

PRODUCT BRIEF

10GB/S OPTICAL TRANSPONDER 1550nm Intermediate Reach

FEATURES

- ▶ Compliant with the 300 PIN Multi-Source Agreement (MSA)
- ▶ 1550 wavelength
- ▶ Designed for up to 40km links (800ps/nm)
- ▶ DWDM units available
- ▶ 2.2 x 3.0 x 0.53 inch form factor
- ▶ Operating temperature -5°C to 70°C
- ▶ Multi-rate product applications support SONET, Ethernet, and FEC data rates
- ▶ Internal Clean-up PLL (single or dual rate)
- ▶ 10Gb/s optical serial in/out with 622/644/669 by 16 electrical SERDES
- ▶ Internal microprocessor controlled
- ▶ I²C functionality
- ▶ Low power dissipation (5 Watts typical)
- ▶ PIN receiver sensitivity -19.0dBm @ BER = 10⁻¹²
- ▶ Optical Internetworking Forum (OIF) compliant
- ▶ Selectable TX and RX reference clock rates (÷16 or ÷64)

OVERVIEW

Finisar has developed a line of 10Gb/s Intermediate Reach (IR) transponders that incorporate all features required by the 300 PIN Multi-Source Agreement (MSA) and serial Optical Internetworking Forum (OIF) specification.

This line of transponders from Finisar operate at 1550nm and are designed for links up to 40 kilometers.

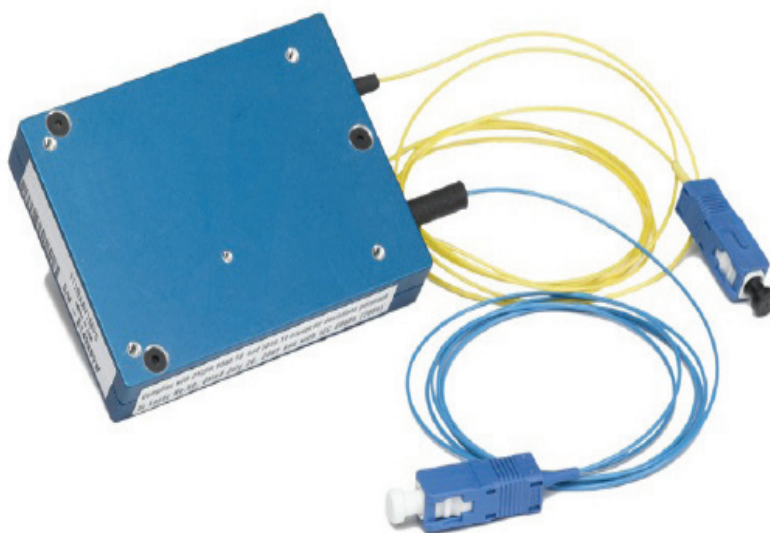
These products include the optical transmitter and receiver, laser bias and control circuitry as well as the electrical Mux/DeMux shown in Figure 1.

The Mux and DeMux are 622/644/669 by 16 electrical single chip devices providing variable rate control for applications ranging from 9.953Gb/s (SONET) to 11.3Gb/s (10GE with FEC).

The transmitter and receiver reference clock rates are selectable for divide by 16 or 64.

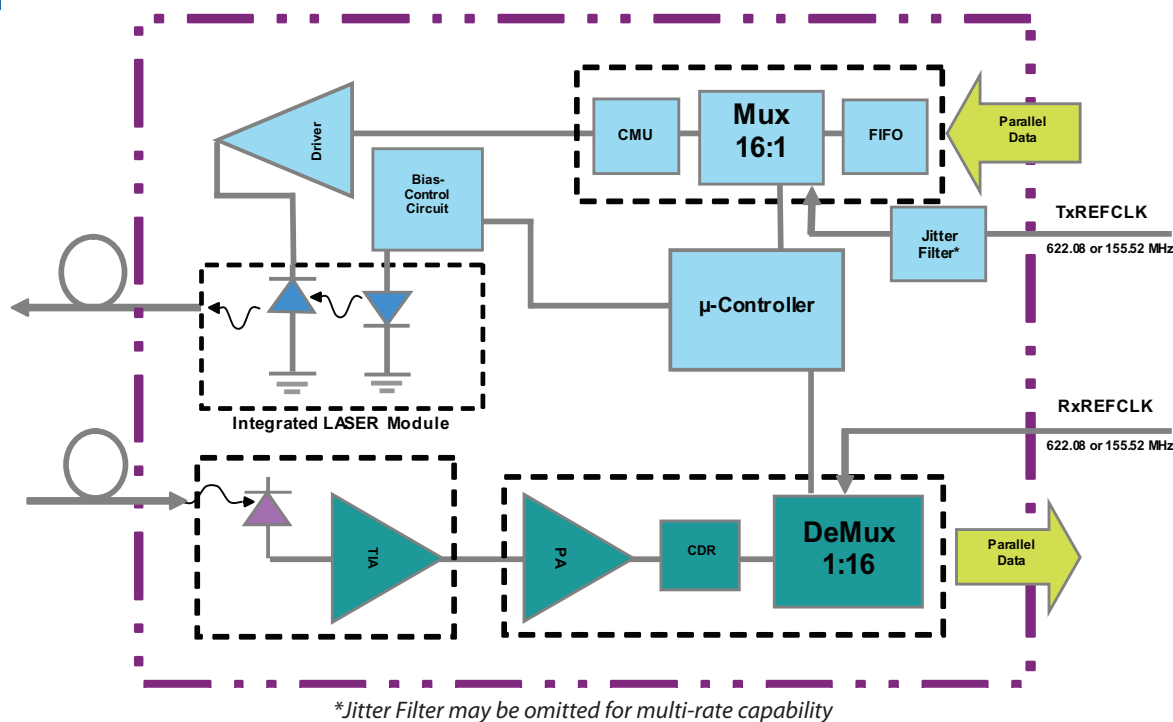
The optical receiver is based on a high sensitivity PIN with typical sensitivity of -19.0dBm at a bit error rate (BER) 10⁻¹².

The optical transmitter employs Finisar's proprietary and patented design, which provides its users with the highest performance levels at the lowest cost.



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FIGURE 1



OPTICAL PERFORMANCE SPECIFICATIONS

Module	Parameter	Min	Typ	Max	Units
Receiver	Sensitivity {BER = 10^{-12} }		-19	-16	dBm
	Maximum Overload {BER = 10^{-12} }	-1	0		dBm
	RX Spectral Range	1290		1600	nm
	Optical Return Loss	27			dB
	Jitter Tolerance and Transfer	GR 253 Compliant			
Transmitter	Output Power	-1	0	2	dBm
	Extinction Ratio	8.2	11		dB
	TX Spectral Range	1530		1565	nm
	Sidemode Suppression Ratio	30			dB
	Spectral Power Density			0.1	mW/MHz
	Jitter Generation	GR 253 Compliant			
Optical Path	Optical Path Penalty			2	dB
	Attenuation	3		13	dB
	Chromatic Dispersion Tolerance			800	ps/nm

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