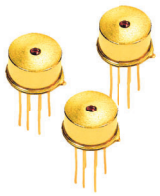
IMM photonics

1392nm DM LASER

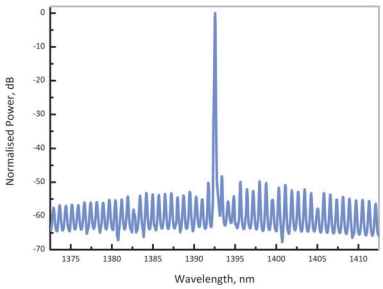
EP1392-DM-TP39

eblanaphotonics

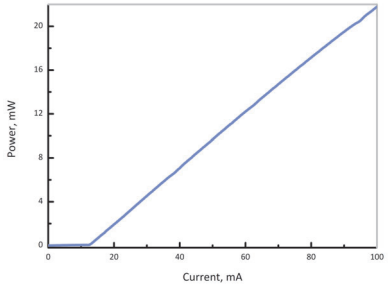


PRECISION MOISTURE SENSING

Eblana Photonics EP1392-DM-TP39 laser diode, available at a range of wavelengths from 1378 - 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



Optical Spectrum at 25°C



Output power vs current, showing H_2O absorption feature.

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

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Centre Wavelength Range	λ	1378	1392.5	1400	nm
Wavelength specification	λ_{spec}	λ -1	λ	λ +1	nm
Side Mode Supression Ratio	SMSR	30	40	-	dB
Threshold Current	I_{th}	-	12	20	mA
Output Power (facet)	P_f	12	19	18	mW
Optical linewidth	Δf	-	-	2	MHz
Temperature Tuning Coefficient	T_λ	-	0.1	-	nm/°C
Current Tuning Coefficient	I_λ	-	14	-	pm/mA
Slope Efficiency	SE	0.2	0.20	0.28	mW/mA
Thermistor Resistance	R_T	9.7	10	10.3	kΩ
Thermistor Temp. Coefficient	C	-	-4.4	-	%/°C
Beam divergence - perpendicular	$\theta\perp$	-	28	-	degrees
Beam divergence - parallel	$\theta\parallel$	-	25	-	degrees

*CW bias unless otherwise stated

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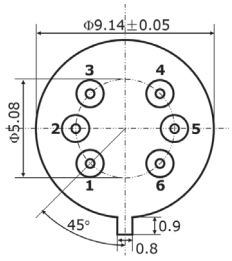
ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Forward Current	I_f	-	80	120	mA
Forward Voltage	V_f	-	1.3	1.6	V
TEC Current	I_{TEC}		-	0.7	A
Reverse Voltage LD	V_{rev}	-	-	2.0	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-TP39 product series is offered in an industry-standard TO39 package - Inquire for other packaging options. The standard package pinout is shown below, variations may be requested



TO39 schematic - outside bottom view

PIN NO	DESCRIPTION
1	TEC+
2	LD+
3	Thermistor
4	Thermistor
5	LD-
6	TEC-

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 3220.

EP1392 – 5 – DM – TP39 – 01

- EP1392 – 5: Wavelength Band (Chose peak wavelength)
- DM: Single Mode
- TP39: Package Description: TP39 = TO39 with TEC
- 01: Pinout 01

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.

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