可开槽 精度±10μm
开孔	可开孔 精度±5μm
兼容PIC结构	支持自定义设计
兼容EIC结构	MACOM



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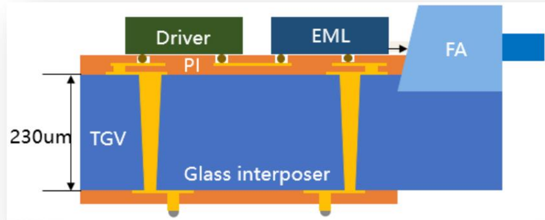
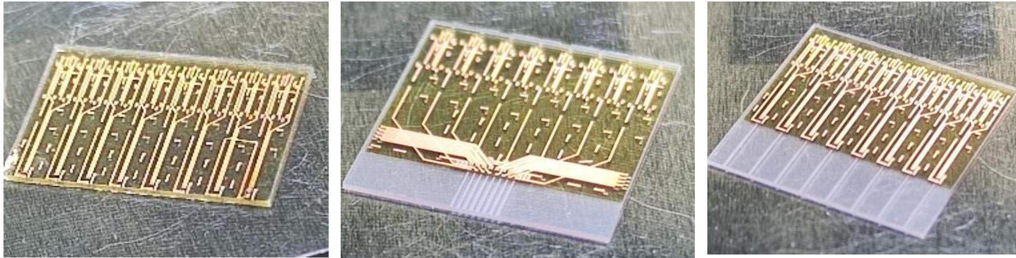
EML module TGV solution



参数	指标
尺寸	1cm*1cm*230μm
TGV深度	200-500μm
RDL层数	TOP 2 BOT 1
布线带宽	>110GHz
Bump	有/SnAg
开槽	可开槽 精度±10μm
开孔	可开孔 精度±5μm
兼容PIC结构	Sumitomo EML
兼容EIC结构	MACOM



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