



VCSEL Diodes for Optical Communications, Gas Analysis and 3D Sensing



Communications: 1.27 μm to 1.65 μm

- 10 Gbps - 50 Gbps modulation
- Datacom, CWDM, DWDM
- O-band, C-band, L-band

NIR 2D VCSEL Arrays for 3D Sensing

- 1.3 μm to 2 μm
- Improved eye safety
- Reduced sunlight interference
- From 3 to 1000+ emitters
- Few mW to > 10 W optical power in cw mode

NIR Gas Analysis: 1.27 μm to 2.3 μm

- HF, H₂O, NH₃, CH₄, H₂S, HCl, CO₂, CO, ...
- VCSEL tuning 3 - 5 nm with bias
- Measurements for ppm and ppb sensitivity

More information: www.vertilas.com

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2 Terabit/s Transmitter SiPh* InP VCSEL integration

40 VCSELs @ 50 Gbps DWDM



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EPIC - Photonics Research America

sicoya
silicon photonics™

silicon photonics™

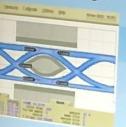
VERTILAS®

Single Mode InP VCSELs for Communications

InP BTJ VCSEL Cross Section



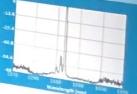
Excellent Eye Mask Margin



25 to 50 Gbps InP VCSEL



Single Mode SMSR > 40 dB



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Pluggable modules

40Gb FOR DATACENTER INTERCONNECTS

On All Lengths

APID