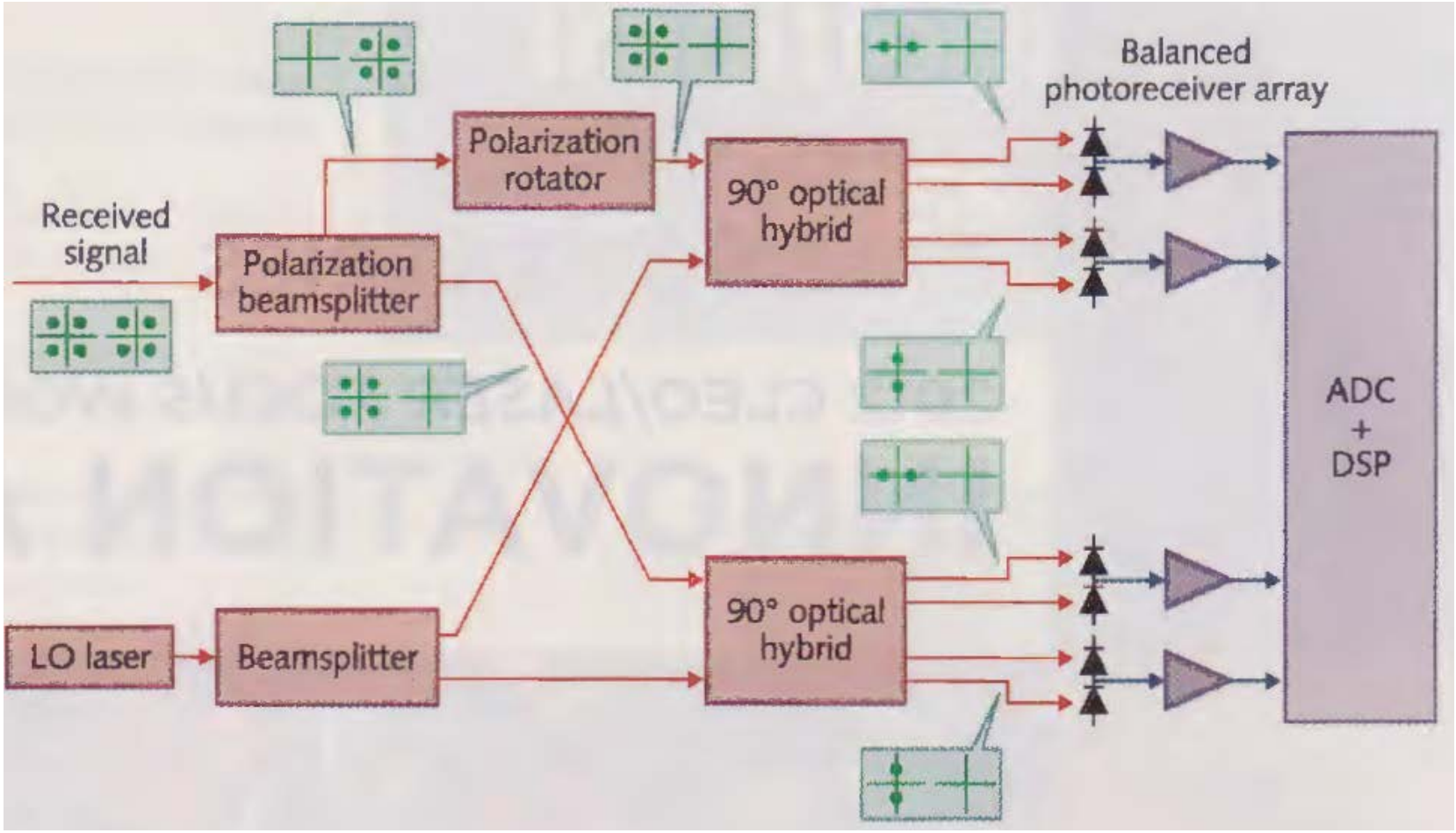
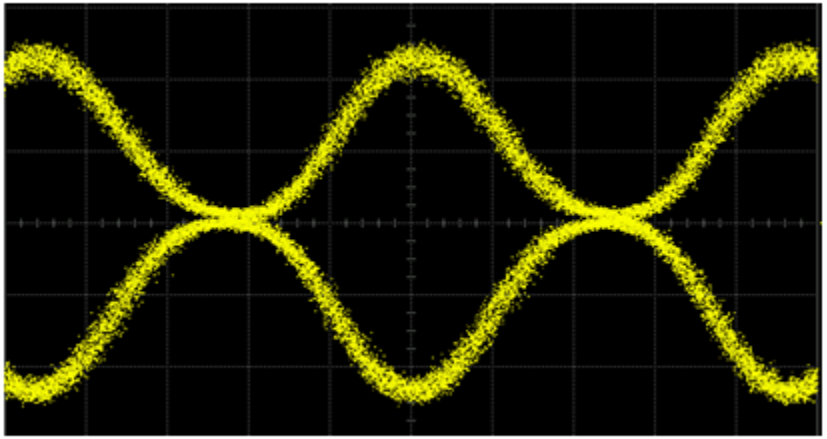
DP-QPSK Receiver



Discovery Semiconductor – Coherent Transmitter

10 Gb/s RZ-DPSK Eye Diagram:



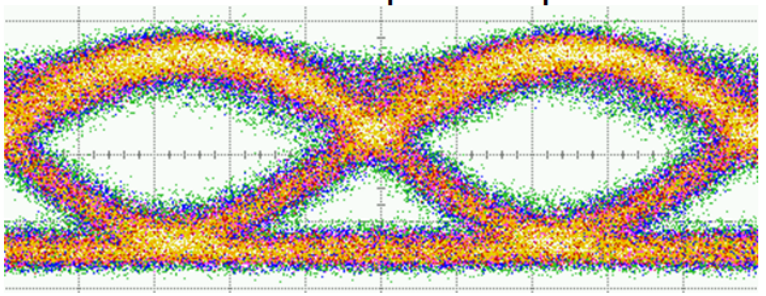
Corresponding extinction ratio for OOK: typical 14dB

Salient Features:

- Up to 12.5 Gb/s OOK or DPSK modulation
- NRZ or RZ pulse shape
- High extinction ratio
- With CW light source (DFB laser)
- Optional integrated low cost electrical pattern generator

Discovery Semiconductor – Coherent Receiver

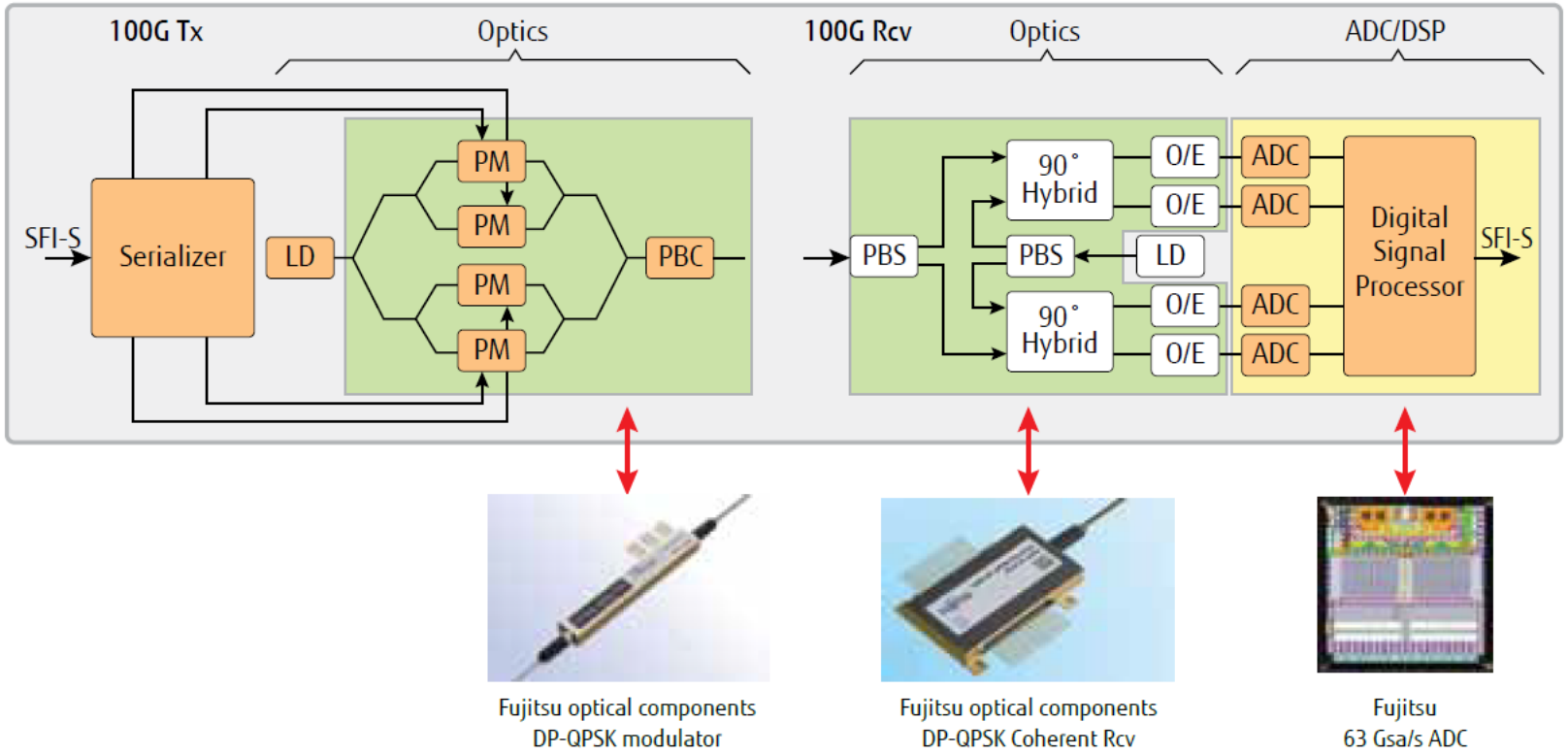
10 Gb/s NRZ-DPSK Eye Diagram after 300km of SSMF with electrical dispersion compensation:



Salient Features:

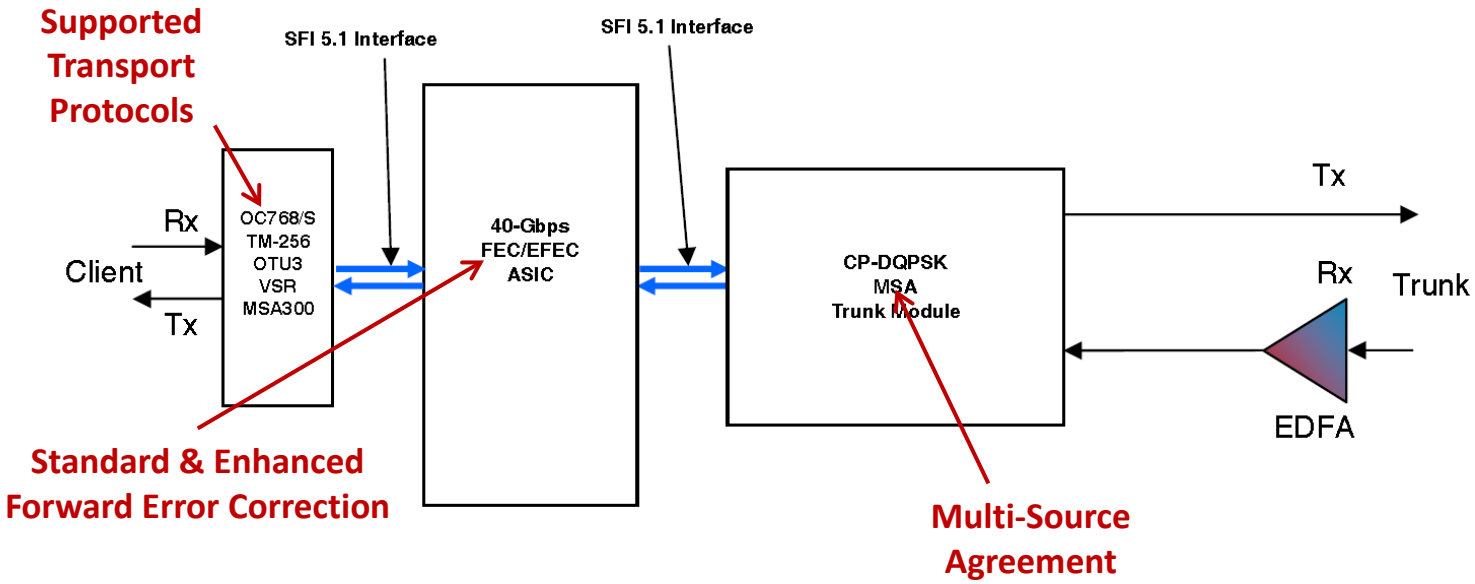
- Transport of up to 12.5Gb/s
- High receiver sensitivity
- Detects multiple modulation formats
- Automatic wavelength tracking and locking to the incoming (WDM) signal
- Polarization independent operation
- Preserves optical phase information
- Repeaterless reach of 10 Gb/s DPSK up to 300km of SSMF equivalent to 60dB link loss (assuming fiber attenuation of 0.2dB/km and forward error correction)
- Electrical dispersion tolerance at 10 Gb/s of up to ± 5000ps/nm using coherent detection
- 45ps intrinsic 1st order PMD tolerance at 10 Gb/s
- Maximum network flexibility
- Higher system margins for low network maintenance

Optical Component Integration



Cisco CP-DQPSK Transponder Card

CP-DQPSK =
Coherent-detected Polarization-multiplexed Differential Quadrature Phase-Shift Keying



- Strong OSNR performance (better than 10-Gbps units)
- Outstanding chromatic dispersion robustness for performance in a completely uncompensated network
- Very strong PMD robustness (three times better than 10-Gbps units)
- Very good spectral density that allows traffic to cross a long cascade of reconfigurable optical ad-drop multiplexers (ROADMs) with negligible penalty