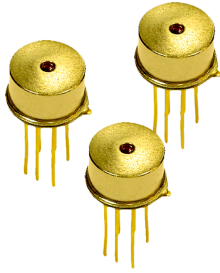


# 1392nm DM LASER

EP1392-DM-TP39

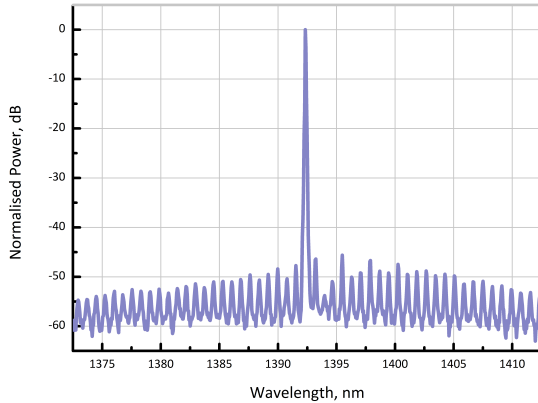


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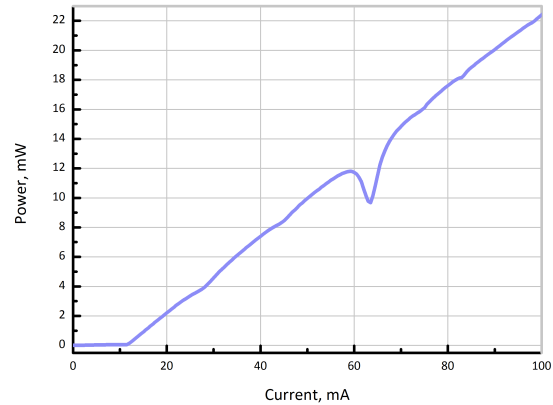


## PRECISION MOISTURE SENSING

Eblana Photonics EP1392-DM-TP39 laser diode, available at a range of wavelengths from 1378 - 1400nm, is designed specifically for detection of H<sub>2</sub>O. 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<sub>2</sub>O absorption feature.

## ELECTRO-OPTICAL CHARACTERISTICS\* (T<sub>SUB</sub> = 25° C)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Centre Wavelength Range	$\lambda$	1378	1392.5	1400	nm
Wavelength specification	$\lambda_{spec}$	$\lambda - 1$	$\lambda$	$\lambda + 1$	nm
Side Mode Supression Ratio	SMSR	30	40	-	dB
Threshold Current	$I_{th}$	-	15	20	mA
Output Power (facet)	$P_f$	13	16	18	mW
Optical linewidth	$\Delta f$	-	-	2	MHz
Temperature Tuning Coefficient	$T_\lambda$	-	0.1	-	nm/°C
Current Tuning Coefficient	$I_\lambda$	-	0.01	-	nm/mA
Slope Efficiency	SE	0.2	0.23	0.25	mW/mA
Thermistor Resistance	$R_T$	9.7	10	10.3	k $\Omega$
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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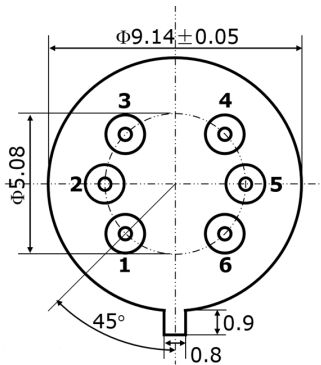
# ABSOLUTE MAXIMUM RATINGS

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

## 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



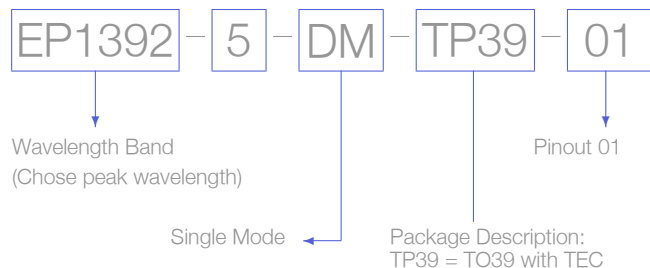
TO39 schematic - outside bottom view

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](mailto:sales@eblanaphotonics.com), or call +353 1 675 3228.



### 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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