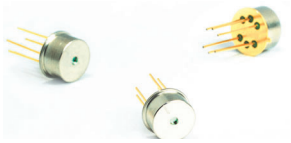
IMM photonics

689nm DM LASER

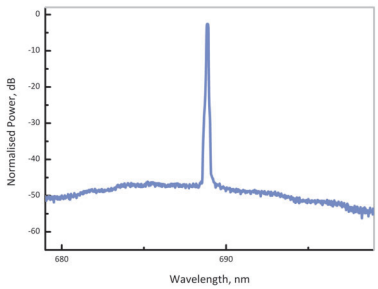
EP689-DM-TP39 - Preliminary

eblanaphotonics

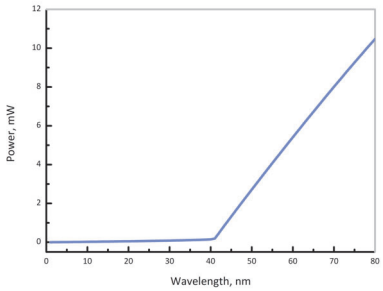


COHERENCE AND STABILITY

Eblana Photonics EP689-DM laser diode is perfectly suited for use in Sr-based atomic clocks. Eblana's patented Discrete-Mode (DM) technology is used to design a cost effective, highly coherent laser with excellent stability and linewidth.



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	λ	688	689	690	nm
Wavelength Tolerance*	λ_{spec}	λ -1	λ	λ +1	nm
Side Mode Supression Ratio	SMSR	30	35	-	dB
Threshold Current	I_{th}	-	40	-	mA
Output Power*	P_f	1.5	2.5	-	mW
Optical linewidth	Δf	-	4	-	MHz
Temperature Tuning Coefficient	T_λ	-	0.06	-	nm/°C
Current Tuning Coefficient	I_λ	-	6	-	pm/mA
Slope Efficiency	SE	0.15	0.25	-	mW/mA
Thermistor Resistance	R_T	9.7	10	10.3	kΩ
Beta Coefficient	C	-	3930	-	K
Beam divergence - perpendicular	$\theta\perp$	-	18	-	degrees
Beam divergence - parallel	$\theta\parallel$	-	10	-	degrees

*At typical operating current of 50mA

eblanaphotonics

www.eblanaphotonics.com
Sales@eblanaphotonics.com
Dublin, Ireland

Individual. Innovative. Exceptional.

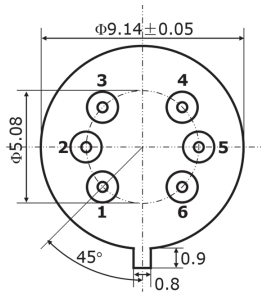
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ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	MIN	MAX	UNIT
Forward Current	I_f	-	80	mA
Forward Voltage	V_f	-	2.7	V
TEC Current	I_{TEC}	-	0.7	A
Reverse Voltage LD	V_r	-	2.0	V
Case Temperature*	T_{Case}	-20	65	°C
Storage Temperature	$T_{storage}$	-40	85	°C

PACKAGING

The EP689-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.

EP689 – 0 – DM – TP39 – 01

- EP689: Wavelength Band
- 0: Single Mode
- DM: 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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