

High Power DFB Laser Source (50mW/14-Pin Butterfly Package)

The DS-DF20501A1-FP-12xx.x-T45 series 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 at 45C, 360mA(typ)
- DFB peak wavelength of 1277.5 / 1277.7 nm
- Typical SMSR \geq 35dB
- Designed for CW transmission

APPLICATIONS

- * CW laser
- * Free space optical communications
- * LIDAR

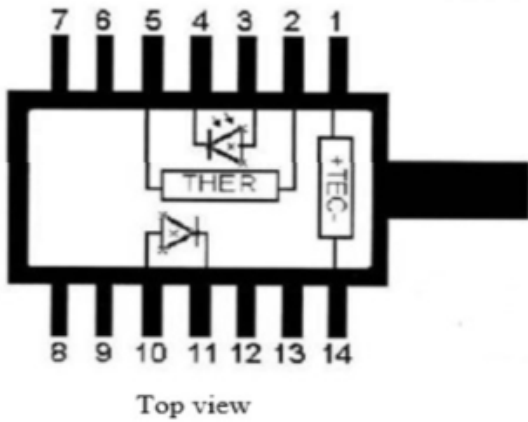
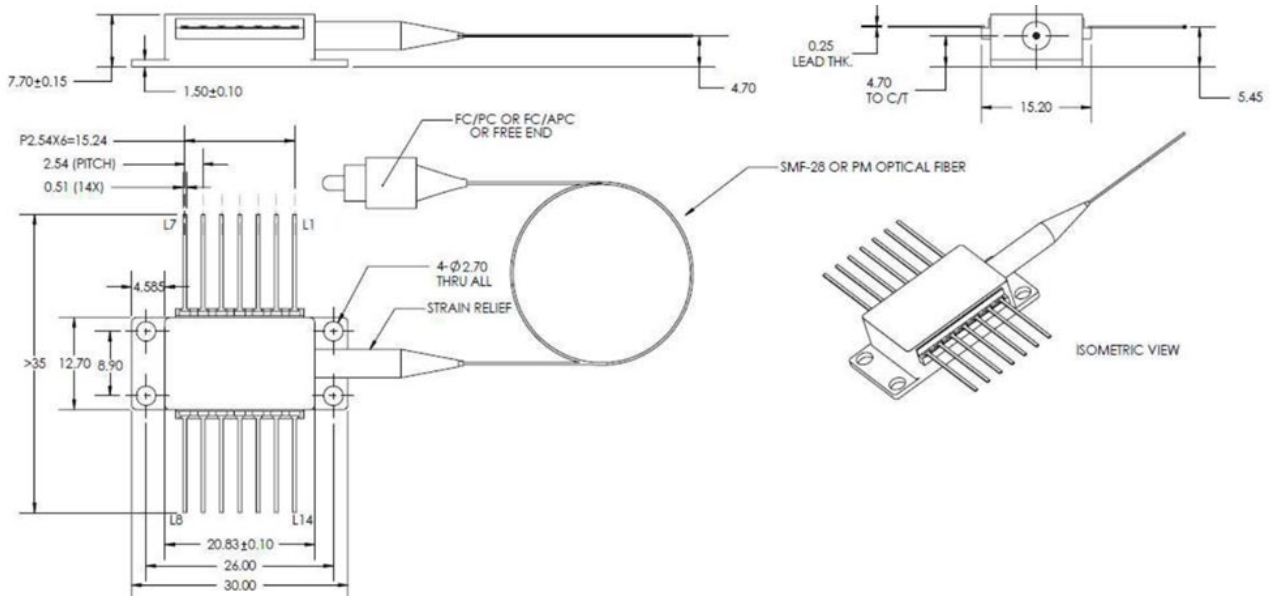
ELECTRICAL AND OPTICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Min	Typical	Max	Unit
PMF Fiber Output Power	P_o	T_{chip}, I_{op}	50	60	-	mW
Center wavelength	λ_c	T_{chip}, I_{op}	1272.7	1275.7	1278.7	nm
			1274.7	1277.7	1280.7	nm
Threshold current	I_{th}	45°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
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}	$T_{th} = 45^\circ C$	3.9	4.4	4.9	k Ω

PRODUCT WAVELENGTH OPTIONS:

1. DS-DF20501A1-FP-1275.7-T45
2. DS-DF20501A1-FP-1277.7-T45

PACKAGE



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