

Canon
FPA-3000i5

Serial No.

Classification			Conditions	Results	Target	Judge	Pages
1. Projection Performance			Resist : SPR-660, thickness: 0.92um				
1	Resolution	0.35um Line & Space	NA =0.63 sigma=0.65 405 msec	0.35um is resolved	0.35um	OK	16
2	CD DOF	"	NA =0.63 sigma=0.65 405 msec	0.91	$\geq 0.8\mu\text{m}$	OK	3
3	T/B DOF	"	"	0.80	$\geq 0.6\mu\text{m}$	OK	7
5	Image Field Deviation	"	"	0.18	$\leq 0.30\mu\text{m}$	OK	11
6	Astigmatism	"	"	0.08	$\leq 0.25\mu\text{m}$	OK	"
7	Field Curvature	"	"	0.09	$\leq 0.25\mu\text{m}$	OK	"
8	CD DOF	0.40um Dense Hole	NA =0.63 sigma=0.65 905 msec	0.90	$\geq 0.6\mu\text{m}$	OK	13
9	Coma	0.35um Line & Space	Best Focus (BF)	-1.30	$\leq \pm 2$ degrees		17
		NA =0.63 sigma=0.65 405 msec	BF - 0.3um	0.90	$\leq \pm 3.5$ degrees		"
			BF + 0.3um	1.10	$\leq \pm 3.5$ degrees		"
10	Distortion	Dx	NA =0.63 sigma=0.65	23	$\leq 50\text{nm}$	OK	18
		Dy	"	19	"	OK	"
2. Lens Heating Performance							
1	Magnification	Initial	Standard mode NA/sigma = 0.63/0.65	1.786			19
		Heating		2.474			"
		Cooling		2.675			"
		Range		0.889	Range ≤ 2 ppm	OK	19
	Focus	Initial	Standard mode NA/sigma = 0.63/0.65	-0.050			20
		Heating		-0.100			"
		Cooling		-0.050			
		Range		0.05	Range $\leq 0.2\mu\text{m}$	OK	20

	2	Magnification	Initial	Special mode1 Na/sigma = 0.50/0.60	2.604				19
			Heating		3.64				"
			Cooling		3.139				"
			Range		1.036		Range ≤ 2 ppm	OK	19
		Focus	Initial	Special mode1 Na/sigma = 0.50/0.60	-0.1				20
			Heating		-0.15				"
			Cooling		-0.05				
			Range		0.1		Range ≤ 0.2um	OK	20
3. Illumination Performance									
	1	Illumination Intensity		NA =0.63 sigma=0.65	13243		≥ 8000 w/m2	OK	21
	2	Illumination Uniformity		NA =0.63 sigma=0.65	1.10%		≤ 1.2%	OK	"
	3	Light Integrator	Accuracy		0.62%		≤ 1.0 %	OK	26
	4	Masking Blade	Overall accuracy		12		≤ 110um	OK	27
	5	Open Frame		1.04Eth	No particle		No particle	OK	
4. Alignment Performance									
	1	Reticle Rotation	Accuracy		0.0078		≤ 0.1um	OK	28
	2	Reticle Rotation	Repeatability		0.0025		≤ 0.015um	OK	28
	3	Baseline	X	Mode 1	0.006		aveg ≤ 0.05um	OK	30
		Accuracy	Y	"	-0.002		"	OK	"
			X	Mode 3	0.002		aveg ≤ 0.05um	OK	31
			Y		0.002		"	OK	"
	4	Auto Alignment	X	Mode 1	36.82		aveg+3 sigma < 0.060um		48 and 49 to 53
		Accuracy	Y	"	26.62		"		"
5. Auto Focus Performance									
	1	Auto Focus Repeatability			0.08		3 sigma ≤ 0.08um	OK	59
	2	ALFC	Accuracy	Left	0.029		3 sigma ≤ 0.10um	OK	54
				Right	0.027		"		55
	3	Uneven focus	Die/Die off		1.412		incline ≤ 4ppm	OK	57
	4	Uneven focus	Die/Die on		0		"	OK	58
6. Die by Die Leveling Performance									
	1	Die by Die Leveling	X		1.729		3 sigma ≤ 6ppm	OK	59
		Repeatability	Y		1.774		"	OK	"

7. XY Stage Performance								
1	Bar Mirror	Bow	X	-0.0039		$X \leq 0.15\mu\text{m}$	OK	62
			Y	-0.0034		$Y \leq 0.15\mu\text{m}$	OK	"
2	XY Stage	X-X		15.63		$3\sigma \leq 0.035\mu\text{m}$	OK	63 to 65
	Stepping accuracy	Y-Y		23.13		"	OK	"
3	Stepping	X		21.67		$3\sigma \leq 0.030\mu\text{m}$	OK	66 to 68
	Repeatability	Y		16.87		"	OK	"
4	XY stage	X scaling		-0.03		$\leq 0.5 \text{ ppm}$	OK	69
	accuracy	Y scaling		0.1		"	OK	"
		Orthogonality		-0.19		"	OK	"
8. Pre Alignment Performance								
1	Mechanical	XI		3.878		$3\sigma \leq 30\mu\text{m}$	OK	70
	Pre alignment	YI		4.657		"	OK	"
	Accuracy	Xr		16.061		"	OK	"
		Yr		15.659		"	OK	"
2	TV Pre Alignment	X		0.608		$3\sigma \leq 3\mu\text{m}$	OK	71
	Accuracy	Y		0.377		"	OK	"
9. Throughput Performance								
1	Throughput	Die/Die off		73		$\geq 70 \text{ wafers}$	OK	77A
		Die/Die on		72		$\geq 70 \text{ wafers}$	OK	77B
10. Reliability								
1	Wafer Cycling	500 cycles		No Assist		No Assist	OK	78
2	Reticle Cycling	140 Cycles		No Assist		No Assist	OK	
11. Wafer Chuck Flatness Performance								
1	Chuck Flatness	TTV	22mm	0.57		$\leq 2 \mu\text{m}$	OK	80 -81
		LTV		0.37		$\leq 0.4 \mu\text{m}$	OK	"
12. Parameters								
1	Parameter offsets		Appendix 1					p 1 to 21
2	System offsets		Appendix 2					p 1 to 19
3	Maintenance offsets 1		Appendix 3					p 1 to 10
4	Maintenance offsets 2		Appendix 4					p 1 to 3