

Luxtera Silicon Photonic Die

Active Optical Connector photonic die and laser source

Reverse Costing Analysis – November 2012

Physical Analysis of the Device

Step by Step Reconstruction of the Process Flow

Cost of Manufacturing and Estimation of Selling Price

System Plus Consulting is proud to publish the reverse costing report on the latest generation 40Gbps photonic circuit from Luxtera.

The 1064101003 Quad Small Form-factor Pluggable Plus connector from Molex integrates this photonic circuit from Luxtera which manages 40Gbps data rate on a single silicon die assembled directly in the connector case.

This new component is two times smaller than the first generation in 130nm. This technology is targeted for very high data rate on short and medium distances. It integrates its laser source in a tiny original MEMS package.

This report provides complete teardown of the die with:

- Detailed photos
- Material analysis
- Schematic assembly description
- Manufacturing Process Flow
- In-depth economical analysis
- Manufacturing cost breakdown
- Selling price estimation

The screenshots show a detailed cost breakdown for the Silicon Photonic Die and MEMS Laser Source Module. The 'Silicon Photonic Die Cost' table lists components like FE: ASC Cost, FE: MEMS Cost, and FE: ASC/MEMS Assembly Cost with their respective costs and percentages. The 'MEMS Laser Source Module Process Flow 3/3' diagram illustrates the -MEMS/Lid Assembly Process, including special steps like Eutectic bonding. The 'Laser - Ball Lens - Faraday Rotator' section includes a photograph of the laser module and a diagram of the optical fiber coupling process, showing the silicon photonic die, fiber to chip coupler, and optical fiber cable.

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- ✓ Power Price+ to estimate the cost of any power component or module
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- ✓ LED CoSim+
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