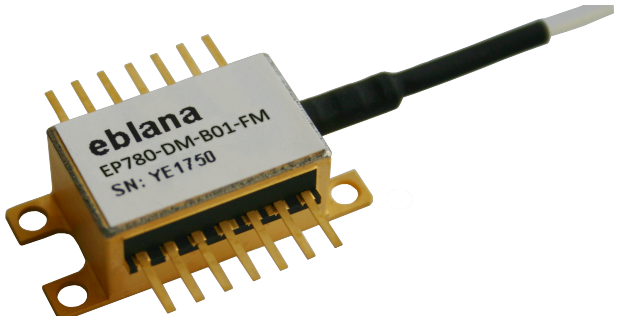
780nm DM LASER

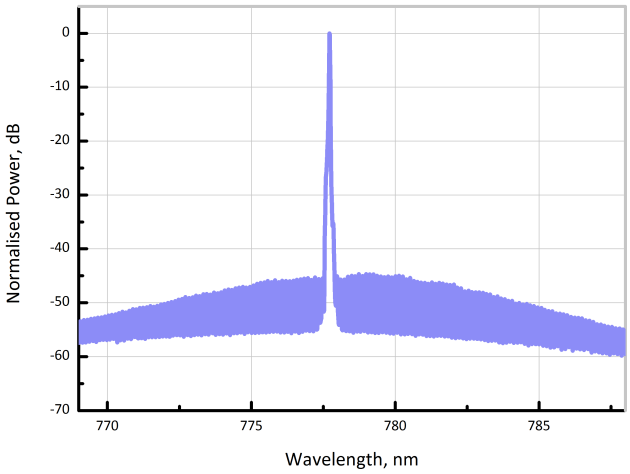
EP780-DM-B

eblanaphotonics

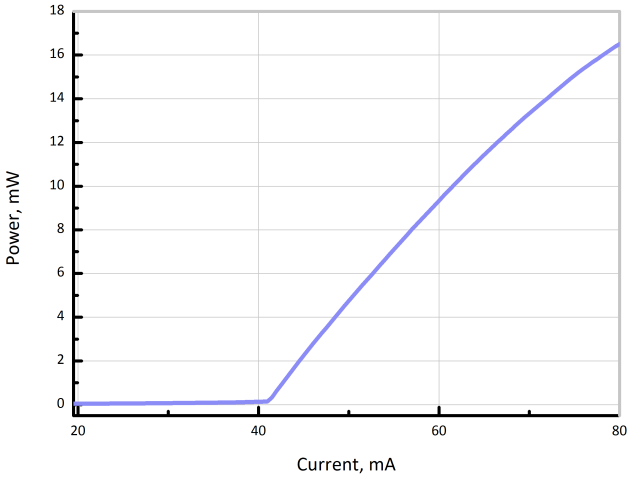


COHERENCE AND STABILITY

Eblana Photonics EP780-DM laser diode, available at a range of wavelengths from 778 - 784nm, is perfectly suited for use in Rb-based atomic clocks. Eblanas's patented Discrete-Mode (DM) technology is used to design a cost effective, highly coherent laser with mode-hop free tunability.



Optical Spectrum at 25°C



Output power as a function of bias current

ELECTRO-OPTICAL CHARACTERISTICS* (T_{SUB} = 25° C)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Centre Wavelength Range	λ	778	780	784	nm
Wavelength specification	λ_{spec}	λ -1	λ	λ +1	nm
Side Mode Supression Ratio	SMSR	30	40	-	dB
Threshold Current	I_{th}	30	40	50	mA
Output Power in fiber (at I_{op})	P_f	10	12	-	mW
Optical linewidth	Δf	-	-	2	MHz
Temperature Tuning Coefficient	T_λ	-	0.1	-	nm/°C
Current Tuning Coefficient	I_λ	20	25	-	pm/mA
Slope Efficiency	SE	0.05	0.125	-	mW/mA
Thermistor Resistance	R_T	9.5	10	10.5	kΩ
Thermistor Temp. Coefficient	C	-	-4.4	-	%/°C

*CW bias unless otherwise stated

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O'Fallon, MO

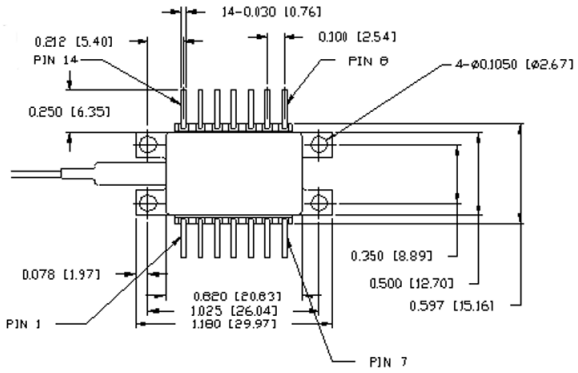
ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Forward Current	I_f	-	200	250	mA
Forward Voltage	V_f	-	3.5	-	V
TEC Current	I_{TEC}	-	0.5	1.2	A
Reverse Voltage LD	V_r	-	-	2.0	V
Reverse Voltage PD	V_{rev}	-	-	20	V
Case Temperature*	T_{Case}	-20	-	65	°C
Chip Submount Temperature	T_{Sub}	0	-	50	°C
Storage Temperature	$T_{storage}$	-40	-	85	°C

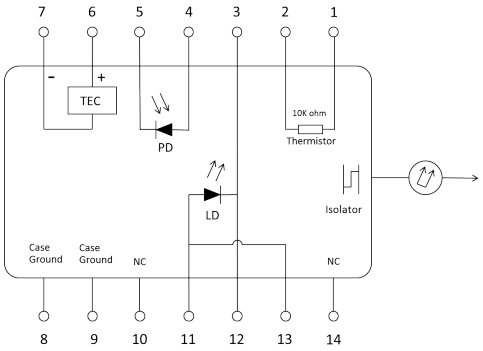
*For T_{sub} < 25°C, Max Case Temperature should be derated to $T_{Case,Max} = T_{sub} + 40°C$

PACKAGING

The EP780-DM-B product series is offered in a 14-pin Butterfly package - Please inquire for other packaging options. Standard package pinout is shown below, variations may be requested.



14-pin butterfly schematic



Standard ''Pinout 01'' option

HOW TO ORDER

Construct your part number using the following example and email your order to info@rpmclasers.com.

EP780 — DM — B01 — FM

- EP780: Wavelength Band
- DM: Single Mode
- B01: Package Description: B = 14 pin butterfly, 01 = pinout
- FM: Connector/Fiber: FA = FC/APC (SMF), FM = FC/APC (PM)

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.