

## Si-APD-Array SAH1L12LCC44-Series

### Description

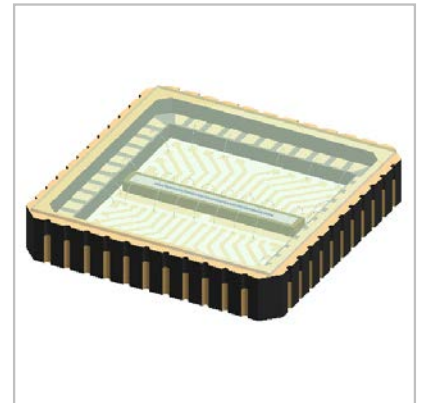
The SAH1L12-Series is a linear Si-APD-array with 12 elements in a LCC44 package with protective window. Responsivity is optimised for 850 nm.

### 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,  $T_a = 25\text{ }^\circ\text{C}$ 

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, $V_{BR}$	$I_R = 10\text{ }\mu\text{A}$	80	150	200	V
Temperature coefficient	$I_R = 10\text{ }\mu\text{A}$		0.44		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
	1s Pulse		1	
Forward current (Avg)	CW		10	
	1s Pulse		50	
Max total power dissipation			60	mW

Curves

Fig. 1: Spectral Response

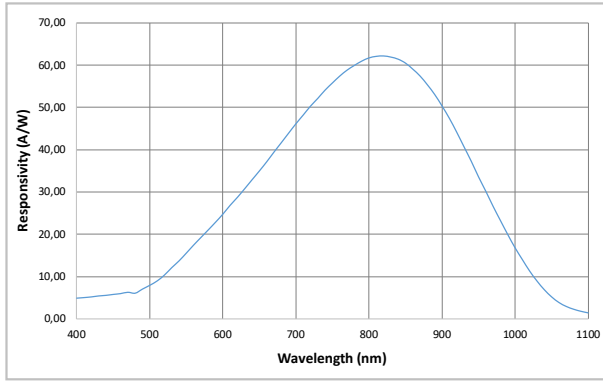


Fig. 2: Quantum Efficiency

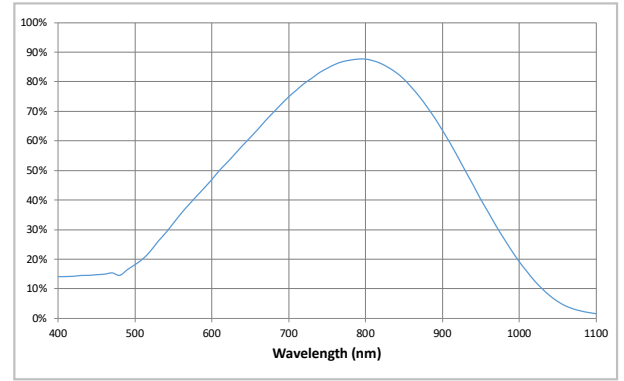


Fig. 3: Multiplication

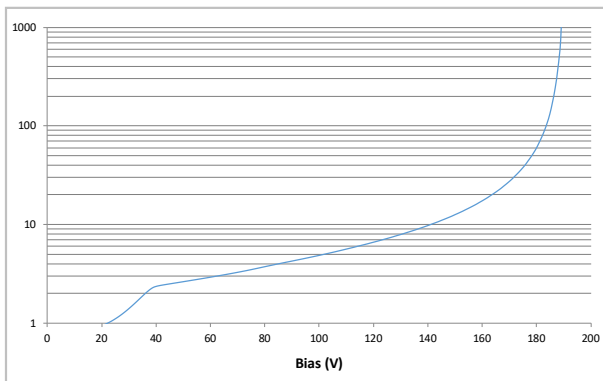


Fig. 4: Current vs. Reverse Voltage

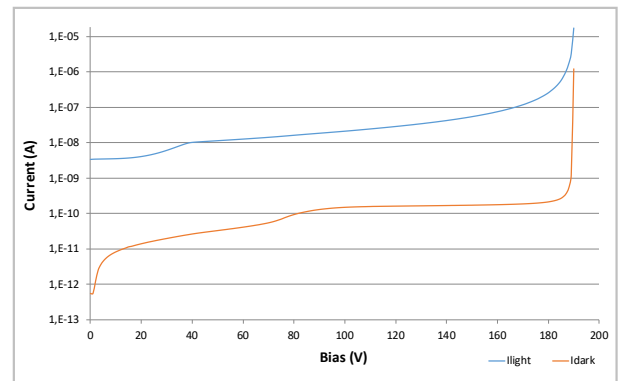


Fig. 5: Capacitance vs. Reverse Voltage

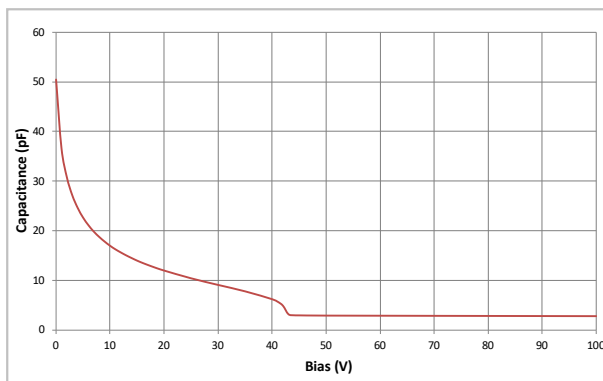
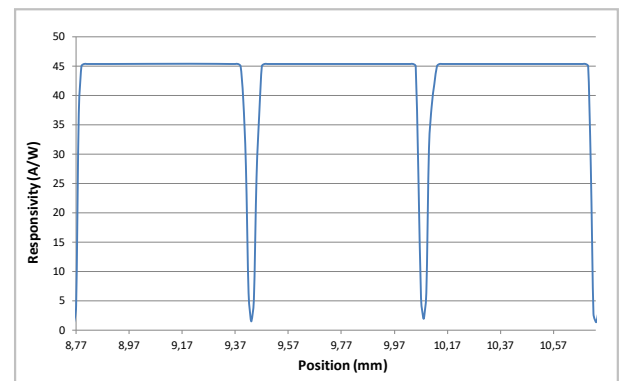
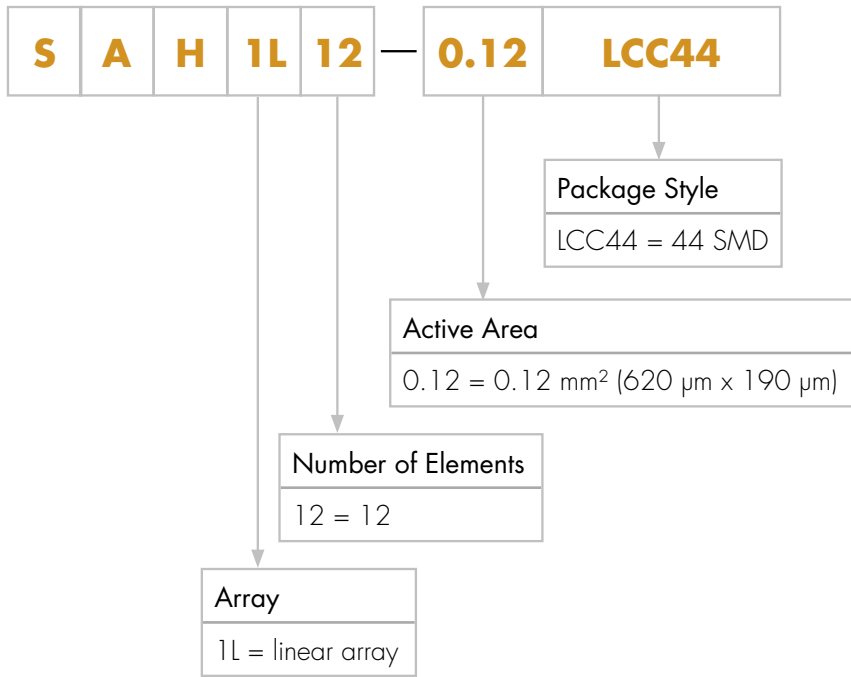


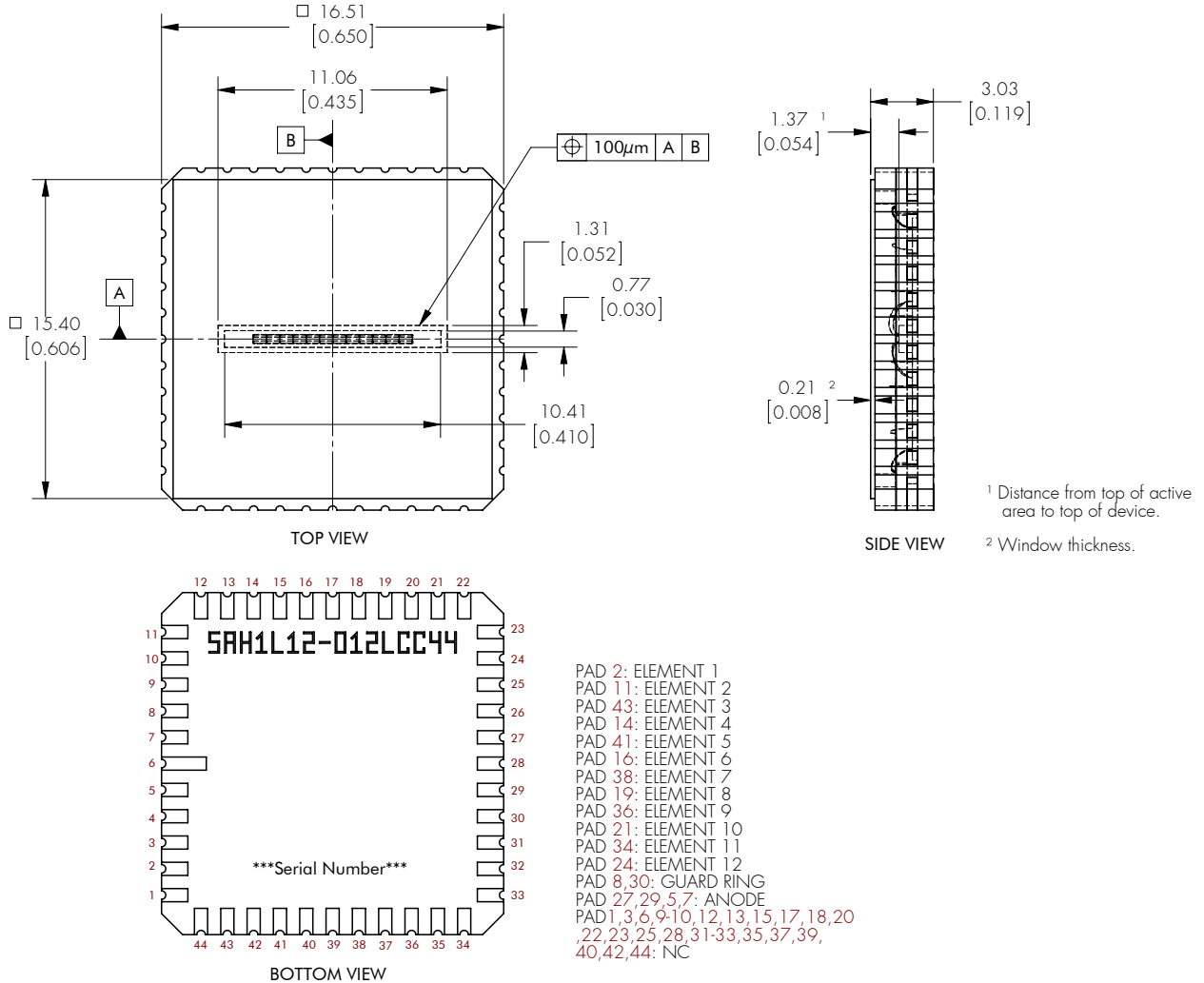
Fig. 6: Spot Scan



Product Number Designation



### Package Drawings



### Product Changes

LASER COMPONENTS reserves the right to make changes to the product(s) or information contained herein without notice.

No liability is assumed as a result of their use or application.

### Ordering Information

Products can be ordered directly from LASER COMPONENTS or its representatives. For a complete listing of representatives, visit our website at [www.lasercomponents.com](http://www.lasercomponents.com)

Custom designed products are available on request.