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Focal Plane Arrays

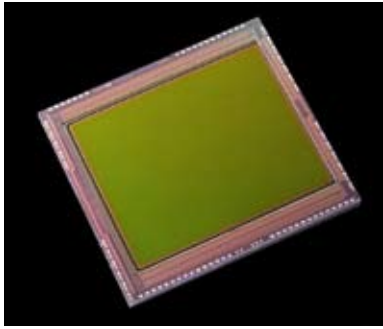
The Most Sensitive, Fastest, Uniform & Operable Thermal FPAs

Largest Offering of All Digital FPAs

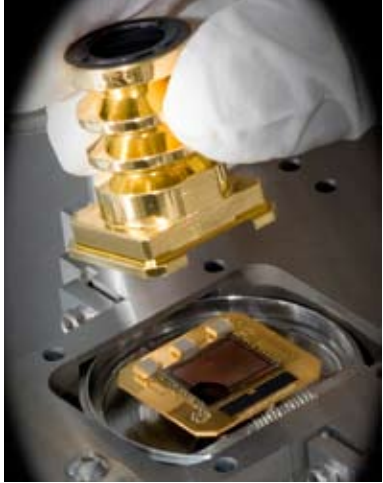


TM

Santa Barbara **Focalplane**



PD079-046



PD079-047

Focal Plane Arrays (FPA)

Santa Barbara Focalplane (SBF) offers a diverse selection of off-the-shelf FPAs. Our flexible architectures are compatible with a variety of detector materials (InSb, HgCdTe, QWIP and others), many incorporate on-chip high-speed and low-noise ADCs and are configurable to support a broad range of applications. Contact us for custom FPAs.

SBF is a merchant vendor of the very latest in infrared components, imaging systems, cameras and technology. SBF specializes in designing and manufacturing the highest quality indium antimonide (InSb) FPAs in many configurations, from linear to large staring formats. Product groups include FPAs, Integrated Detector/Dewar/Cooler Assemblies, digital camera heads and complete imaging systems.

Features

Distinct advantages to SBF's advanced digital FPA technology include:

- High-speed data output.
- Simple data handling since the FPA puts out digital data directly.
- Low-noise data output and immunity to external noise sources for NUC stability.
- Lower on-chip power on larger format arrays.
- Much lower power for warm electronics.
- Virtually no crosstalk.
- Better uniformity and linearity than analog FPAs.
- Extremely sharp turn-on and turn-off to integration time allows true sub-microsecond integration.
- Digital on-chip processing possible.

Other features and benefits to SBF's FPAs include:

- FPAs incorporate a large variety of unit cell types including: DI, BDI and CTIA.
- FPAs feature short snapshot integration times with minimum integration of less than 5 μsec typical (less than 0.5 μsec for digital FPAs).
- LWIR HgCdTe, QWIP and other detector materials are available on our high performance readout integrated circuits.
- Wide spectral response InSb (<1 μm to 5.2 μm) with high external QE (>90%).
- SBF offers custom FPAs designed to your specification.
- Custom FPAs, including off-the-shelf Linear Scanning Arrays are available upon request.

Specifications

FPA SBF No	Array Format	Detector Material	Spectral Range (μm)	Spectral Band	Pixel Pitch (μm)	Output Channels		Frame Rate (max Hz)	A to D Dynamic Range (bits)	Snapshot Integration Min. (μs)	Well Capacity (e-)	Maximum Power ¹ (mW)
						analog	digital					
SBF161	128 x 128	HgCdTe	<2 to >10	LWIR	40	2, 4		1610	14	<1.0	51.0M	<131
SBF178	640 x 512	InSb	<1 to 5.3	MWIR	20	1, 2, 4		94	14	<1.0	5.0M	<41
SBF180	320 x 256	InSb	<1 to 5.3	MWIR	30	1, 2, 4		366	14	<1.0	20.0M	<37
SBF191	640 x 512	InSb	<1 to 5.3	MWIR	20		1	120	14, 13	<0.1	7.0M	<70
SBF193	640 x 512	InSb	<1 to 5.3	MWIR	24	1, 2, 4		87	14	<1.0	8.0M	<55
SBF200	320 x 256	InSb	<1 to 5.3	MWIR	30		1	477	14, 13	<0.1	20.0M/4.0M	<30
SBF207	1280 x 1024	InSb	<1 to 5.3	MWIR	12		1, 2, 4	120	14, 13	<0.1	2.0M	<130
SBF208	1024 x 1024	InSb	<1 to 5.3	MWIR	25		1, 2	75	14, 13	<0.1	10.0M	<120
SBF209	640 x 512	InSb	<1 to 5.3	MWIR	20		1, 2, 4	476	14, 13	<0.1	7.0M	<100

All focal plane arrays have snapshot integration & support dynamic windowing to achieve higher maximum frame rates.

¹ Power Dissipation measured at the highest frame rate and varies according to number of outputs and pixel rate.

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Front top: PD079-044; Front bottom: PD079-045