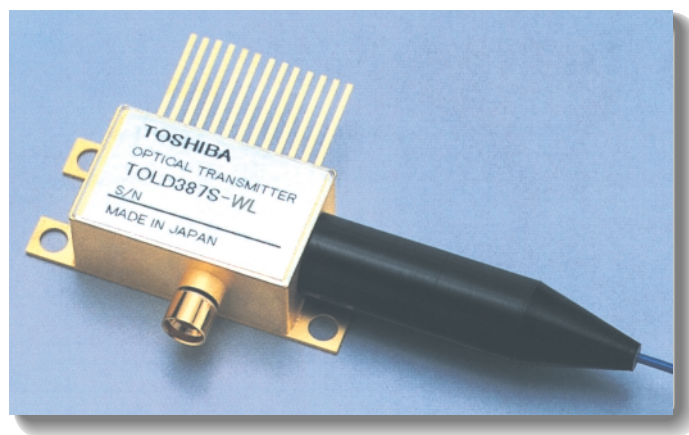


Optical Communication Devices

10 Gb/s Optical Transmitter

TOLD387S-WL Series (PRELIMINARY)



APPLICATIONS

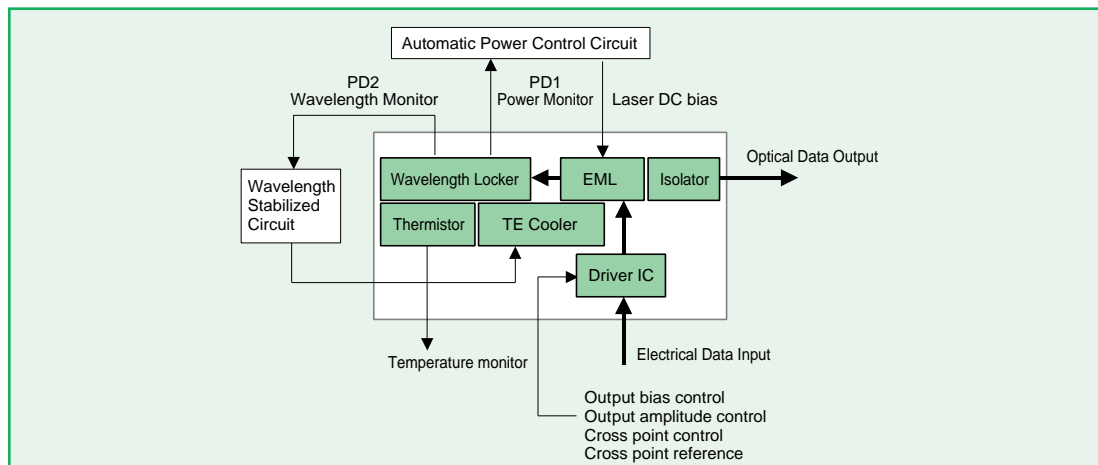
- SONET / SDH (OC-192 / STM-64) applications
- WDM system application

FEATURES

- 1.55 μm EML and Driver IC
- Fabry-Perot Etalon wavelength locker
- ITU-T Wavelength channel available
- Optical isolator and thermoelectric cooler
- 13-pin butterfly package with GPO compatible RF input

TOLD387S-WL Series

BLOCK DIAGRAM



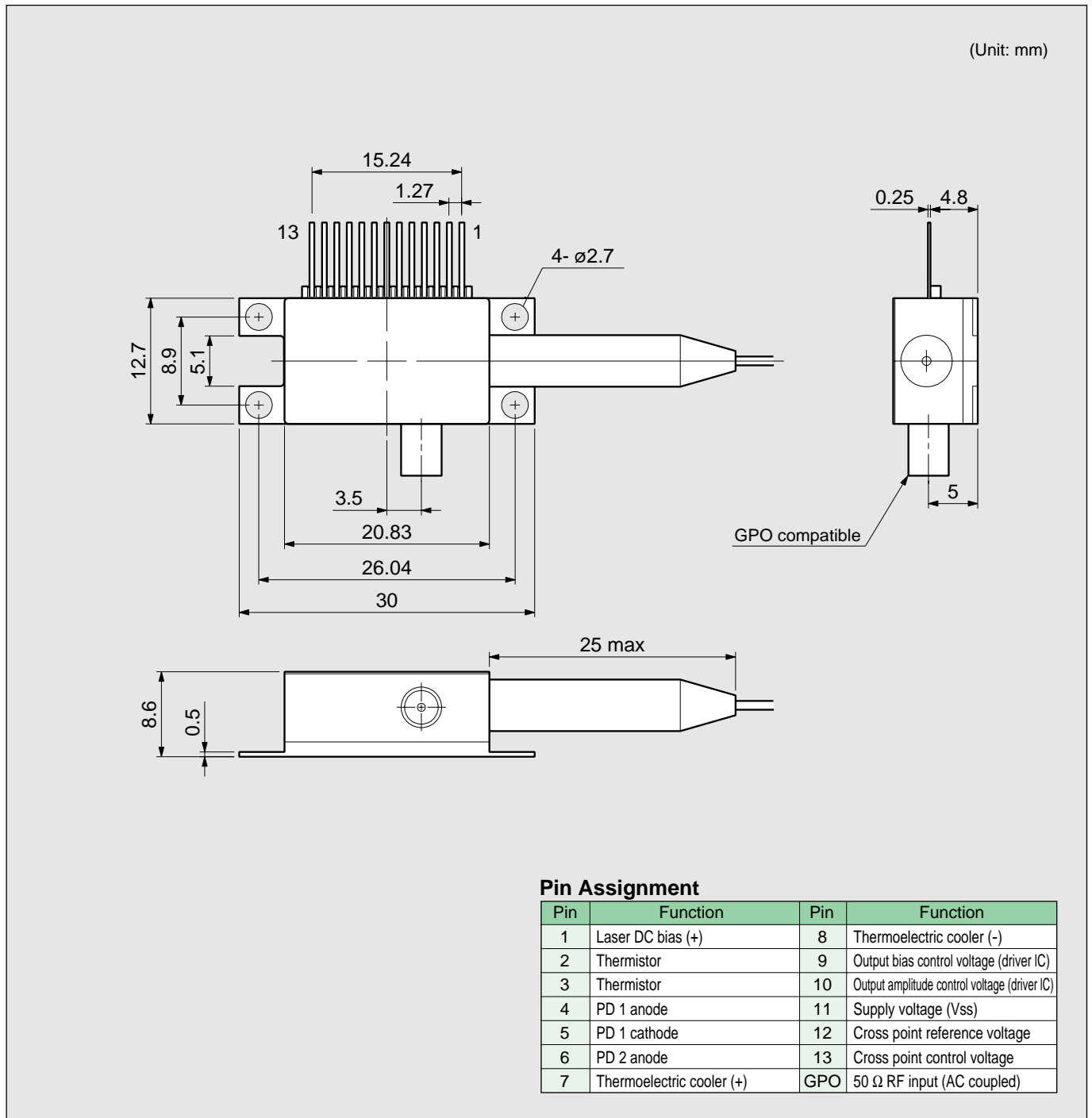
ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Min	Max	Unit
Storage temperature	Tstg	-40	85	°C
Operating case temperature	Tc	0	70	°C
Laser forward current	If	—	150	mA
Laser reverse voltage	Vr	—	2	V
Supply voltage	Vss	-6.5	0.3	V
Input data amplitude	Vin	—	1.6	Vpp
Monitor diode reverse bias voltage	Vm	—	15	V

ELECTRICAL AND OPTICAL CHARACTERISTICS

Item	Symbol	Condition	Min	Typ.	Max	Unit
EML set temperature	Tset	Locked λ_p	25	30	35	°C
Operating current	Iop	—	50	—	100	mA
Optical output power	Pf	—	-2	0	+2	dBm
Peak wavelength	λ_p	—	ITU-T grid compliant			
Side mode suppression ratio	SMSR	—	30	—	—	dB
Wavelength stability	$\Delta\lambda_p$	Over operating temperature range and life	-50	—	+50	pm
Monitor 1 photo current	Im1	—	—	0.1	—	mA
Monitor 2 photo current	Im2	Locked λ_p	—	0.1	—	mA
Extinction ratio	Er	—	—	10	—	dB
Input data amplitude	Vin	—	0.5	—	1.0	Vpp
Supply voltage to the Driver IC	Vss	—	-5.5	-5.2	-5.0	V
Supply current to the Driver IC	Iss	—	—	0.2	0.3	A
TE cooler current	Itec	Tc = 0 to 70 °C	—	—	1.3	A
TE cooler voltage	Vtec	Tc = 0 to 70 °C	—	—	2.6	V
Thermistor resistance	Rth	Tset = 25 °C	9.5	10	10.5	k Ω
Dispersion penalty	Dp	40 km of standard SMF, BER = 10 ⁻¹²	—	—	2	dB

DIMENSIONAL OUTLINE AND PIN ASSIGNMENT



PRECAUTIONS

- Power supply: Transient electric spike may cause a damage to the laser, the photodiode or IC chips. 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.
- The product should be grounded for obtaining the performance.
- Safety: The laser emits invisible light harmful to the human eyes. Direct viewing should be avoided.

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