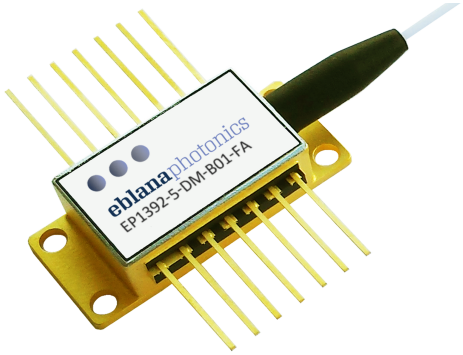
# 1392nm DM LASER

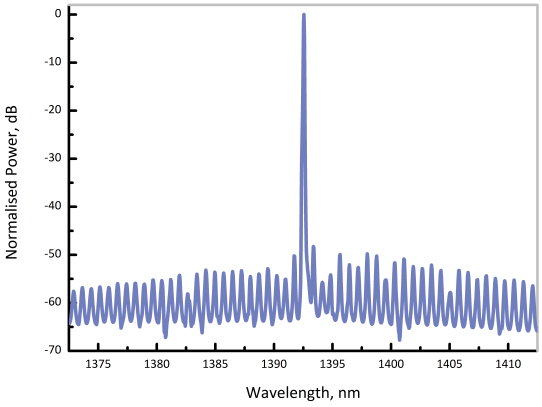
EP1392-DM-B

eblanaphotonics

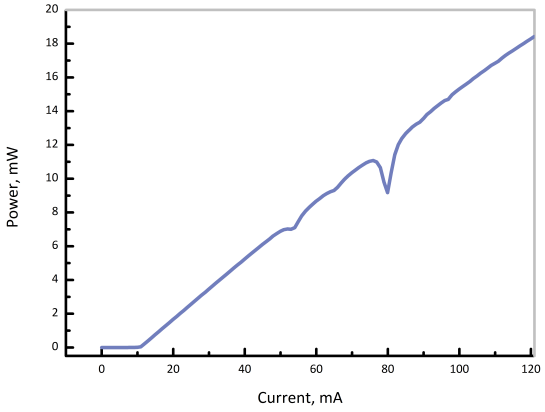



## PRECISION MOISTURE SENSING

Eblana Photonics EP1392-DM-B laser diode, available at a range of wavelengths from 1385 - 1400nm, is designed specifically for detection of $H_2O$. Eblana's Discrete-Mode (DM) technology enables the design of a cost effective device with mode-hop free tunability and excellent SMSR.




Typical 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 |
|---|---|---|---|---|---|
| Available Wavelength Range | $\lambda$ | 1385 | 1392.5 | 1400 | nm |
| Wavelength Tolerance | $\lambda_{spec}$ | $\lambda$ -1 | $\lambda$ | $\lambda$ +1 | nm |
| Side Mode Supression Ratio | SMSR | 30 | 40 | - | dB |
| Threshold Current | $I_{th}$ | - | 15 | 20 | mA |
| Output Power in fiber | $P_f$ | 5 | 8 | 12 | mW |
| Optical linewidth | $\Delta f$ | - | - | 2 | MHz |
| Temperature Tuning Coefficient | $T_\lambda$ | 0.07 | 0.1 | - | nm/°C |
| Current Tuning Coefficient | $I_\lambda$ | 8 | 10 | - | pm/mA |
| Slope Efficiency | SE | 0.1 | 0.15 | - | 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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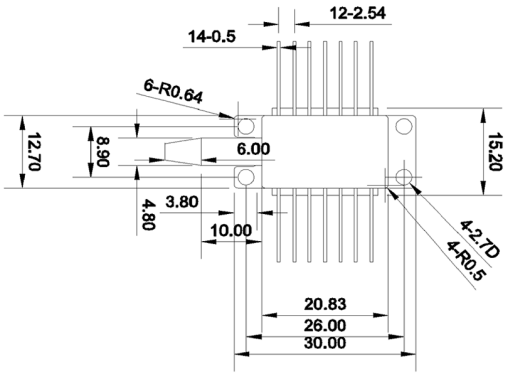
## ABSOLUTE MAXIMUM RATINGS

| PARAMETER | SYMBOL | MIN | MAX | UNIT |
|---|---|---|---|---|
| Forward Current | $I_f$ | - | 120 | mA |
| Forward Voltage | $V_f$ | - | 2 | V |
| TEC Current | $I_{TEC}$ | - | 1.2 | A |
| Reverse Voltage LD | $V_r$ | - | 2 | 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 |

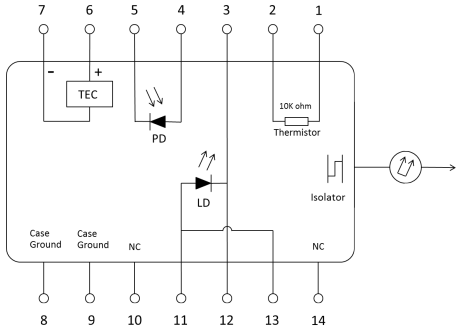
*For $T_{sub}$ < 25°C, Max Case Temperature should be derated to $T_{Case,Max} = T_{sub} + 40°C$

## PACKAGING

The EP1392-DM-B product series is offered in a 14-pin Butterfly package - Inquire for other packaging options. The 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 sales@eblanaphotonics.com, or call +353 1 675 3228.

EP1392 – 5 – DM – B01 – FA

- EP1392 – 5: Wavelength Band
- DM: Single Mode
- B01: Package Description: B = 14 pin butterfly, 01 = pinout
- FA: 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 3. 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.