



# onsemi SiPM Sensors Product Overview

## onsemi Depth Sensing

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## Product Overview SiPM Sensors

Silicon Series	Part Numbers	Product	Package/Format		Fast Output	1mm			3mm			4 mm	6mm		
						10	20	35	20	35	50	35	35		
C-Series	MicroFC-x00xx-SMT	Single Pixel	MLP	Clear micro leadframe	Y	•	•	•	•	•	•		•		
	MicroFC-SMA-x00xx-GEVB	Evaluation Board	SMA	Readout w/ SMA connector	Y	•	•	•	•	•	•		•		
	MicroFC-SMTPA-x00xx-GEVB		SMTPA	Pin adapter board	Y	•	•	•	•	•	•		•		
	ArrayC-60035-4P-BGA	Multichannel Array (PCB assembly)	Array-C	2 x 2	N									•	
	ArrayC-30035-16P-PCB			4 x 4	Y				•						
	ArrayC-60035-64P-PCB			8 x 8	Y										•
	ArrayC-30035-144P-PCB			12 x 12	Y						•				
ArrayC-60035-4P-GEVB	Evaluation Board	EVB	2 x 2 array w/ pin adapter	N									•		
J-Series	MicroFJ-x00xx-TSV	Single Pixel	TSV	Tileable BGA	Y				•	•		•	•		
	MicroFJ-SMA-x00xx-GEVB	Evaluation Board	SMA	Readout w/ SMA connector	Y				•	•		•	•		
	MicroFJ-SMTPA-x00xx-GEVB		SMTPA	Pin adapter board	Y				•	•			•		
	ArrayJ-60035-4P-BGA	Multichannel Array (PCB assembly)	Array-J	2 x 2	N									•	
	ArrayJ-60035-4P-PCB			2 x 2	N										•
	ArrayJ-30035-16P-PCB			4 x 4	Y				•	•					•
	ArrayJ-x00xx-64P-PCB			8 x 8	Y				•	•		•	•		•
RB-Series	MicroRB-100xx-MLP	Single Pixel	MLP	Clear micro leadframe	Y	•	•	•							
	MicroRB-SMA-100xx-GEVB	Evaluation Board	SMA	Readout SMA connector	Y	•	•	•							
	MicroRB-SMTPA-100xx-GEVB		SMTPA	Pin adapter board	Y	•	•	•							
RDM-Series	MicroRDM-10010-CSP	Single Pixel	CSP	BGA	Y	•									
	ArrayRDM-0112A20-QFN	Monolithic Array	QFN	1 x 12 pixel monolithic array in QFN28 package				Pixel size 1.1 x 0.5 mm; 806 x 20 um microcells per pixel							
	ArrayRDM-0112A20-GEVB	Evaluation Board	EVB	Evaluation board for 1x12 array with U.FL and SMA connectors				No Fast output							
	ArrayRDM-0116A10-DFN	Monolithic Array	DFN	1 x 16 pixel monolithic array in DFN36 package				Pixel size 0.2 x 0.5 mm; 368 x 10 um microcells per pixel							
	ArrayRDM-0116A10-GEVB	Evaluation Board	EVB	Evaluation board for 1x16 array with U.FL and SMA connectors				With Fast output							

## SiPM Sensors

Series	Key Features	Sensor Size	Microcell Size	PDE	Vbr	Gain	Spectral Range	Recovery Time (RC Time Constant)	Crosstalk	Dark Count Rate	
C-Series	Lowest noise High PDE at 420 nm Robust MLP package	1mm	10µm	420 nm 18%	24.5V	2 x 10 <sup>5</sup>	300 – 950nm	5 ns	1%	30 kcps/mm <sup>2</sup>	
		1mm, 3mm	20µm	31%		1 x 10 <sup>6</sup>		23 ns	3%		
		1mm, 3mm, 6mm	35µm	41%		3 x 10 <sup>6</sup>		82 ns	7%		
J-Series	Highest PDE at 420 nm Superior timing Low deadspace TSV package	3mm	20µm	38%	24.5V	1.9 x 10 <sup>6</sup>	200 – 900nm	15 ns	3%	50 kcps/mm <sup>2</sup>	
		3mm, 4mm, 6mm	35µm	50%		6.3 x 10 <sup>6</sup>		45 ns	8%		
RB-Series	NIR enhanced for LiDAR applications Standard and fast outputs Industrial grade MLP package	1mm	10µm	905 nm 4.0%	27V	0.7 x 10 <sup>6</sup>	300 – 1050nm	12 ns	30%	2.5 Mcps	
			20µm	7.3%	23V	0.9 x 10 <sup>6</sup>		21 ns	22%	2.7 Mcps	
			35µm	10.3%	25V	1.7 x 10 <sup>6</sup>		73 ns	43%	2.6 Mcps	
RDM-Series	Highest 905nm PDE for LiDAR Variety of product formats Low noise, low bias voltage	1mm	10µm	905 nm 14%	21.7V	0.8 x 10 <sup>6</sup>	300 – 1050nm	18 ns	25%	500 kcps	
			1x16 array	10µm	14%	21.7V		0.8 x 10 <sup>6</sup>	18 ns	25%	40 kcps/pixel
			1x12 array	20µm	14%	21.6V		1.2 x 10 <sup>6</sup>	34 ns	28%	100 kcps/pixel