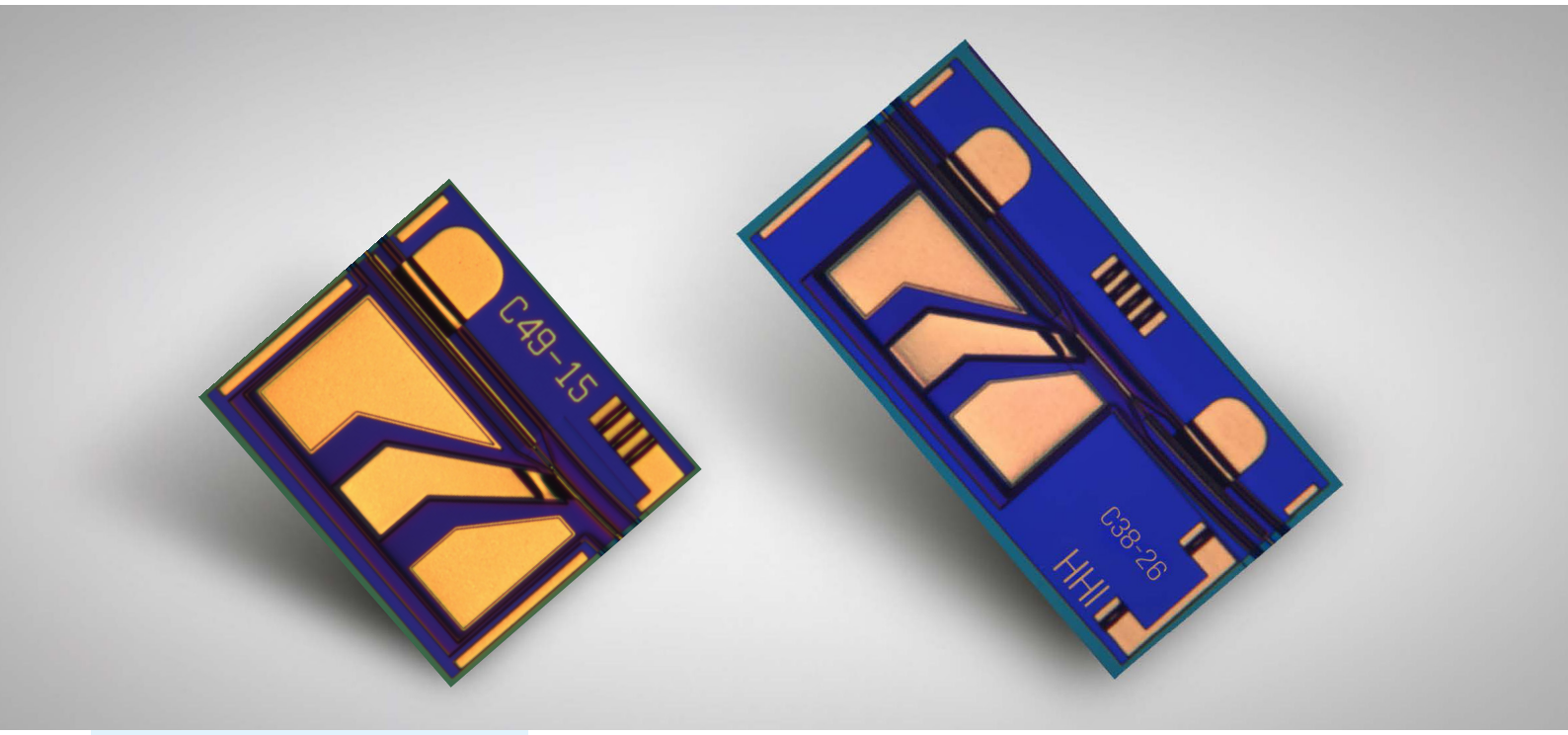
Electroabsorption-modulated lasers (EML) for 100G/400G

Fraunhofer HHI



AT A GLANCE

High speed InGaAlAs EML transmitter chips for direct detection schemes

Feautures

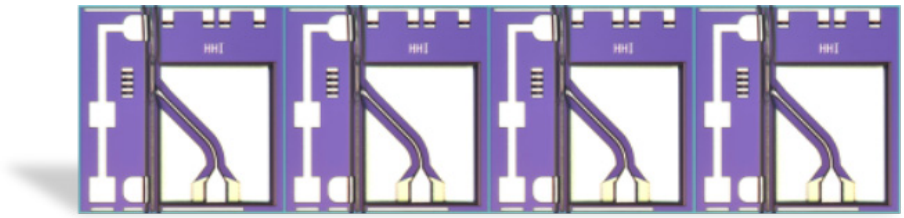
- Wavelengths in O-, C-, L-Band
- Modulation bandwidth > 50 GHz
- Operation up to 100 Gb/s NRZ, 200 Gb/s PAM4
- Small footprint
- Single chips and 4-arrays, 8-arrays
- Monolithically integrated amplifier section as high power option
- Typical operation temperature: 50°C
- Extended operation temperature: 20°C to 85°C

Applications

- Datacom/Telecom
- Analog photonic transmitter
- CATV

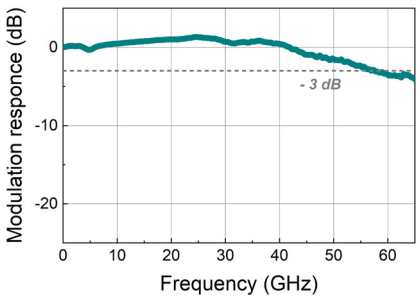
Device variants

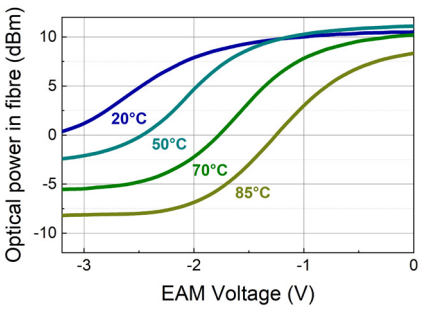
- Standard chip size 320 µm x 370 µm
- Angled output waveguide
- Integrated semiconductor optical amplifiers (SOAs)
- 4-fold EML-arrays with RF waveguide on chip



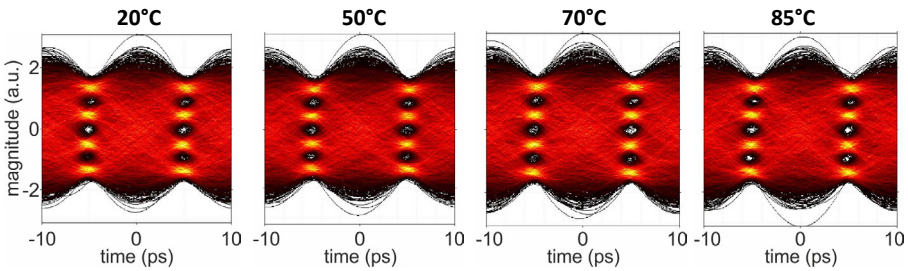
Typical performance

- > 10 mW facet output power
- > 50 GHz modulation bandwidth @50°C





200 Gb/s PAM4 Optical Eyes



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