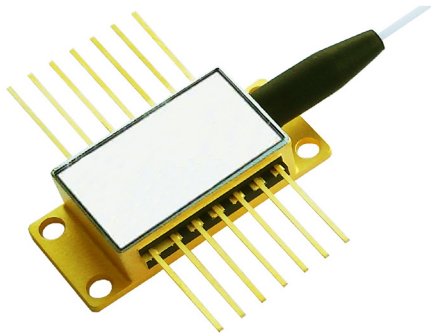


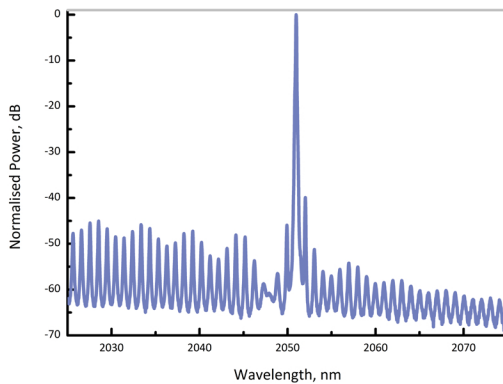
# 2051nm DM LASER

REP2051-DM-B

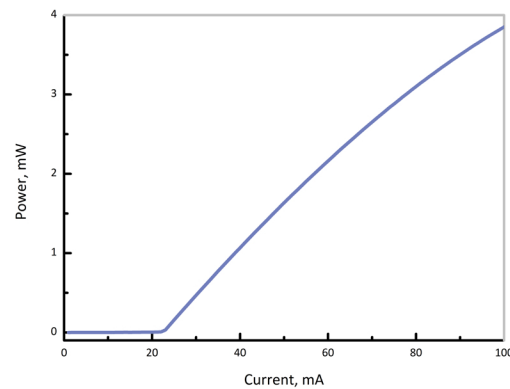


## SUPERIOR CO<sub>2</sub> SENSING

RPMC Lasers REP2051-DM-B laser diode has been developed for precision sensing of Carbon Dioxide, using the strong absorption lines in the 2051nm region. RPMC's Discrete-Mode (DM) technology en-ables excellent SMSR performance and mode-hop free tuning at a highly competitive price.



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	$\lambda$	1950	2051	2150	nm
Wavelength tolerance	$\lambda_{spec}$	$\lambda - 1$	$\lambda$	$\lambda + 1$	nm
Side Mode Supression Ratio	SMSR	30	40	-	dB
Threshold Current	$I_{th}$	-	20	40	mA
Output Power in fiber	$P_f$	1.5	2	-	mW
Temperature Tuning Coefficient	$T_\lambda$	-	0.1	-	nm/°C
Current Tuning Coefficient	$I_\lambda$	-	3	-	pm/mA
Slope Efficiency	SE	0.025	0.035	-	mW/mA
Thermistor Resistance	$R_T$	9.5	10	10.5	k $\Omega$
Thermistor Temp. Coefficient	C	-	-4.4	-	%/°C

\*CW bias unless otherwise stated

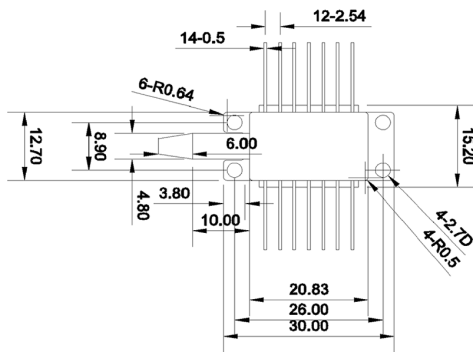
## ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	MIN	MAX	UNIT
Forward Current	$I_f$	-	140	mA
Forward Voltage	$V_f$	-	1.6	V
TEC Current	$I_{TEC}$	-	1.2	A
Reverse Voltage LD	$V_r$	-	2	V
Case Temperature*	$T_{Case}$	-20	65	°C
Chip Submount Temperature	$T_{Sub}$	0	50	°C
Storage Temperature	$T_{storage}$	-40	85	°C

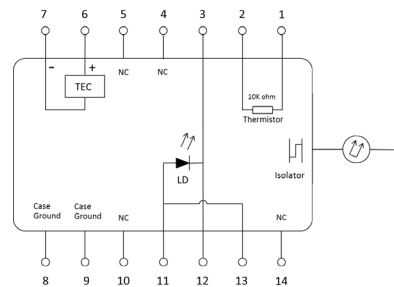
\*For  $T_{sub} < 25^{\circ}C$ , Max Case Temperature should be derated to  $T_{Case,Max} = T_{sub} + 40^{\circ}C$

### PACKAGING

The REP2051-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. mPD not included as standard.



14-pin butterfly schematic



Standard "Pinout 06" option



Wavelength Band

Single Mode

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

Package Description:  
B = 14 pin butterfly  
06 = 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.