

FPA-5520iV LF2 i-line Stepper for Advanced Packaging & Photonics Applications

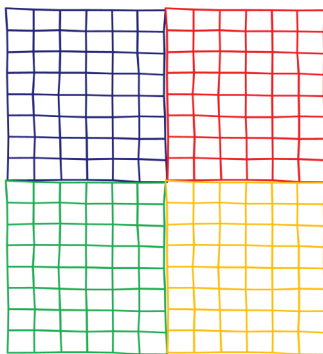


FPA-5520iV LF2 FEATURES

- Resolution $\leq 0.8 \mu\text{m}$
- Lens Reduction 2:1
- Wide Field 52 x 68 mm
- 20iV Steppers offer a wide exposure field, while balancing resolution and Depth of Focus (DoF) for thin and thick, positive and negative resist processes
- Canon Built-In Metrology (CANOMAP)

KEY OPTIONS

- Through Silicon Alignment (TSA)
- Die-by-Die Overlay Compensation (EAGA)
- Warped Wafer Vacuum Assist (WVA)
- Bonded/Transparent Wafer Handling
- Resist Outgas Exhaust System
- Front-to-Back Overlay Metrology (DMAP)
- Pellicle Particle Checker
- GEM-compliant online software



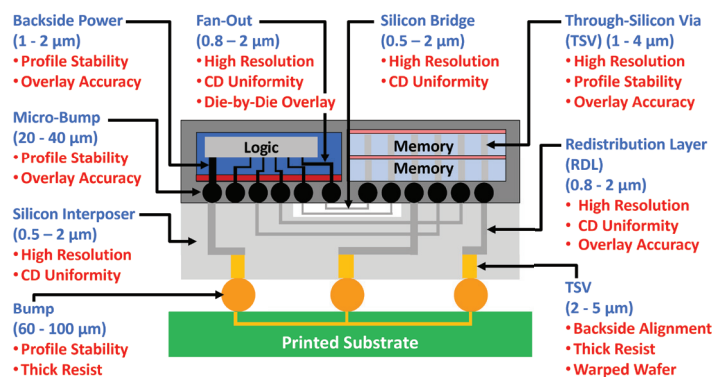
FPA-5520iV LF2 low-distortion projection optics allow multi-reticle stitching for large device production

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

FPA-5520iV LF2 [20iV LF2] Steppers address next-generation Advanced Packaging and Heterogeneous Integration challenges as demand for high-resolution, cost effective back-end processes increases.

The 20iV LF2 Steppers are equipped with a projection lens designed with a maximum Numerical Aperture (NA) of 0.24 that can provide $0.8 \mu\text{m}$ resolution across a large 52 x 68 mm exposure field for high-density VIA and Redistribution Layer (RDL) patterning.

20iV LF2 warpage compensation and die-by-die overlay options also support fabrication of multi-die packages by compensating for the substrate distortion and die-shift that is common in interposer and wafer-level packaging processes.



FPA-5520iV steppers support a variety of Advanced Packaging process requirements including patterning of deep etching and plating masks

SPECIFICATIONS

Technology	i-line Stepper (365 nm)
Resolution	$\leq 1 \mu\text{m}$ ($0.8 \mu\text{m}$)
Overlay	$\leq 100 \text{ nm}$ (Front) $\leq 500 \text{ nm}$ (Back)*
Numerical Aperture	0.12 – 0.24
Lens Reduction Ratio	2:1
Exposure Field	52 x 68 mm
Substrate Size Options	300 mm
Dimensions (W x D x H)	2.3 x 3.34 x 2.7 m

* = Option Required

Canon Lithography Systems

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).

LITHOGRAPHY PRODUCTS & TARGET APPLICATIONS

Lithography Products	Technology	Resolution	Lens Red. Field Size [mm]	Substrate Options [mm]	MRAM	Logic & MPU/GPU	Medical	HDD & SCM	Power & Automotive	Waveguide & RF	Advanced Packaging	Optics & Photonics	MEMS, Sensors & IoT	PC & Mobile	5G & Data Centers	Wearables	AR/VR & Display	LED, MicroLED	Artificial Intelligence
FPA-1200NZ2C	Nanoimprint Lithography	≤15 nm	1:1 26 x 33	300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FPA-8000iW	i-line (365 nm) Stepper	≤ 0.8 μm	2:1 55 x 55	510 x 515			✓				✓	✓	✓	✓	✓	✓	✓	✓	✓
FPA-3030i6	i-line (365 nm) Stepper	≤ 350 nm	5:1 22 x 22	≤ 200			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
FPA-3030iWa	i-line (365 nm) Stepper	≤ 0.8 μm	2:1 52 x 52	≤ 200			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FPA-3030EX6	KrF (248 nm) Stepper	≤ 150 nm	5:1 22 x 22	≤ 200			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
FPA-5520iV LF2	i-line (365 nm) Stepper	≤ 0.8 μm	2:1 54 x 68	300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FPA-5550iZ2	i-line (365 nm) Stepper	≤ 350 nm ≤ 280 nm (2/3 Ann.)	4:1 26 x 33	200 300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FPA-5510iX	i-line (365 nm) Stepper	≤ 0.5 μm	2:1 50 x 50	300			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
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			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
MS-001	Overlay Metrology	---	---	300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

✓ Compatible with application

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



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