

# DX1 - Narrow Linewidth

EP1550-NLW-DX1-100

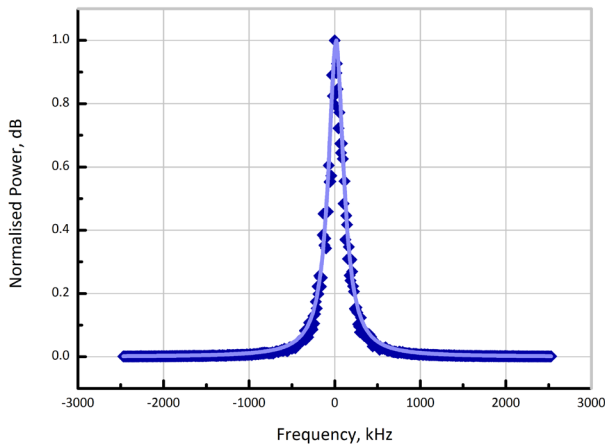


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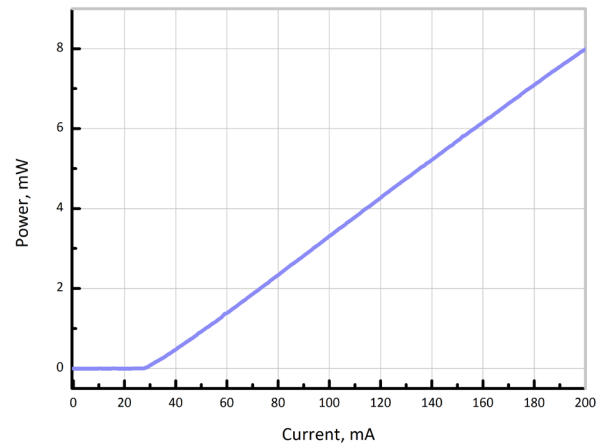


## 100kHz LINEWIDTH - MONOLITHICALLY

Eblana Photonics EP1550-NLW-DX1, available in the 1540 - 1560nm range, combines the ultra-narrow linewidth performance (100kHz) of Eblana's Discrete Mode (DM) technology with a low noise current driver and TEC controller, all in one integrated package - perfect for coherent comms and metrology applications.



Self-heterodyne linewidth measurement at 200mA



Output power as a function of bias current

## ELECTRO-OPTICAL CHARACTERISTICS\* ( $T_{SUB} = 25^{\circ} C$ )

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Optical linewidth	$\Delta f$	-	100	120	kHz
Centre Wavelength Range	$\lambda$	1540	1550	1560	nm
Wavelength specification	$\lambda_{spec}$	$\lambda - 1$	$\lambda$	$\lambda + 1$	nm
Side Mode Supression Ratio	SMSR	30	40	-	dB
Threshold Current	$I_{th}$	30	40	-	mA
Output Power in fiber	$P_f$	4	6	8	mW
Temperature Tuning Coefficient	$T_{\lambda}$	-	0.09	-	nm/ $^{\circ}C$
Current Tuning Coefficient	$I_{\lambda}$	-	3	-	pm/mA
Slope Efficiency	SE	0.03	0.04	-	mW/mA
Modulation bandwidth	$f_{3dB}$	DC	-	100	kHz
Wavelength stability (CW)	-	-	<10	-	pm

\*CW bias unless otherwise stated

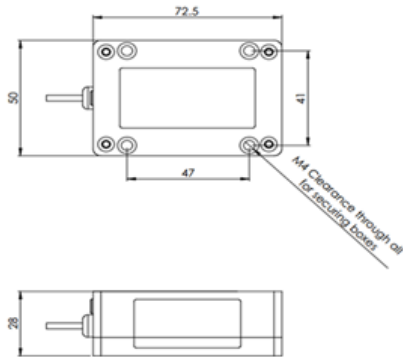
## ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Supply voltage	$V_s$	4.5	5	5.5	V
LD bias current	$I_f$	-	200	250	mA
Bias voltage	$V_f$	-	2	2.5	V
TEC voltage	$I_{TEC}$	0.1	1.5	3	V
Submount Temperature*	$T_{Case}$	15	-	35	°C
Storage Temperature	$T_{storage}$	-40	-	85	°C
Fibre bend radius	$r_{min}$	30	-	-	mm

\*For  $T_{sub} < 25^{\circ}C$ , Max Case Temperature should be derated to  $T_{Case,Max} = T_{sub} + 40^{\circ}C$

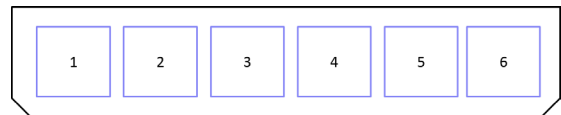
### PACKAGING

The EP1550-NLW-DX1 product series is offered in proprietary DX-1 module with integrated current driver and TEC controller - Inquire for other packaging options.

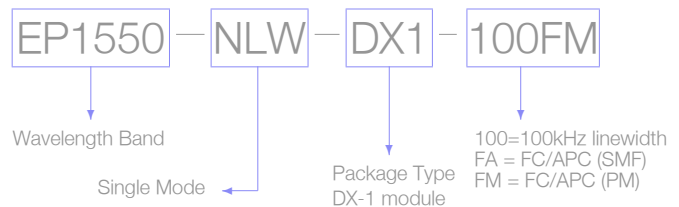


Schematic diagram of DX-1 module

PIN NO	NAME	DESCRIPTION
1	$V_{CC}$	5V rail voltage
2	$V_{TEC}$	Sets TEC temperature
3	Gnd	Ground
4	NC	-
5	NC	-
6	$V_{bias}$	Sets bias current



6-pin plug schematic (facing socket)



#### Laser Safety

This is a Class 3R Laser Product as defined by International Standard IEC 60825-1, Edition 2. Invisible Laser radiation is emitted from the end of the fiber or connector. Avoid direct eye exposure to the beam. Laser safety labels are not attached to the module due to space limitations but instead are affixed to the outside of the shipping carton.