1310nm CWDFB Product

High Power DFB Laser Source

(50mW/14-Pin Butterfly Package)

The DS-DF30501A10-FQ-T45 is an InGaAsP-based and cooled distributed feedback laser optimized for free-space optical communications. Denselight's advanced technology enables mode-hop-free tunability, high power, excellent SMSR, and high accuracy of lasing wavelength.

FEATURES

- Cooled operation at 45°C
- Min Fiber output power of 50mW, 360mA(typical)
- DFB Peak wavelength of 1310 nm
- Typical SMSR ≥ 35dB
- Designed for CW transmission

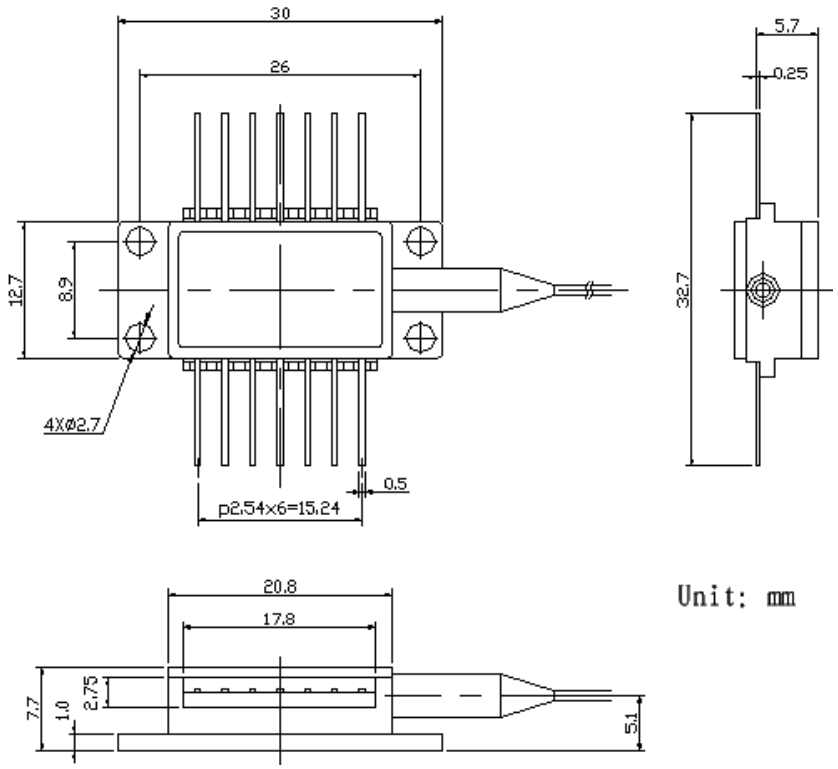
APPLICATIONS

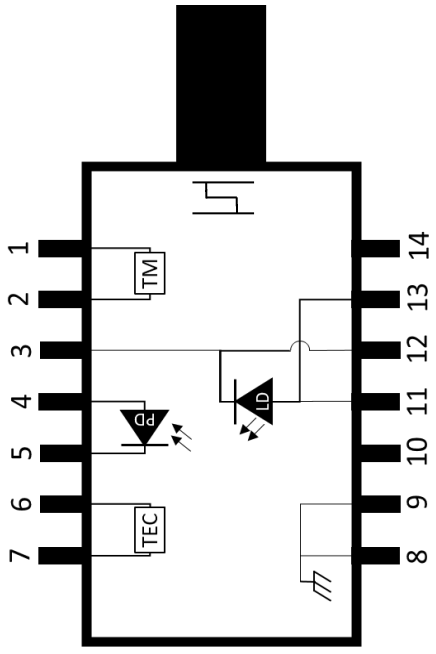
* CW laser
* LIDAR – 3D scanning
* Optical communication

ELECTRICAL AND OPTICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Min	Typical	Max	Unit
PM Fiber Output Power	P_o	T_{chip},I_{op}	50	-	-	mW
Center wavelength	λ_c	T_{chip},I_{op}	1304.5	1310	1317.5	nm
Threshold current	I_{th}	25°C	35	50	-	mA
Operating current	I_{op}	T_{chip}	-	360	400	mA
Forward voltage	V_f	V_{op}	-	1.7	2	V
Slope efficiency	η_s	T_{chip},I_{op}	0.2	-	-	W/A
Side Mode Suppression Ratio	SMSR	I_{op}(full range)	35	-	-	dB
Wavelength change with temperature	$\Delta\lambda/\Delta T$	I_{op}(full range)	0.09	0.1	0.11	nm/°C
Far Field Divergence Angle Horizontal	θ_H	CW, FWHM	-	-	30	degree
Far Field Divergence Angle Vertical	θ_V	CW, FWHM	-	-	30	Degree
Spectral Linewidth	$\Delta\nu$	CW, I_{op} = 400mA	-	-	1	MHz
Relative Intensity Noise	RIN	CW, I_{op} = 400mA	-	-	-155	dB/Hz
Thermistor resistance	R_{th}	T_{th} = 45°C	3.9	4.4	4.9	kΩ

PACKAGE





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