

# Extend 100GBASE-SR4 Wavelength to 980 nm

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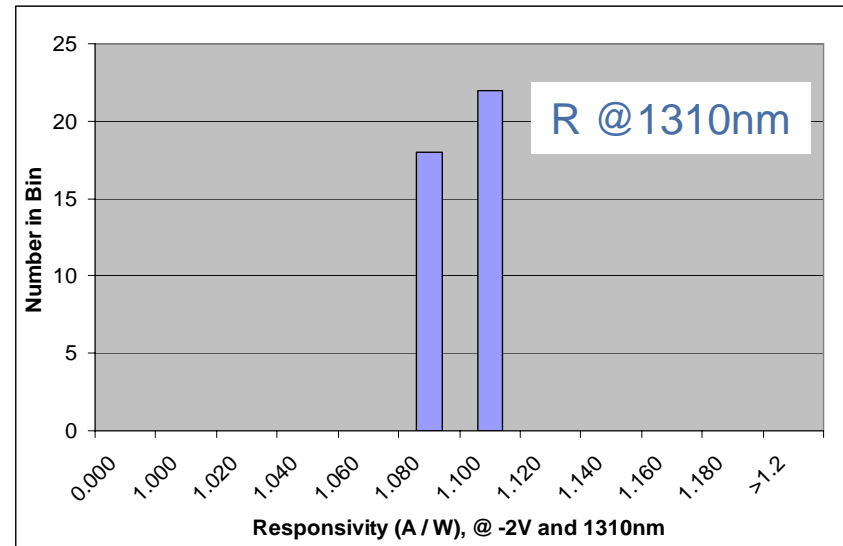
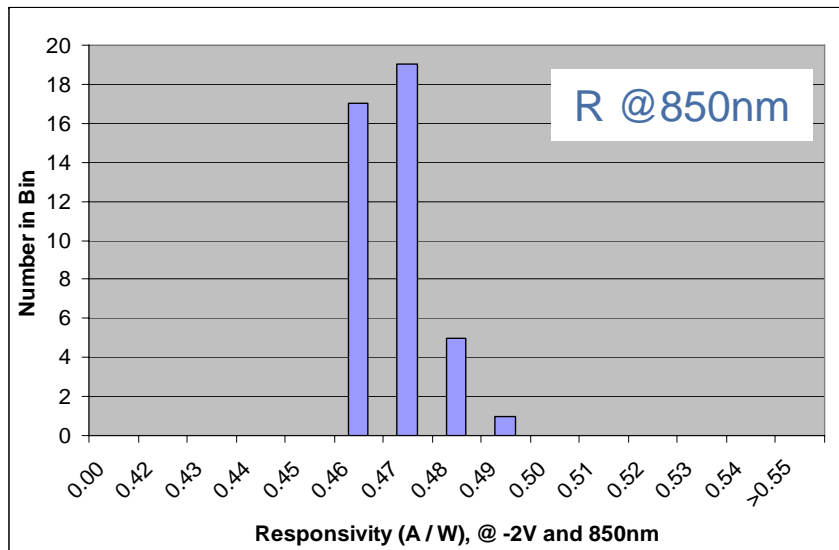
# 100GBASE-SR10

- 10G GaAs/AlGaAs VCSEL Array
- Wavelength: 840 nm – 860 nm
- Spectral width: 0.65 nm
- Receiver Technology: GaAs PIN

# 100GBASE-SR4 Transmitter

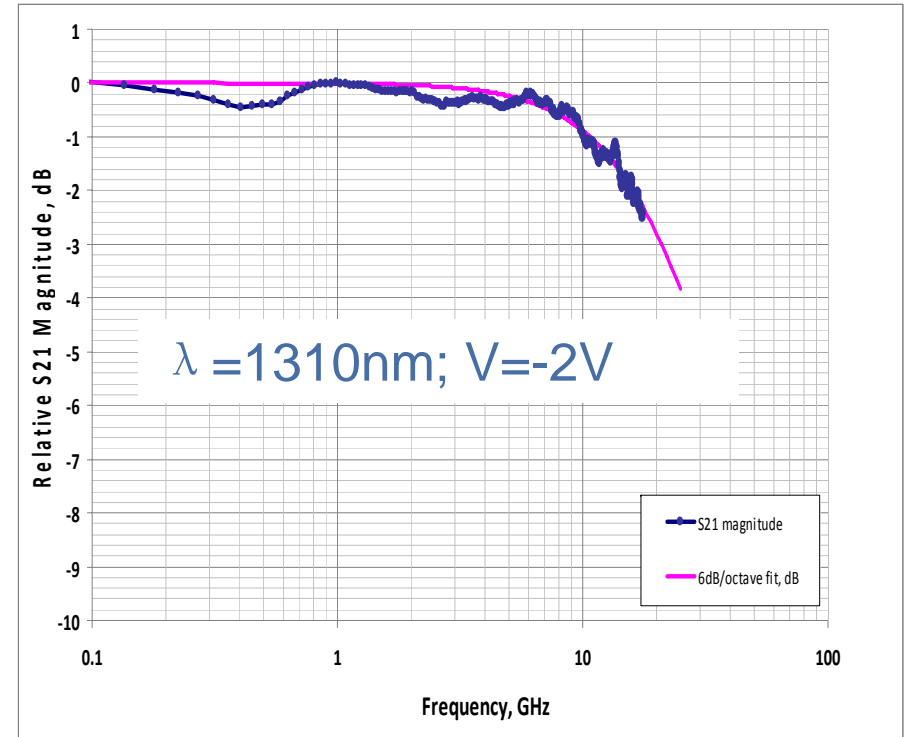
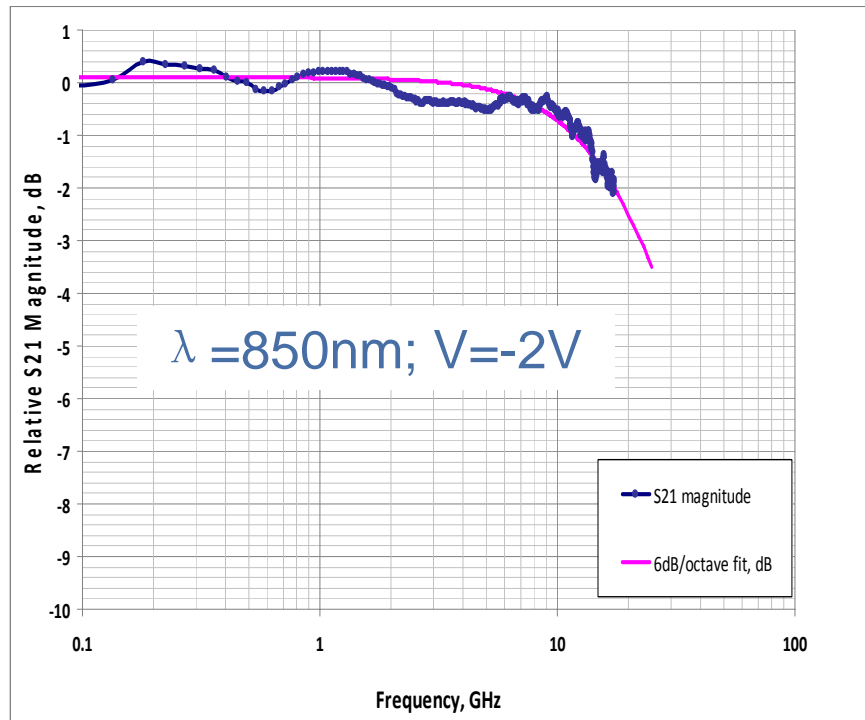
- 4 x 25 Gb/s VCSEL Technology
- Active layer strain of InGaAs/GaAs VCSEL contributes to larger differential gain and higher operation bandwidth
- Better reliability of InGaAs/GaAs VCSEL due to lower current density and Indium element
- Wavelength of InGaAs/GaAs VCSEL at 950 nm – 980 nm

# 25 Gb/s Receiver Technology for 100GBASE-SR4 --- Responsivity



Equivalent to GaAs PIN

# 25 Gb/s Receiver Technology for 100GBASE-SR4 ---- S21 Characteristics



**Analog BW >20GHz → 25Gbps Digital Data Rate**

# Proposal

- Extend the 100GBASE-SR4 wavelength to include 950 – 980 nm
- Receiver technology to cover from 840 nm to 980 nm, thus compatible to both 850 nm GaAs and 980 nm InGaAs VCSELs
- Cost competitive to conventional GaAs PIN technology