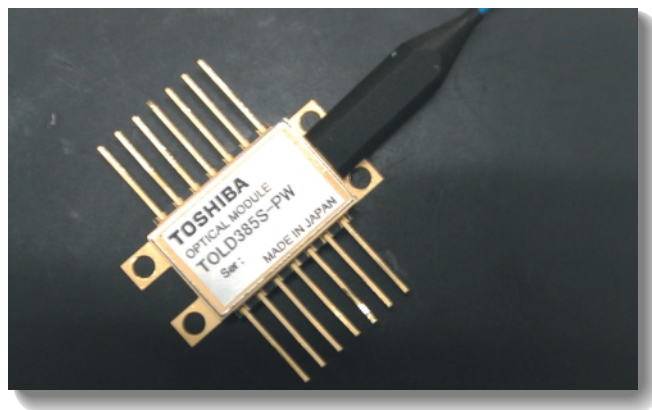


# Optical Communication Devices

## 10 Gb/s Optical Transmitter

### TOLD385S-PW Series (PRELIMINARY)

### CW-LD Transmitter with Wavelength Locker



#### **DESCRIPTION**

- The TOLD385S-PW is designed for use in DWDM system with an external modulator such as a lithium niobate modulator. This is a CW-LD transmitter includes Fabry-Perot etalon wavelength locker, optical isolator, Thermo-Electric-Cooler and provided with polarization maintaining fiber.

#### **APPLICATION**

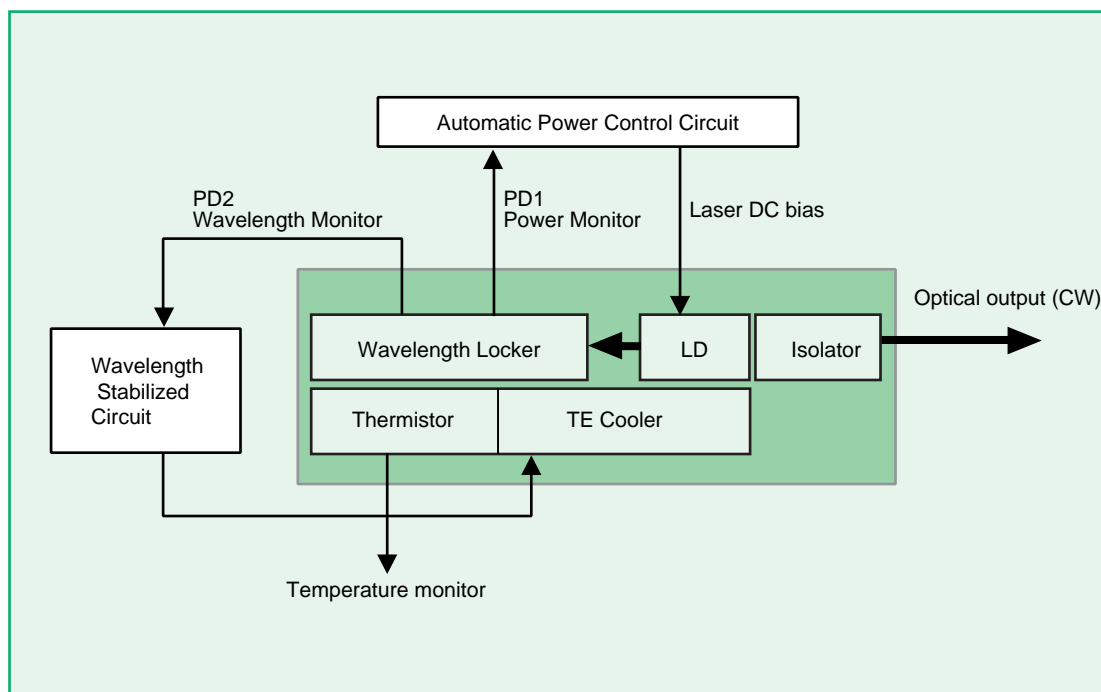
- Long reach DWDM system application

#### **FEATURES**

- Integrated Fabry-perot Etalon wavelength locker
- C-band 50 GHz ITU-T grid compliant
- Wavelength tuned 7 ch (50 GHz grid)
- Polarization maintaining fiber
- Optical output power: +10dBm (min)
- Standard 14-pin butterfly package

## TOLD385S-PW Series

### BLOCK DIAGRAM

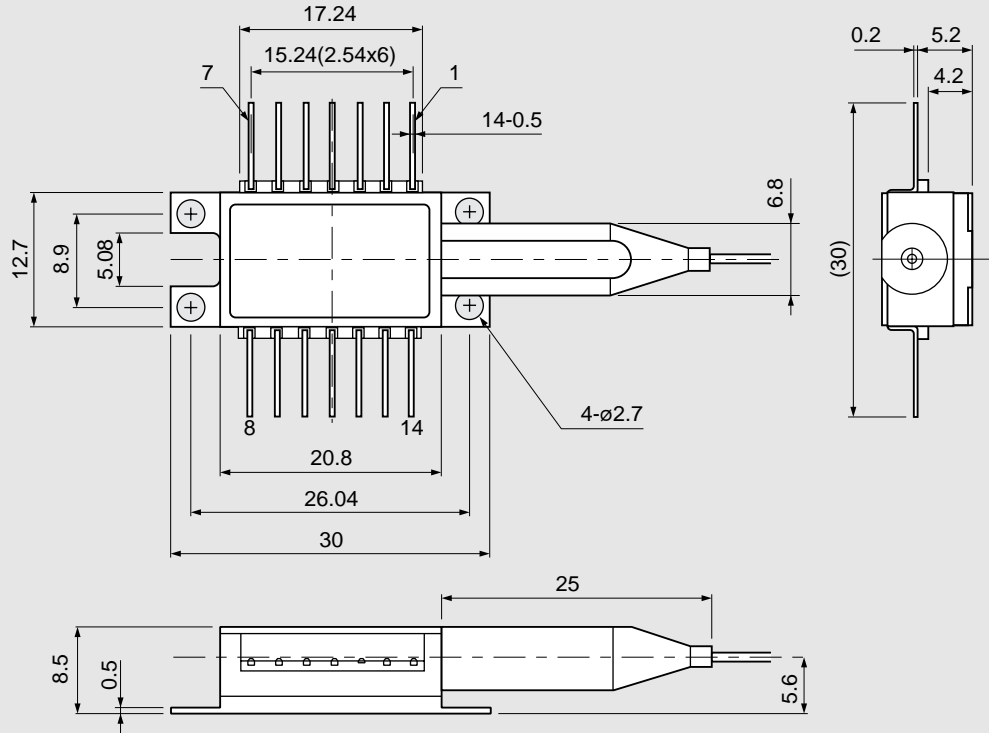


### ELECTRICAL AND OPTICAL SPECIFICATIONS (Case temperature: $T_c = 0$ to $+70$ °C)

Item	Symbol	Condition	Min	Typ.	Max	Unit
LD set temperature	Tset	–	15	–	40	°C
Tunability	–	–	2.4	–	–	nm
Operating current	Iop	Pf = 10 mW	–	–	100	mA
Optical output power	Pf	All channels	10	–	–	mW
Peak wavelength	$\lambda_p$	Pf = 10 mW	ITU-T grid (50 GHz spacing) compliant			
Spectral line width	$\Delta\lambda$	Pf = 10 mW	–	–	20	MHz
Side mode suppression ratio	SMSR	Pf = 10 mW	33	–	–	dB
Wavelength stability	–	Over operating temperature range and life	-40	–	+40	pm
Monitor current (power)	Im1	Pf = 10 mW	15	50	–	$\mu$ A
Monitor current (wavelength)	Im2	Lock point	5	25	–	$\mu$ A
TEC current	Itec	$T_c = 70$ °C	–	–	1.5	A
TEC voltage	Vtec	$T_c = 70$ °C	–	–	3	V
Optical polarization extinction ratio	–	$T_c = 0$ °C to $70$ °C	15	20	–	dB

TOLD385S-PW

(Unit: mm)



**Pin Assignment**

Pin	Function	Pin	Function
1	Thermistor	14	NC
2	Thermistor	13	LD anode
3	LD cathode	12	LD cathode
4	PD 1 anode	11	LD anode
5	PD 1 cathode	10	PD 2 anode
6	TEC (+)	9	PD 2 cathode
7	TEC (-)	8	NC

**PRECAUTIONS**

- (a) Power supply: Transient electric spike may cause a damage to the laser or the photodiode. A surge-free power supply and a slow starter circuit should be used. To avoid causing an electrical surge, pins should not be connected or disconnected on the test fixture before turning the power off.
- (b) The product should be grounded for obtaining the performance.
- (c) Safety: The laser emits invisible light harmful to the human eyes. Direct viewing should be avoided.

## OVERSEAS SUBSIDIARIES AND AFFILIATES

011025 (X)

### **Toshiba America Electronic Components, Inc.**

**Headquarters-Irvine, CA**  
9775 Toledo Way, Irvine, CA 92618, U.S.A.  
Tel: (949)455-2000 Fax: (949)859-3963

**Deerfield, IL(Chicago)**  
One Pkwy., North, Suite 500, Deerfield,  
IL 60015, U.S.A.  
Tel: (847)945-1500 Fax: (847)945-1044

**Edison, NJ**  
2035 Lincoln Hwy. #3000, Edison.  
NJ 08817, U.S.A.  
Tel: (732)248-8070 Fax: (732)248-8030

**Raleigh, NC**  
5511 Capitol Center Dr., #114,  
Raleigh, NC 27606, U.S.A.  
Tel: (919)859-2800 Fax: (919)859-2898

**Richardson, TX(Dallas)**  
777 East Campbell Rd., #650, Richardson,  
TX 75081, U.S.A.  
Tel: (972)480-0470 Fax: (972)235-4114

**Wakefield, MA(Boston)**  
401 Edgewater Place, #360, Wakefield,  
MA 01880, U.S.A.  
Tel: (781)224-0074 Fax: (781)224-1095

### **Toshiba Electronics Europe GmbH**

**Düsseldorf Head Office**  
Hansaallee 181, D-40549 Düsseldorf,  
Germany  
Tel: (0211)5296-0 Fax: (0211)5296-400

**Toshiba Electronics Italiana S.R.L.**  
Centro Direzionale Colleoni,  
Palazzo Perseo 3,  
1-20041 Agrate Brianza, (Milan), Italy  
Tel: (039)68701 Fax:(039)6870205

**Toshiba Electronics(UK) Ltd.**  
Riverside Way, Camberley Surrey,  
GU15 3YA, U.K.  
Tel: (01276)69-4600 Fax: (01276)69-4800

**Toshiba Electronics Scandinavia A.B.**  
Gustavslundsvägen 12, 2nd Floor,  
S-161 15 Bromma, Sweden  
Tel: (08)704-0900 Fax: (08)80-8459

**Toshiba Electronics Asia  
(Singapore) Pte. Ltd.**

**Singapore Head Office**  
438B Alexandra Road, #06-08/12 Alexandra  
Technopark, Singapore 119968  
Tel: (278)5252 Fax: (271)5155

### **Toshiba Electronics Asia, Ltd.**

**Hong Kong Head Office**  
Level 11, Tower 2, Grand Century  
Place, No.193, Prince Edward Road West,  
Mong Kok, Kowloon, Hong Kong  
Tel: 2375-6111 Fax: 2375-0969

**Beijing Office**  
Rm 714, Beijing Fortune Building,  
No.5 Dong San Huan Bei-Lu, Chao Yang District,  
Beijing, 100004, China  
Tel: (010)6590-8796 Fax: (010)6590-8791

**Toshiba Electronics Korea  
Corporation**

**Seoul Head Office**  
14/F, KEC B/D, 275-7 Yangjae-dong,  
Seocho-ku, Seoul, Korea  
Tel: (02)589-4300 Fax: (02)589-4302

**Toshiba Technology Development  
(Shanghai) Co., Ltd.**  
23F, HSBC Tower, 101  
Yin Cheng East Road, Pudong New Area, Shanghai,  
200120, China  
Tel: (021)6841-0666 Fax: (021)6841-5002

**Toshiba Electronics Taiwan  
Corporation**

**Taipei Head Office**  
17F, Union Enterprise Plaza Bldg. 109  
Min Sheng East Rd., Section 3, 10446 Taipei,Taiwan  
Tel: (02)2514-9988 Fax: (02)2514-7892

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**TOSHIBA**

**TOSHIBA CORPORATION**

**Electronic Devices Sales & Marketing Division**  
1-1, Shibaura 1-chome, Minato-ku, Tokyo, 105-8001, Japan  
Tel: +81-3-3457-3405 Fax: +81-3-5444-9431

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