

TECHNICAL SPEC FOR Stepper

System Model:

Canon FPA 3000 i5 SN 7072885

Tool has been shut down by Litho tech.

Electricity, cooling water, Vacuum and CCA are closed.

Cables between Main unit and power box are still connected, locking kit and demounting for transport to be provided by buyer.

Wafer size: 6 inch

Wafer type: Jeida flat

Chuck type: 6 inch

Reticle changer type: (Canon standard?)

Inline right or left: right

Particle checker (PPC): No

Touch panel type: Canon standard

Options:

Reticle size: 5 inch

Reticle alignment: see specs below

Wafer alignment: see specs below

Auto focus: see specs below

Auto feeder: Yes

Wafer tilt:

Wafer feeder: Yes

Track interface: Yes, tool was used inline, interface is track part

Laser: Hene

Lens data: see below

Stage and U-lens at shutdown

Intensity: 800 mW/cm²

Uniformity: 1.5%

Stage vibration data:

Used for 0.35micron line and space? Y

Chuck maintenance tool: No

Reticle bar code reader: Yes

Cassette bar code reader: No

SW Version:

OS:

Vintage: 2007

Missing/defective parts: none

Canon FPA-3000i5+

INSTALLATION CHECK RESULTS

For : AMI Semiconductor

User ID : Stepper 12

Installation Team

Serial No.	7072885
Installation	Begin 12-Jul-07
Period	End 25-Jul-07
Staff In Charge	P.Wells / M.Fordham

Classification	Item		Results	Spec.	Judge	Remark
1 Illuminator Adjustment	Intensity	Normal (63,65)	16106 W/m ²	≥ 11000W/m ³	O	New Lamp With in 50 hours
		SiA	7497 W/m ²	≥ 5000W/m ²	O	
		SiAll	10699 W/m ²	≥ 7000W/m ²	O	
		SiB	8787 W/m ²	≥ 7000W/m ²	O	
		SP1	16360 W/m ²		O	
		SP2	17153 W/m ²		O	
	Uniformity	Normal (63,65)	0,484 %	≤ 1.0 %	O	New Lamp With in 50 hours
		SiA	0,619 %	≤ 1.0%	O	
		SiAll	0,569 %	≤ 1.0%	O	
		SiB	0,637 %	≤ 1.0%	O	
		SP1	0,300 %		O	
		SP2	0,331 %		O	
	Light Integrator Accuracy		0,58 %	≤ 1.0%	O	80,250,500,1000msec
	Masking Blade Accuracy	Total	-68 um	≤ ±100um	O	
		Theta	-251 ppm	≤ 3000ppm	O	
		Gray Zone	13 um	Range ≤ 60um	O	
2 Auto Focus leveling Performance	Focus Leveling Repeatability (Static)		0,024 um	3 sigma ≤ 0.08um	O	Measured 25 Times
	Leveling Repeatability (Static)	3 sigma X	3,57 ppm	3 sigma ≤ 6ppm	O	
		3 sigma Y	3,36 ppm			
	Focus Leveling Repeatability (Dynamic)		0,08 um	3 sigma ≤ 0.10um	O	32 Shots 3 Wafers
	Leveling Repeatability (Dynamic)	3 sigma X	3,3 ppm	3 sigma ≤ 7ppm	O	
		3 sigma Y	5,2 ppm			
	Tilt Sensor Uneven Focus		1,77 ppm	≤ ±4ppm	O	
	Uneven Focus (TSOC)		3,2 ppm	≤ ±4ppm	O	
	Global Tilt Measurement Stability	3 sigma X	1,3 ppm	≤4ppm	O	
		3 sigma Y	1,5 ppm			
Global leveling Repeatability	3 sigma X	2,0 ppm	≤8ppm	O		
	3 sigma Y	1,7 ppm				

3	iTV Alignment Scope	I Line Defocus Character	Ka	-7 mrad	≤ 15mrad	O			
			Kb	-5 mrad					
			Kc	-4 mrad					
			Ka+Kb	-12 mrad	≤ 15mrad	O			
4	Offset For Rotation	Reticle Rotation Accuracy		1,4 nm	≤ 10nm	O			
		Reticle Rotation Repeatability		6,0 nm	≤ 20nm	O			
		SRC stability		0,086 nm	≤ 0.5ppm	O			
5	Offset For XY Stage	Orthogonality		0,02 ppm	≤ 0.5ppm	O			
		Scaling	X	0,00 ppm	≤ 0.5ppm	O			
			Y	0,02 ppm					
		Bar Mirror's Bow	X	-8,4 nm	≤ 20nm	O			
			Y	-4,6 nm					
		6	XY Stage Performance	Stepping	XX	14,5 nm	3 sigma ≤ 35nm	O	Sample 3 Wafers data
Accuracy	YY			14,8 nm					
Stepping Repeatability	X			22,2 nm	3 sigma ≤ 30nm	O	Sample 1 Wafer data		
	Y			12,0 nm					
7	Lens Heating	Lens Heating NA:0.63 Sigma:0.65	Focus	0,10 um	≤ 0.30um	O			
		Lens Heating NA:0.52 Sigma:0.60	Focus	0,05 um	≤ 0.30um	O			
	Lens Performance	Distortion	DX	0,029 um	DX,DY ≤ ±0.040um	O			
		Normal (63,65)	DY	0,023 um					
		CD DOF	0.35um L&S	1,26 um	≥ 0.9um	O			
		T/B DOF		0,64 um	≥ 0.6um	O			
		Field Curvature		-0,05 um	≤ 0.25um	O			
		ISW		-0,05 um	≤ 0.25um	O			
		IFD		0,14 um	≤ 0.35um	O			
		Astigmatism		0,08 um	≤ 0.20um	O			
		CD Uniformity		9,6 nm	≤ 35nm	O			
		8	Pre Alignment Performance	Mechanical Pre Alignment Accuracy	XI	2,1 um	3 sigma ≤ 30um	O	
					Xr	2,4 um			
YI	3,2 um								
Yr	3,3 um								
TV Pre Alignment Accuracy	X			1,86 um	≤ 3 um	O	Max X +Max DR		
	Y			0,295 um					

9	B/C Scope Performance	TOC Difference		B/S	5 nm	Ave. $\leq 5\text{nm}$	O	Mode 5 - Mode 3
				C/S	-3 nm			
		B Scope	Ka	8 mrad	$\leq \pm 20\text{mrad}$	O	Mode 1	
Defocus	Kb	8 mrad						
Character	Kc	0 mrad						
B Scope	Ka	4 mrad	$\leq \pm 20\text{mrad}$	O	Mode 2			
Defocus	Kb	-4 mrad						
Character	Kc	-4 mrad						
B Scope	Ka	-1 mrad	$\leq \pm 20\text{mrad}$	O	Mode 3			
Defocus	Kb	-3 mrad						
Character	Kc	0 mrad						
C Scope	Ka	-3 mrad	$\leq \pm 20\text{mrad}$	O	Mode 1			
Defocus	Kb	2 mrad						
Character	Kc	2 mrad						
C Scope	Ka	9 mrad	$\leq \pm 20\text{mrad}$	O	Mode 2			
Defocus	Kb	16 mrad						
Character	Kc	3 mrad						
C Scope	Ka	1 mrad	$\leq \pm 20\text{mrad}$	O	Mode 3			
Defocus	Kb	4 mrad						
Character	Kc	1 mrad						
B Scope Waveform	line 2	-1,75 %	$\leq \pm 3\%$	O	Mode 3			
	line 3	-1,77 %						
C Scope Waveform	line 2	1,79 %	$\leq \pm 3\%$	O	Mode 3			
	line 3	1,62 %						
TIS Baseline Stability	B Scope	1 nm	$\leq \pm 10\text{ nm}$	O				
	C Scope	-7 nm						
	BLX	6 nm	3 sigma $\leq 30\text{nm}$	O	Measured 50 Times			
	BLY	8 nm						
10	ALFC	Measurement Repeatability		0,049 μm	3 sigma $\leq 0.1\mu\text{m}$	O	L Side ONLY	
11	Auto Alignment Accuracy	He-Ne AGA Overlay	X	44 nm	m +3 sigma $\leq 90\text{nm}$	O	2 Pts./32 shot 5 wafers	
		Mode 1 - Stp 12 to Stp 9	Y	70 nm				
		He-Ne AGA Overlay	X	46 nm	m +3 sigma $\leq 90\text{nm}$	O	2 Pts./32 shot 5 wafers	
		Mode 2 - Stp 12 to Stp 9	Y	65 nm				
		Broad Band AGA Overlay	X	69 nm	m +3 sigma $\leq 90\text{nm}$	O	2 Pts./32 shot 5 wafers	
Mode 4 - Stp 12 to Stp 9	Y	80 nm						
12	Throughput		32shot 90msec shutter time	129 wph	$\geq 108\text{ wafers / hour}$	O	Tilt On	
13	Reticle Alignment		ROC	0,002 μm	$\leq 0.01\mu\text{m}$	O		
14	Open Frame			Clear	Clear	O	1.02eth	
15	Reliability	Wafer Cycling		500	No Trouble	O	500 Wfs.With AGA	
		Reticle Cycling		75	No Trouble	O	75Reticles	

Photos to Collect

- All 4 sides
- Loader
- Chuck
- Cameras
- Control panel
- Chamber
- Robot
- Inside all of the cabinets (PCB's)
- Electronic racks (inside the boards as well)
- All electronic in/outlets
- Serial plate
- Spare parts, manuals (if any)