

O-Band High Power DFB Laser Source (50mW CW CWDM4 DFB Chips)

The DS-DFx0501D-1xx0-TM, O-Band High Power DFB Series is an InGaAsP-based and uncooled distributed feedback laser optimized for data comm application. Denselight's advanced technology enables mode-hop-free tunability, high power, excellent SMSR, and high accuracy of lasing wavelength.

FEATURES

- Uncooled operation from -5 to 75°C
- Min output power of 50mW at 75°C, 360mA(typical)
- Lasing wavelength of 1270 / 1290 / 1310 / 1330 nm
- Typical SMSR ≥ 35dB
- Designed for CW transmission

APPLICATIONS

- * CW laser
- * Ethernet/Datacenter Interconnect
- * Si Ph 400G/800G optical module
- * Si Ph based light engine
- * CPO Application

ELECTRICAL AND OPTICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Min	Typical	Max	Unit
Optical Output Power	P_o	T_{chip}, I_{op}	50	-	-	mW
Center wavelength	λ_c	T_{chip}, I_{op}	1264.5	1270	1277.5	nm
			1284.5	1290	1297.5	nm
			1304.5	1310	1317.5	nm
			1324.5	1330	1337.5	nm
Threshold current	I_{th}	25°C	-	40	-	mA
		75°C	-	65	-	mA
Operating current	I_{op}	T_{chip}	-	360	400	mA
Forward voltage	V_f	V_{op}	-	-	1.8	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

DIE DIMENSION

Die dimension	Typical
Length	850±20 um
Width	250±20 um
Thickness	100±10 um

