

FPA-5520iV i-line Stepper for Advanced Packaging & Photonics



High-Resolution, Wide-Field i-line Stepper for Advanced Packaging & Photonics Fabrication

FPA-5520iV LF2 Steppers address next-generation Advanced Packaging challenges as demand for cost-effective back-end high-resolution processes increases.

The FPA-5520iV Large-Field (LF2) option is available to enable 0.8 μm resolution across a large 52 x 68 mm field.

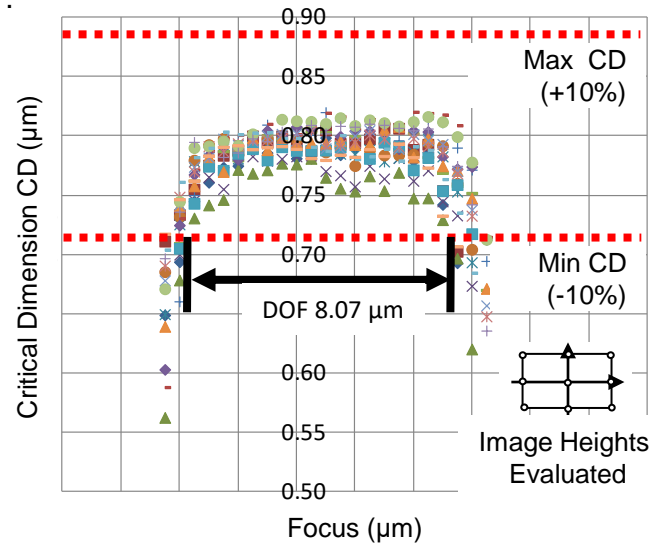
FPA-5520iV warpage compensation and die-by-die overlay options also support fabrication of large interposers and can enable multi-die Fan-Out packages by compensating for substrate distortion and die-shift that is common in FOWLP processes.

FPA-5520iV LF2 Features

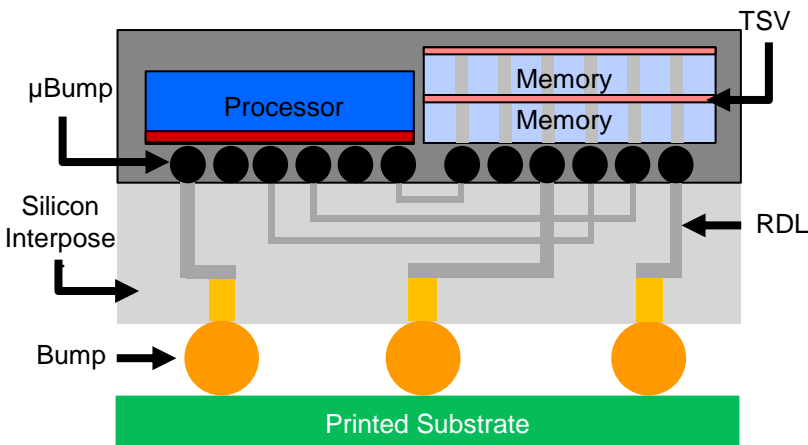
- Resolution $\leq 0.8 \mu\text{m}$
- Lens Reduction 2:1
- Wide Field 52 x 68 mm
- Canon Built-In Metrology (CANOMAP)
- FPA-5520iV LF2 Steppers offer a wide exposure field, while balancing resolution and Depth of Focus (DoF) for thin and thick, positive and negative resist processes

Key Options

- Through-Silicon Alignment (TSA-D Scope)
- Die-by-Die Overlay Compensation (EAGA)
- Front-to-Back Overlay Metrology (DMAP)
- Warped Wafer Vacuum Assist (WVA)
- Bonded/Transparent Wafer Handling
- Resist Outgas Exhaust System
- Pellicle Particle Checker
- PC Remote Console
- GEM-compliant Online Software



Canon FPA-5520iV LF2 Option provides 0.8 μm resolution across a large exposure field



FPA-5520iV Steppers support a variety of Advanced Packaging processes

FPA-5520iV LF2 Specifications

Technology	i-line Stepper (365 nm)
Resolution	$\leq 0.8 \mu\text{m}$
Throughput	≥ 105 wph (200 mm)
Single Machine Overlay	≤ 100 nm (Front) ≤ 500 nm (Back)
Numerical Aperture	0.12 – 0.24
Exposure Field	52 x 68 mm
Substrate Size Options*	200, 300 mm
Dimensions (W x D x H)	2.3 x 3.34 x 2.7 m

* = Options Required

Canon Lithography System Lineup

Canon Photolithography equipment is designed to help provide exceptional quality, performance, and cost of ownership for your wafer imaging applications.

Canon FPA (Fine Pattern Aligner) Series Nanoimprint, i-line and Deep Ultraviolet (DUV) lithography systems are used in the fabrication and heterogeneous integration of high-tech devices including integrated circuits, hard disk read/write heads, microelectromechanical systems (MEMS) devices, image sensors, displays, power devices and light emitting diodes (LED).

Litho Product	Technology	Resolution	Lens Reduction Field Size [mm]	Substrate Options [mm]
FPA-6300ES6a	KrF (248 nm) Scanner	≤ 100 nm (≤ 90 nm 2/3 Ann)	4:1 26 x 33	200 300
FPA-6300ESW	KrF (248 nm) Scanner	≤ 130 nm	3.125:1 33 x 42.2	200 300
FPA-5550iZ2	i-line (365 nm) Stepper	≤ 350 nm (≤ 280 nm 2/3 Ann)	4:1 26 x 33	200 300
FPA-5520iV LF2	i-line (365 nm) Stepper	≤ 0.8 μm	2:1 52 x 68	300
FPA-5550iX	i-line (365 nm) Stepper	≤ 0.5 μm	2:1 50 x 50	300
FPA-8000iW	i-line (365 nm) Panel Stepper	≤ 0.8 μm	2:1 52 x 68	515 x 515 (panels)
FPA-3030EX6	KrF (248 nm) Stepper	≤ 150 nm	5:1 22 x 22	50, 75, 100, 125, 150, 200
FPA-3030i5a	i-line (365 nm) Stepper	≤ 350 nm	5:1 22 x 22	50, 75, 100, 125, 150, 200
FPA-3030iWa	i-line (365 nm) Stepper	≤ 0.8 μm	2:1 52 x 52	50, 75, 100, 125, 150, 200
FPA-1200NZ2C	Nanoimprint Lithography	≤ 15 nm	1:1 26 x 33	200 300
MS-001	Wafer Overlay Metrology System	----	----	300

All options may not be available on all models. Contact Canon for details

* = Options Required

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