

10 Gb/s Optical Transmitter (OTM64)



The OTM64 10 Gb/s cooled transmitter is designed for use in optical transport and high-speed data communication systems equipped with Dense Wavelength Division Multiplexing (DWDM). The OTM64 features a 1.5 μ m EML with an electro-absorptive modulator driver. The stability of the wavelength over operating temperature ranges is within ± 15 pm without a wavelength locker.

The OTM64 provides these features: non-clocked single-ended 10 Gb/s signal input with SMA, GPO or K-connector, LVTTTL selection pin for transmitter output enable or disable. The OTM64 can monitor and control various transmitter functions via RS232 or I2C serial interface.

The transmitter has a low profile 24-pin DIP type package. It operates with a dual power supply which is +3.3 V and -5.2 V.

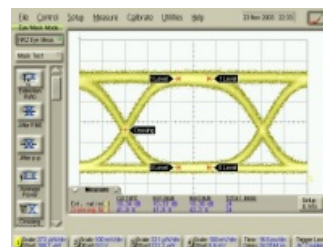
Features

- ▶ Compliant with OC-192/STM-64 (10 Gb/s) specifications
- ▶ Long-haul transmission up to 80 km
- ▶ EML (Electro-absorption Laser)
- ▶ Wavelength range: 1529.16 nm ~ 1563.86 nm
- ▶ ± 15 pm wavelength stability over operating temperatures without a wavelength locker
- ▶ GPO, SMA or K data input connector
- ▶ Transmitter enable control input
- ▶ RS232 / I2C serial interface
- ▶ Dual power supply , +3.3 V and -5.2 V
- ▶ 24 pin DIP type
- ▶ Package size: 73.4 x 51.0 x 13.7 (mm)

Applications

- ▶ High-speed and long-haul DWDM networks
- ▶ Metropolitan networks

Eye diagram



Specifications of Electrical Characteristics

Parameter		Min	Typ	Max	Unit
Data rate		9.953	10	10.709	Gb/s
Supply voltage	V_{DD}	3.13	3.3	3.47	V
	I_{DD}	-	250	900	mA
	V_{EE}	-5.46	-5.2	-4.94	V
	I_{EE}	-	280	900	mA
Input data level ¹		300	900	1300	mVp-p

1. Data input is internally AC-coupled.

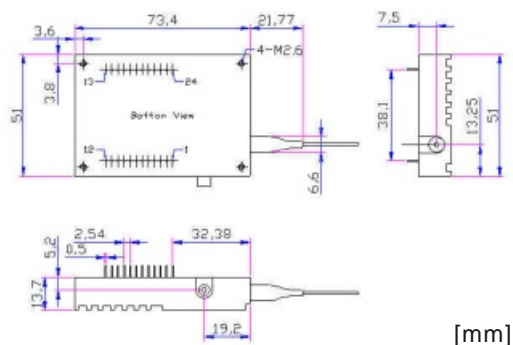
Specifications of Optical Characteristics

Parameter		Min	Typ	Max	Unit
Average optical power output	EML	-	-	0	dBm
Output power variation		-0.5	-	0.5	dB
Center wavelength range		ITU-T Standard 1529.16~1563.86			nm
Wavelength accuracy		-10	-	10	nm
Variation in center wavelength		-15	-	15	pm
Spectral width	EML	-	-	0.5	nm
Side mode suppression ratio (SMSR)		30	-	-	dB
Extinction ratio		10.0	-	-	dB

Pin Configurations

Pin No.	Description	Pin No.	Description
1	Ground	13	No connection
2	Optical power monitor	14	V_{DD}
3	Laser diode bias alarm	15	Ground
4	Transmitter enable	16	No connection
5	No connection	17	Ground
6	Ground	18	No connection
7	Wavelength deviation alarm	19	Ground
8	RS232TX / I2CSDA	20	No connection
9	RS232RX / I2CSCL	21	Ground
10	No connection	22	No connection
11	Ground	23	Ground
12	V_{EE}	24	No connection

Outline Drawings



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LiComm Co., Ltd. www.licomm.com

Cheongmyung Towntel 3F

1021-4 Youngtong-Dong, Paldal-Gu, Suwon-Si, Kyunggi-Do 442-813, South Korea

Tel. : +82-31-206-6823 Fax. : +82-31-206-6827