

## Si-APD-Array SAH1L12-Series

### Description

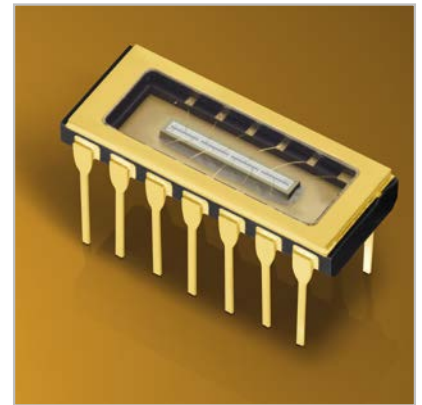
The SAH1L12-Series is a linear Si-APD-array with 12 elements in a 14-pin-DIL package with protective window. Responsivity is optimised for 850 nm.

### Features

- 12 element APD array
- Very narrow gap
- High quantum efficiency
- Low noise, high speed
- 620  $\mu\text{m}$  x 190  $\mu\text{m}$  active area per element
- Wide operating temperature range
- Low crosstalk

### Applications

- Rangefinding
- LIDAR ACC
- Laser scanner



Electro-Optical Characteristics,  $T_a = 25^\circ\text{C}$ 

Parameter	Condition	Min	Typ	Max	Unit
# of elements			12		
Active area			620 x 190		$\mu\text{m}$
Gap			40		$\mu\text{m}$
Dark current $I_d$	$M= 100, \lambda= 905 \text{ nm}$ , per element		4	10	nA
Capacitance, C	$M= 100$ , per element		3		pF
Responsivity, $R_l$	$M= 100, \lambda= 905 \text{ nm}$	40	50		
Rise time, $t_r$	$M= 100, \lambda= 905 \text{ nm}, R_l= 50 \text{ Ohms}$		1000		psec
Breakdown voltage, $V_{BR}$	$I_R= 10 \mu\text{A}$	80	150	200	V
Temperature coefficient	$I_R= 10 \mu\text{A}$		0.5		V/K
Crosstalk	$\lambda= 905 \text{ nm}$		50		dB
Dark current uniformity	$M= 100$		$\pm 5$	$\pm 20$	%
Photo current uniformity	$M= 100, \lambda= 905 \text{ nm}$		$\pm 5$	$\pm 20$	%

## Absolute Maximum Ratings

Parameter		Min	Max	Unit
Storage temperature		-55	100	$^\circ\text{C}$
Operating temperature		-40	85	
Soldering (15s)			260	
Reverse current (Peak)	CW		0.200	mA
	1 s Pulse		1	
Forward current (Avg)	CW		10	
	1 s Pulse		50	
Max total power dissipation			60	mW

Curves

Fig. 1: Spectral Response

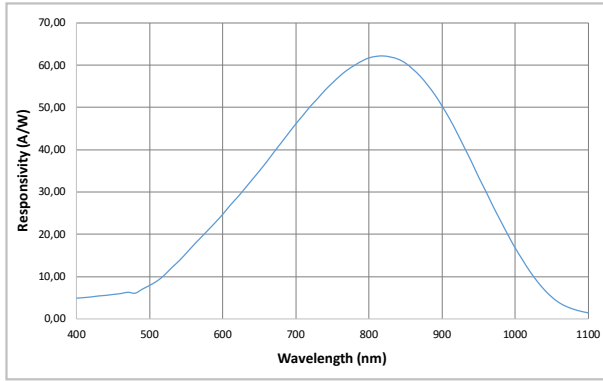


Fig. 2: Quantum Efficiency

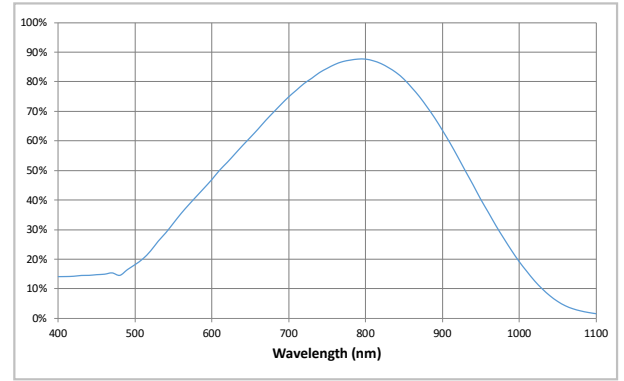


Fig. 3: Multiplication

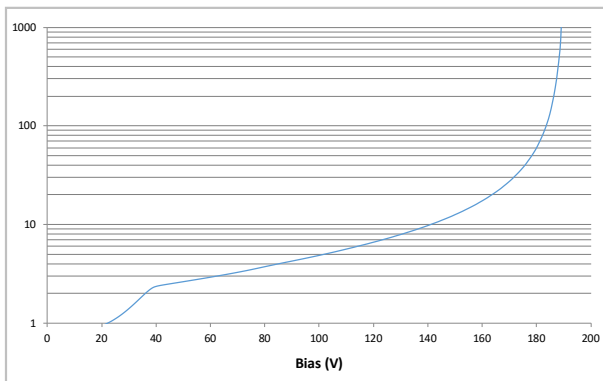


Fig. 4: Current vs. Reverse Voltage

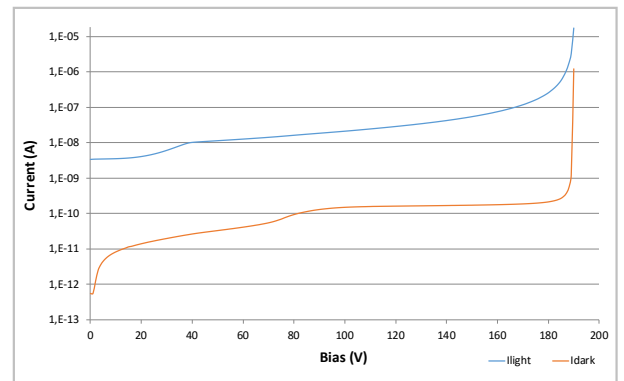


Fig. 5: Capacitance vs. Reverse Voltage

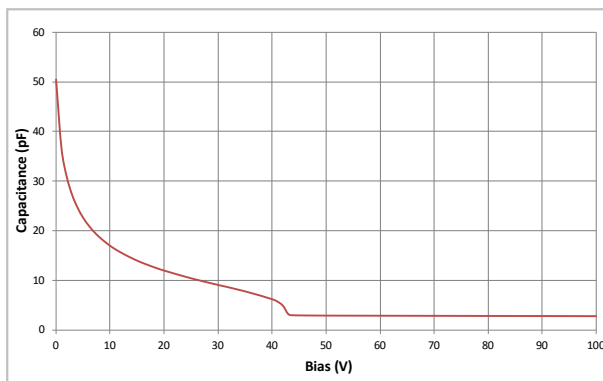
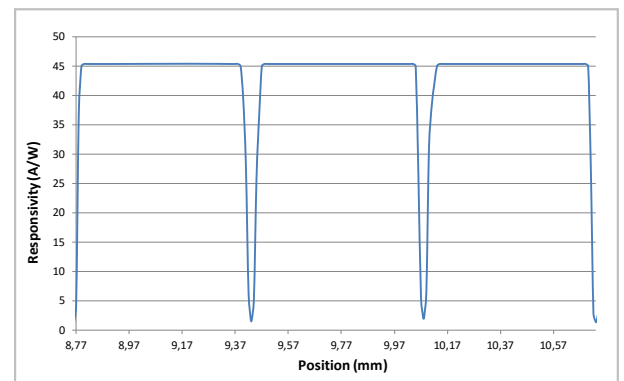
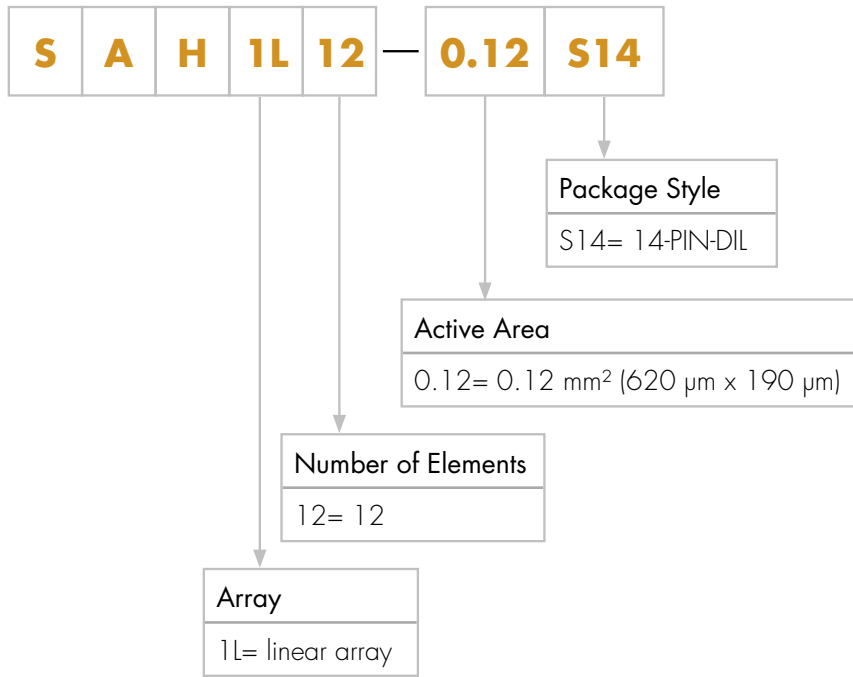


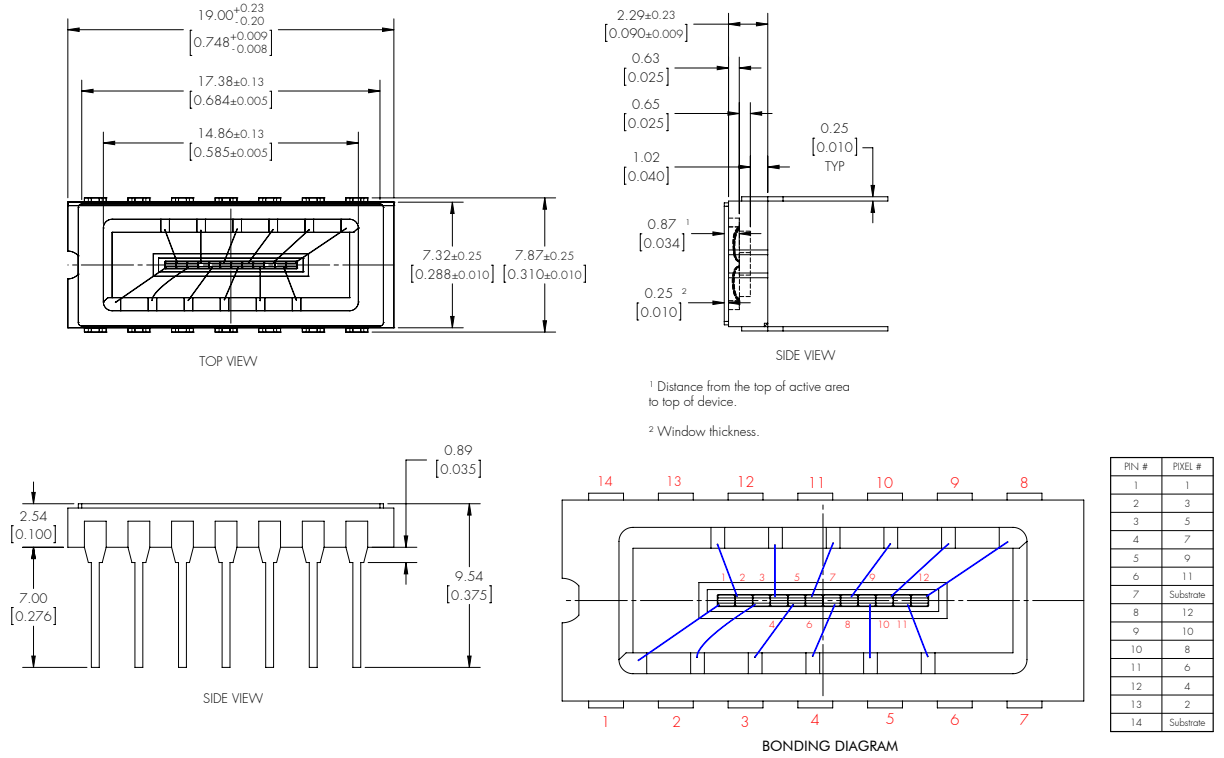
Fig. 6: Spot Scan



Product Number Designation



Package Drawings



Product Changes

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