

# Semi-Standard PP-LBGO device design

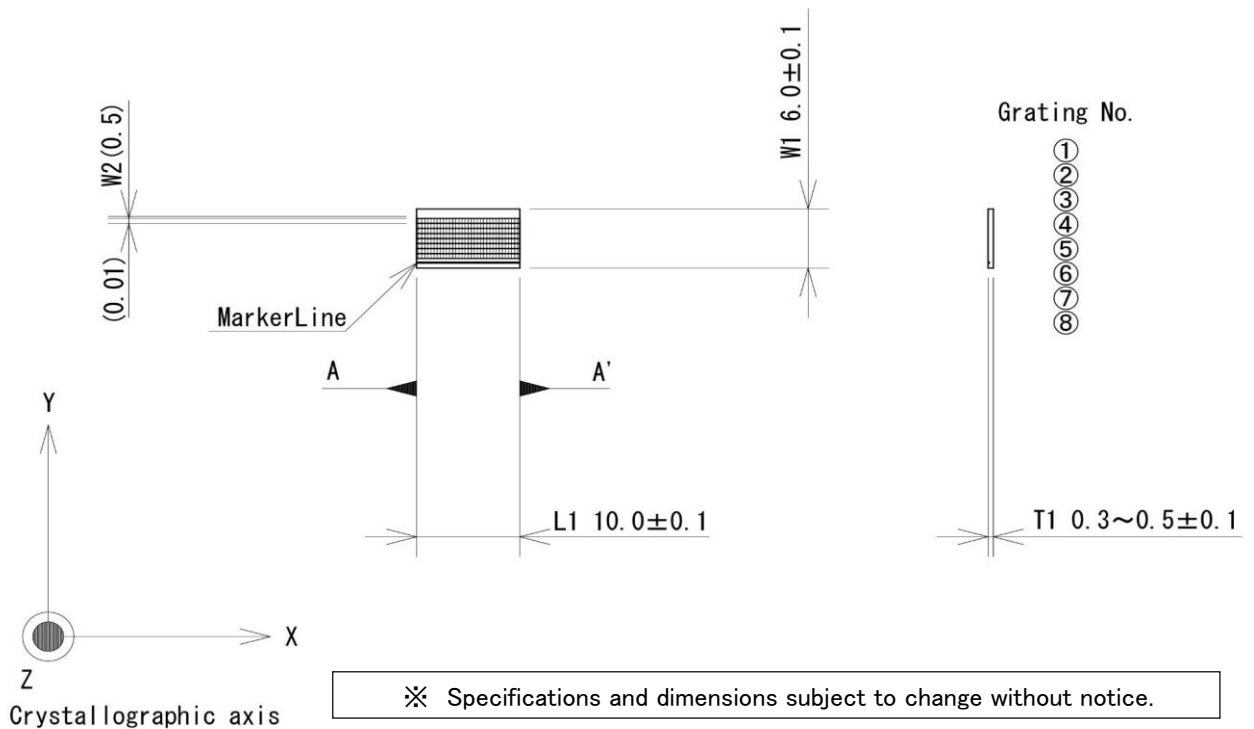
OXIDE Corporation  
 Confidential  
 10, Feb. ,2016  
 Doc. No.Q-SSD-PPLBGO-S01-tentative

## Specification

Product Name	PPLBGO device
--------------	---------------

Item	Specification	Inspection method	Sampling	
<b>1. Material</b>				
1.1	Material	LaBGeO5	—	—
<b>2. Device</b>				
2.1	Length (L1)	10.0 +/-0.1mm	Measuring microscope	All
2.2	Width of device (W1)	6.0 +/- 0.1 mm	Measuring microscope	Reference chip only
2.3	Width of periodically poled area (W2)	0.5 +/- 0.1mm	—	— Designed value
2.4	Thickness (T1)	0.3~0.5 +/-0.1mm	Height gauge	Reference chip only
2.5	Flatness A plane	$\leq \lambda/10$ @ 633nm	Optical interferometer	All Optical polish
2.6	Flatness A' plane	$\leq \lambda/10$ @ 633nm	Optical interferometer	All Optical polish
2.7	Parallelism	< 5 arc minutes	Autocollimator	All
2.8	AR coating(A,A' plane)	(N/A)	—	— (Option)
2.9	Effective aperture (under periodically poled area: (W2 X T1) )	>80%	Microscope	All
<b>3. Phase matching condition</b>				
3.1	QPM period	(See schematics below )	—	— Designed values
3.2	QPM duty ratio	50%:50% (Target value, Best effort)	—	—

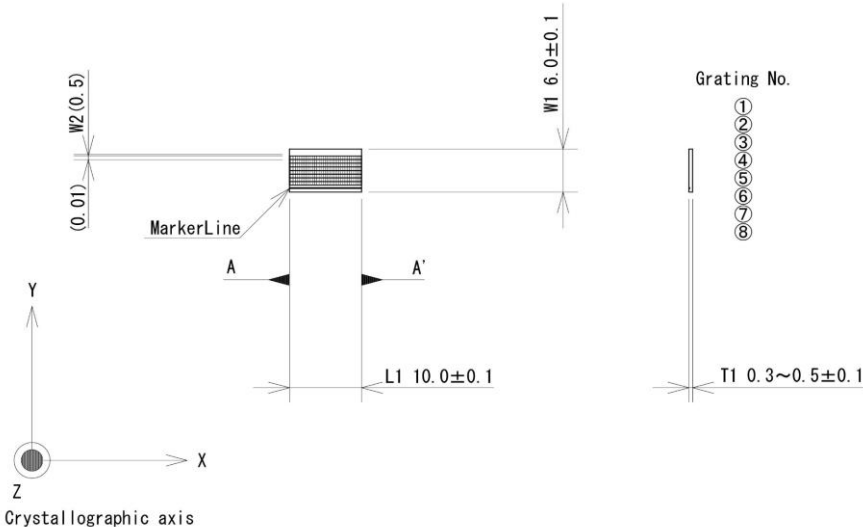
Schematics of the Device



# Semi-Standard PP-LBGO device design

OXIDE Corporation  
 Confidential  
 10, Feb. ,2016  
 Doc. No.Q-SSD-PPLBGO-S01-tentative

**Schematics**



**Lineup**

Type	I-A	I-B	I-C	I-D		IV-R	IV-S
①	3.00	3.14	3.28	3.42	...	26.10	26.80
②	3.02	3.16	3.30	3.44		26.20	26.90
③	3.04	3.18	3.32	3.46		26.30	27.00
④	3.06	3.20	3.34	3.48		26.40	27.10
⑤	3.08	3.22	3.36	3.50		26.50	27.20
⑥	3.10	3.24	3.38	3.52		26.60	27.30
⑦	3.12	3.26	3.40	3.54		26.70	27.40
⑧	3.14	3.28	3.42	3.56		26.80	27.50

Periodicity range: 3.00~27.50 um (FIXED)

Periodicity step: approximately 60°C step for phase matching temperature

**Phase-matching example**

