


# 795nm Single mode VCSEL in tilted cap TO46

APM2101013300



## Features:

- Single transverse and lateral mode emission
- No polarization flips in single mode current range
- Tilted window hermetic TO46 package
- Packaged with 30K Ohm thermistor
- Absorptive and AR-coated glass window
- RoHS compliant 

## Applications

- Optical pumping of atomic clocks

## Electro-Optical Characteristics

T=50±3°C unless otherwise noted

Parameter	Symbol	Conditions	Ratings			Unit
			Min	Typ	Max	
Threshold current	$I_{th}$			1.1	2.8	mA
Slope efficiency	$\eta$	$I = I_{th} + 0.5mA$	0.08	0.1	0.12	mW/mA
Operating current	$I_{op}$	$P_{op} = 100\mu W$		2.1	4.0	mA
Maximum output power	$P_{max}$	$I = 4mA$			1.0	mW
Operating voltage	$U_{op}$	$P_{op} = 100\mu W$		2.0	3.5	V
Threshold voltage	$U_{th}$	$I = I_{th}$		1.75	2.5	V
Series resistance	$R_s$	$I = 3mA$		100	200	$\Omega$
Emission wavelength	$\lambda$	$P_{op} = 100\mu W$	794.1		795.9	nm
Side mode suppression ratio	SMSR	$P_{op} = 100\mu W$	20			dB
Current tuning coefficient	$\delta\lambda/\delta I$		0.1		0.4	nm/mA
Thermistor resistance	$R_{therm}$		9.0	10.97	13.0	k $\Omega$
Linewidth	$\Delta\nu$	$P_{op} = 100\mu W, T = 25^\circ C$			30	MHz

SMSR = side mode suppression ratio

## Polarization Characteristics (T=50±3°C)

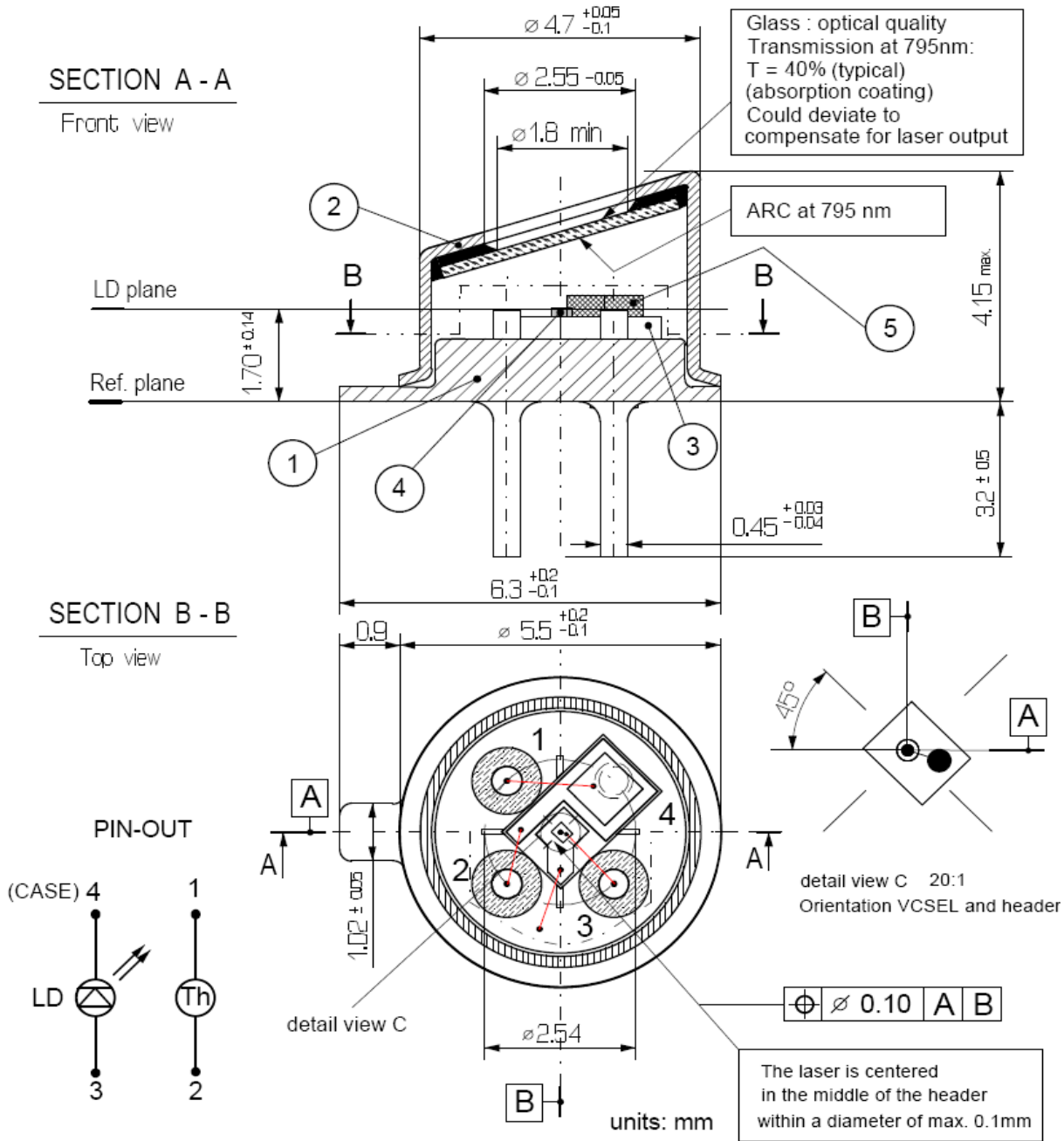
Parameter	Symbol	Conditions	Ratings			Unit
			Min	Typ	Max	
Polarization ratio	$Pol_{ratio}$	$Pol_{ratio} = \text{minimum of } P_{ver}/(P_{hor}+P_{ver}) \text{ and } P_{hor}/(P_{hor}+P_{ver}), P_{op} = 100\mu W$		0.05	0.15	

The device shall not have any polarization flips defined as sign changes of  $P_{ver} - P_{hor}$  at 50±3°C between threshold current and the maximum single mode current below 200μW.

## Absolute Maximum Ratings (T=25°C)

Parameter	Symbol	Ratings		Unit
		Min	Max	
Optical output power	$P_{max}$		1	mW
Peak forward current	$I_{max}$		6	mA
Maximum reverse voltage	$U_{max}$		5	V
Operating temperature	$T_{op}$	-20	85	°C
Storage temperature	$T_{stg}$	-40	100	°C
Lead solder temperature (for 10sec)	$T_{solder}$		260	°C

Mechanical Dimensions and Electrical Connection



RoHS Compliance



Oclaro is fully committed to environment protection and sustainable development and has set in place a comprehensive program for removing polluting and hazardous substances from all of its products. The relevant evidence of RoHS compliance is held as part of our controlled documentation for each of our compliant products. RoHS compliance parts are available to order, please refer to the ordering information section for further details.

Ordering Information

Product Code	Data Rate	Description
APM2101013300	TO46	794.1...795.9nm

Contact Information

[www.oclaro.com](http://www.oclaro.com)

Important Notice

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by Oclaro before they become applicable to any particular order or contract. In accordance with the Oclaro policy of continuous improvement specifications may change without notice. Further details are available from any Oclaro sales representative.



Caution - use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

D00478-PB Issue 01 December 2012

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