



1651 nm DFB Laser

(P/N.: TDLAS-DFB-1651-YB14-SMF-01)

Features

- Multi-Quantum Well (MQW) Distributed Feedback (DFB) lasers with built in thermistor and TEC.
- 14-pin butterfly package with single mode fibre output and FC/APC connector.

Applications

- TDLAS

Absolute Maximum Ratings

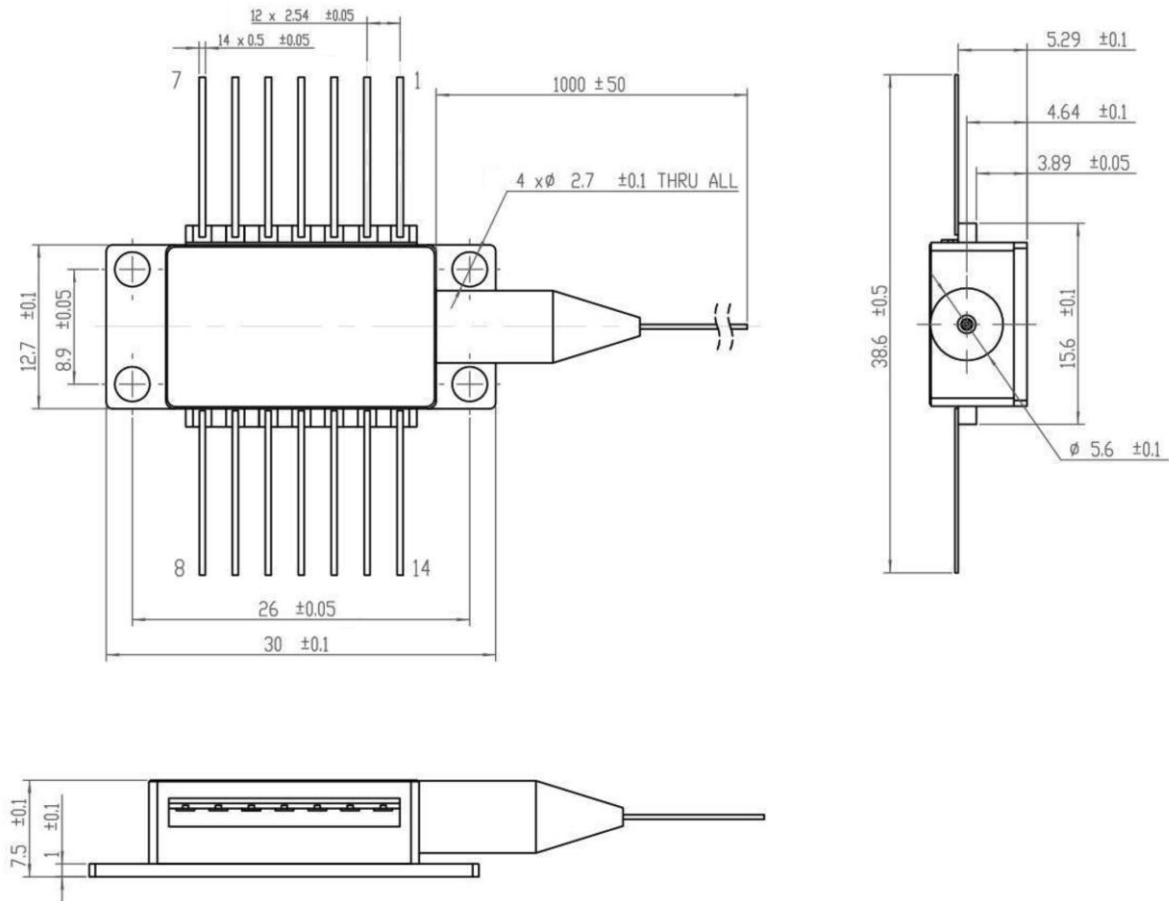
Parameter	Symbol	Min	Max	Unit	Condition
Operating Case Temperature	T_c	-20	70	°C	--
Storage Temperature	T_{stg}	-40	85	°C	--
Reverse Voltage	V_F	--	2.5	V	
Forward current	I_F		120	mA	
Thermoelectric cooler voltage	V_{TEC}		4.8	V	
Thermoelectric cooler current	I_{TEC}		2.5	A	

Opto-Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions
Optical Output Power	P_o	5	10	20	mW	CW, after fibre
Threshold Current	I_{TH}	-	20	-	mA	$T=25\text{ }^{\circ}\text{C}$
Operating Voltage	V_{op}	-	-	2.5	V	CW, $T=25\text{ }^{\circ}\text{C}$
Operating Current	I_{op}	-	-	120	mA	CW, $T=25\text{ }^{\circ}\text{C}$
Center Wavelength	λ_c	1650	1651	1652	nm	CW, $T=25\text{ }^{\circ}\text{C}$
Spectral linewidth	$\Delta\nu$	-	-	2	MHz	CW, $T=25\text{ }^{\circ}\text{C}$
Side-mode Suppression Ratio	SMSR	35	-	-	dB	$I_{op}=50\text{mA}$
Optical Isolation		30	-	-	dB	
Wavelength temp coefficient	$\Delta\lambda\Delta/T$	-	0.09	0.1	nm/°C	
Monitor Dark Current	I_D	50	-	1500	uA	$V_R=5\text{ V}$
Thermistor Resistance	R_T	9.5	10.0	10.5	K Ω	$T=25\text{ }^{\circ}\text{C}$
Thermistor B-Value		-	3950	-	K	$T=25\text{-}85^{\circ}\text{C}$
Tracking Error	TE	-1.0	-	+1.0	dB	$TE = 10\log(P_o(T_c)/P_o(25^{\circ}\text{C}))$
Fibre		1m long PM, connector FC/APC				



Dimensional outline (units = mm)



Pin	Description	Pin	Description
1	Thermistor	8	Case
2	Thermistor	9	Case
3	LD(-)	10	NC
4	PD Anode (-)	11	LD(+)
5	PD Cathode (+)	12	LD(-)
6	TEC(+)	13	LD(+)
7	TEC(-)	14	Case