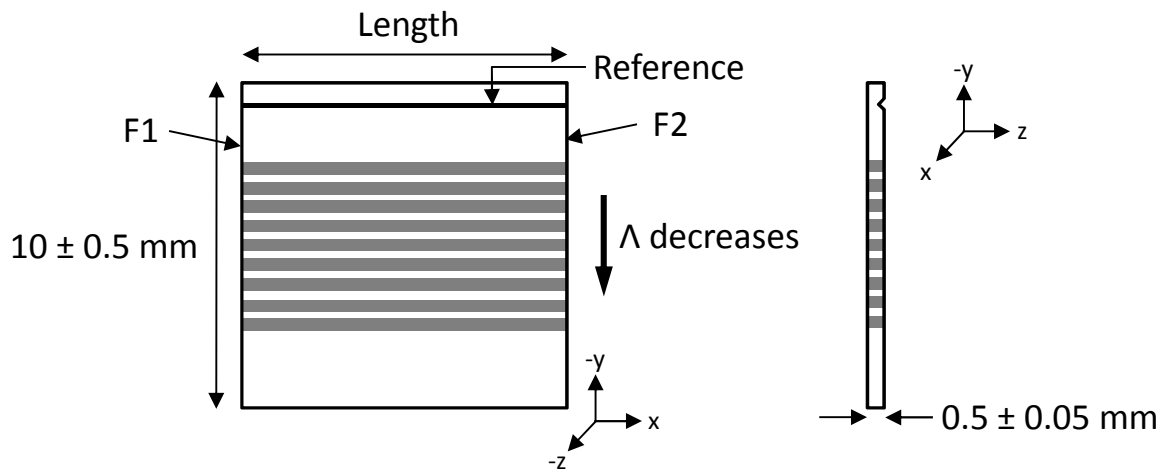


# Device Specification

## MOPO1-0.5-xx

Version 2.6/2013



[Image for reference only. Not to scale.]

Description MgO doped PPLN OPO crystal for 1064nm pump

Thickness(z)  $0.5\text{mm} \pm 0.05\text{mm}$

Width(y)  $10\text{mm} \pm 0.5\text{mm}$

Length(x)  $40\text{mm} \pm 0.5\text{mm}$ ,  $20\text{mm} \pm 0.5\text{mm}$ ,  $10\text{mm} \pm 0.2\text{mm}$ ,  $5\text{mm} \pm 0.1\text{mm}$ ,  $3\text{mm} \pm 0.1\text{mm}$ ,  $1\text{mm} \pm 0.1\text{mm}$

Periods( $\Lambda$ ) 27.91, 28.28, 28.67, 29.08, 29.52, 29.98, 30.49, 31.02, 31.59 $\mu\text{m}$

### NOTES:

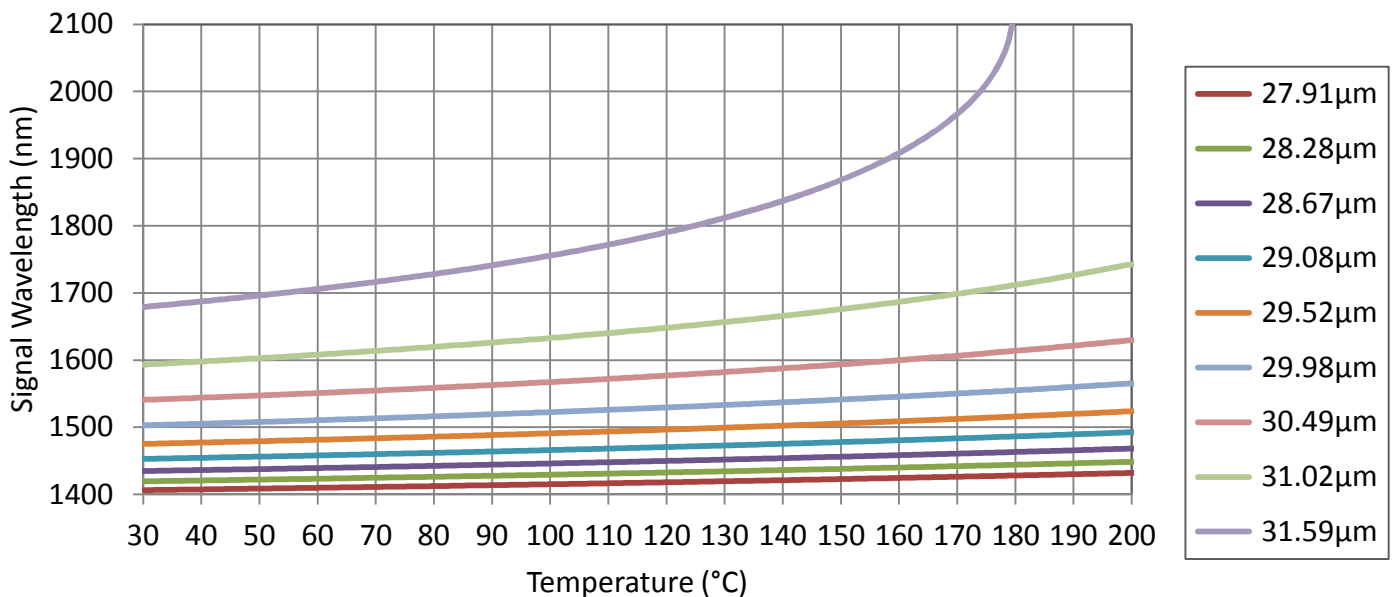
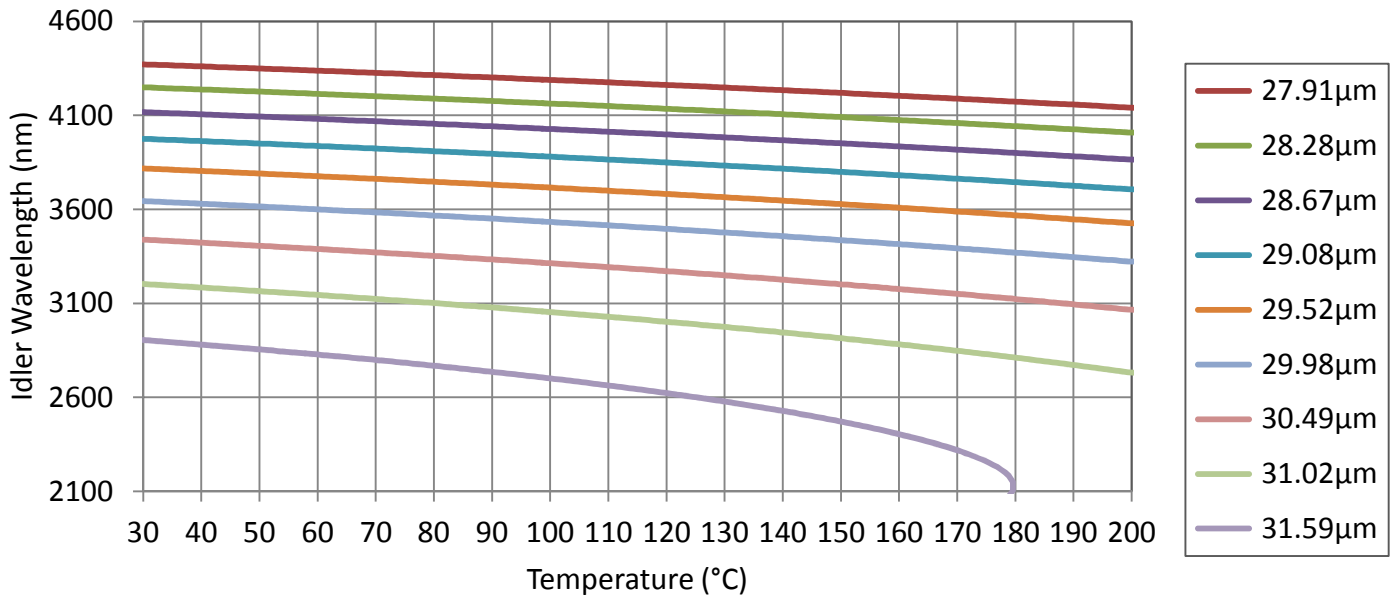
- 1 The OPO device material is Magnesium doped Lithium Niobate with nine periodically poled gratings. Each grating is 0.5mm wide with individual periods as listed above. A saw-cut reference mark is provided on the +z face of the crystal to determine the largest grating period (see above diagram). Each poled grating is separated by 0.2mm wide regions of unpoled material.
- 2 The average mark-to-space ratio of each grating is better than 70:30.
- 3 Each device is etched to make the poled gratings visible. Due to the wet-etch nature of this process the top and bottom surface finish of each device may appear cloudy or uneven.
- 4 Perpendicularity of input/output facets F1 and F2 to gratings is within  $\pm 0.15^\circ$ . Parallelism between end facets F1 and F2 is within  $\pm 5$  minutes.
- 5 Optical finish of facets F1 and F2 is within 20/10 scratch dig with  $\lambda/8 @ 1064\text{nm}$ . No more than two  $100\mu\text{m}$  size chips per end facet.
- 6 AR coated to  $R < 1.5\%$  @ 1064nm (Pump) & to  $R < 1\%$  @ 1400-1800nm (Signal) & to  $R \sim 6\%-3\%$  @ 2600-4800nm (Idler), on both input/output facets.

# Device Specification

## MOPO1-0.5-xx

Version 2.6/2013

### OPO Tuning Curve 1064nm Pump



*Please note these are calculated tuning curves only and actual values may vary.*

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