

PRODUCT BRIEF

OC-192 MODULES

Return to Zero (RZ) and Duo-Binary Extended Reach

FEATURES

- ▶ Full C and L Band Tunable
- ▶ 10Gb/s Serial Optical Interface
- ▶ 1550nm CW Laser with Lithium Niobate Modulator
- ▶ Standard NRZ APD and Receive Side Circuitry
- ▶ 300 PIN MSA Compliant Footprint (3.5" x 4.5")
- ▶ SONET OC-192/SDH STM-64

DUO-BINARY BENEFITS

- ▶ Overlay of 10Gb/s over Existing 2.5Gb/s Links
- ▶ 160km Links with Reduced Form Factor

RZ BENEFITS

- ▶ Improved OSNR Performance for Ultra Long Haul Systems

OVERVIEW

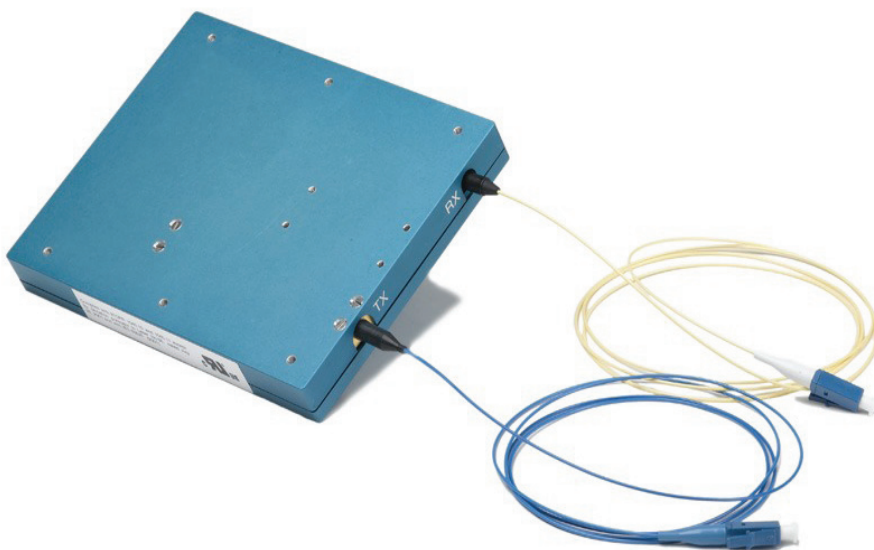
Finisar is an industry leader in alternate modulation formats at 10Gb/s. Product offerings include Return to Zero (RZ) and Duo-Binary, along with our standard NRZ products. All of the products share a common mechanical footprint and electrical interface, making them fully interchangeable on the line card.

The RZ modules are designed for long haul links that require exceptional OSNR performance. The RZ design leverages over 90% of the NRZ product family to provide a high reliability, low cost RZ solution.

Duo-Binary modulation allows users to achieve 160km transmission performance in the same form factor as 80km NRZ products. This solution is not only cost competitive, but also eliminates the need for bulky dispersion compensating fiber.

Both products are offered in the standard 3.5" x 4.5" x 0.53" MSA footprint. Using the same components on the electrical interface simplifies qualification of multiple modulation formats by providing a consistent board level interface.

The RZ and Duo-Binary products are currently shipping in volume manufacturing..



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OPTICAL PERFORMANCE SPECIFICATIONS: RETURN TO ZERO (RZ)

Parameter	Min	Max	Units
Dispersion Tolerance	-500	500	psec/nm
Operating Data Rate	9.953	11.125	Gb/s
Sensitivity (Back to Back)		-24	dBm
RX Optical Power Range	-8.0	-22.0	dBm
OSNR			dB/0.1nm
Back to Back			
BER = 1E-4		13	dB/0.1nm
BER = 1E-7		16	dB/0.1nm
BER = 1e-10		18	dB/0.1nm
Fiber (+/- 500psec/nm)			
BER = 1E-4		15	dB/0.1nm
BER = 1E-7		18	dB/0.1nm
BER = 1e-10		20	dB/0.1nm
Dispersion Path Penalty		2.0	dB
Output Power	1.0	5.0	dBm

OPTICAL PERFORMANCE SPECIFICATIONS: DUO-BINARY

Module	Parameter	Min	Typ	Max	Units	Notes	
Transmitter	TX Spectral Range: C-Band	1528		1561	nm		
	TX Spectral Range: L-Band	1570		1607	nm		
	Channel Spacing		50		GHz		
	Output Power	4		7	dBm		
Receiver	RX Spectral Range	1290		1610	nm		
	Overload	-6	-4		dBm		
	Receiver Sensitivity @ 0 ps/nm			-22	dBm		
	Receiver Sensitivity @ +/- 1500 ps/nm			-23	dBm		
	Receiver Sensitivity @ +/- 3200 ps/nm			-21	dBm		
	Data Rate	10.709	11.1				
	BOL BER with OSNR	15	16		10 ⁻³		0ps/nm
		18.5	19.5		10 ⁻⁵		-8 to -22 dBm
		24	25		10 ⁻¹⁰		
		13.5	14.5		10 ⁻³		+/-1500ps/nm
		16.5	17.5		10 ⁻⁵		-8 to -22dBm
		22	23		10 ⁻¹⁰		
		15	16		10 ⁻³		+/-3000ps/nm
		18.5	19.5		10 ⁻⁵		-8 to 22dBm
24		25		10 ⁻¹⁰			
16		17		10 ⁻³		+/-3200ps/nm	
19.5	20.5		10 ⁻⁵		-8 to -22dBm		
25	26		10 ⁻¹⁰				

Finisar[®] 1389 Moffett Park Drive
 Sunnyvale, CA 94089
 Phone (US Toll Free): 888.746.6484
 Phone Intl: 408.400.1000
 Email: sales@finisar.com
 www.finisar.com