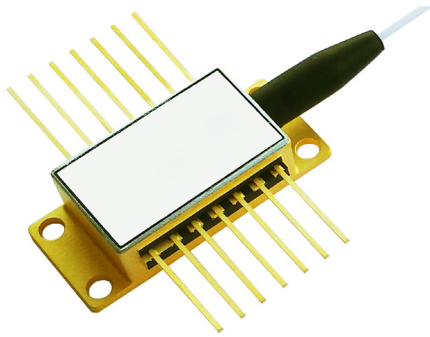


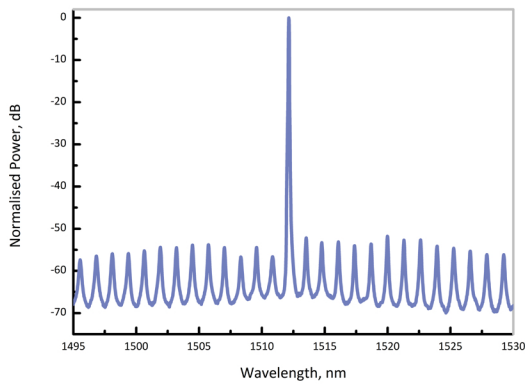
# 1512nm DM LASER

REP1512-DM-B

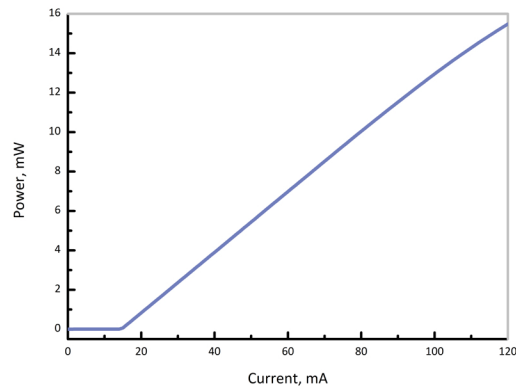


## PRECISION AMMONIA SENSING

Designed with ammonia sensing in mind, RPMC Photonics REP1512-DM-B laser diode is ideal for incorporating into TDLAS systems for NH<sub>3</sub>. RPMC's patented Discrete-Mode (DM) technology is leveraged to deliver a cost effective solution with mode-hop free tun-ability and excellent SMSR.



Typical optical spectrum at 25° C



Output power as a function of bias current

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

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Available Wavelength Range	$\lambda$	1500	1512.2	1530	nm
Wavelength Tolerance	$\lambda_{spec}$	$\lambda - 1$	$\lambda$	$\lambda + 1$	nm
Side Mode Supression Ratio	SMSR	30	40	-	dB
Threshold Current	$I_{th}$	-	15	18	mA
Output Power in fiber	$P_f$	7	10	-	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	k $\Omega$
Thermistor Temp. Coefficient	C	-	-4.4	-	%/°C

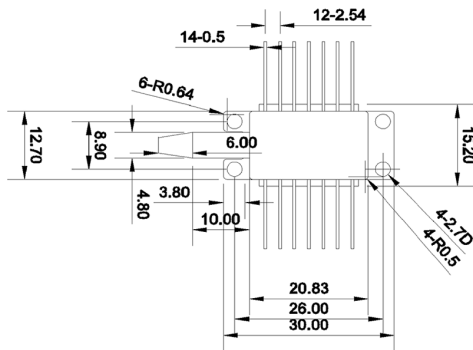
## ABSOLUTE MAXIMUM RATINGS

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

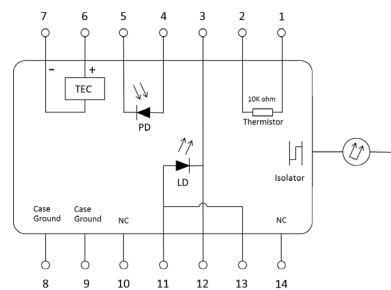
\*For  $T_{sub} < 25^{\circ}C$ , Max Case Temperature should be derated to  $T_{Case,Max} = T_{sub} + 40^{\circ}C$

### PACKAGING

The REP1512-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



Wavelength Band

Single Mode

Connector/Fiber:  
FA = FC/APC (SMF)  
FM = FC/APC (PM)

Package Description:  
B = 14 pin butterfly  
01 = pinout



#### 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.