

MULTI-CHANNEL ARRAY SERIES

PLANAR DIFFUSED SILICON PHOTODIODES



APPLICATIONS

- Level Meters
- Optical Spectroscopy
- Medical Equipment
- High Speed Photometry
- Computed Tomography Scanners
- Position Sensors

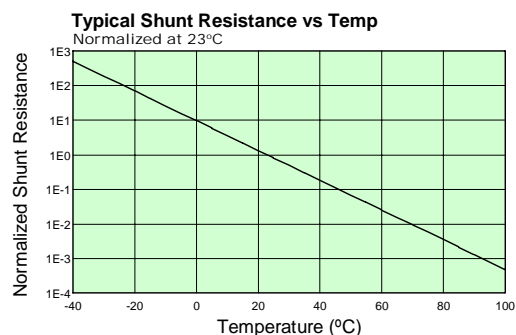
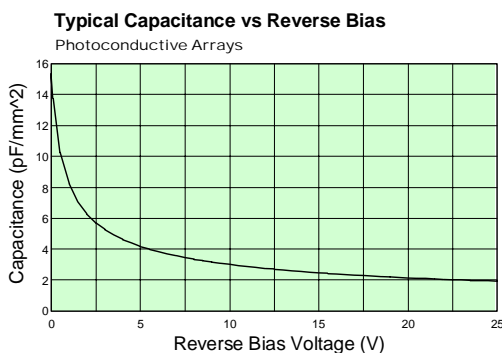
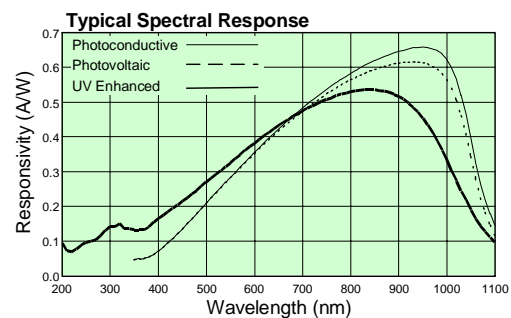
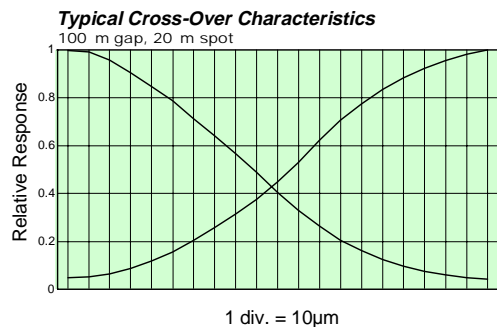
FEATURES

- Common Substrate Array
- Ultra Low Cross Talk
- UV Enhanced (A5V-35UV)
- Low Dark Current
- Low Capacitance
- Solderable

Multichannel array photodetectors consist of a number of single element photodiodes laid adjacent to each other forming a one-dimensional sensing area on a common cathode substrate. They can perform simultaneous measurements of a moving beam or beams of many wavelengths. They feature low electrical cross talk and super high uniformity between adjacent elements allowing very high precision measurements. Arrays offer a low cost alternative when a large number of detectors are required. The detectors are optimized for either UV, visible or near IR range.

They can be either operated in photoconductive mode (reverse biased) to decrease the response time, or in photovoltaic mode (unbiased) for low drift applications. A2V-16 can be coupled to any scintillator crystal for measuring high-energy photons in the X-ray and γ -ray region of electro-magnetic spectrum. In addition, they have been mechanically designed, so that several of them can be mounted end to end to each other in applications where more than 16 elements are needed.

Figure 12 in the "Photodiode Characteristics" section of this catalog provides a detailed circuit example for the arrays.



MULTI-CHANNEL ARRAYS
TYPICAL ELECTRO-OPTICAL SPECIFICATIONS AT $T_A=23^{\circ}\text{C}$

Model No.	Number of Elements	Active Area Per Element		Pitch (mm)	Respon- sivity (A/W)	Shunt Resistance (M)	Dark Current (nA)	Capacitance (pF)		NEP (W/ Hz)		Temp. Range (°C)		Package Style ¶
		Area (mm²)	Dimension (mm)		970 nm	-10 mV	-10 V	0 V	-10 V	0 V 970nm	-10 V 970nm	Operating	Storage	
					typ	typ	typ	typ	typ	Typ				
PHOTOCONDUCTIVE SERIES														
A5C-35	35	3.9	4.39 x 0.89	0.99	0.65	---	0.05	---	12	---	6.2 e -15	-30 ~ +85	-40 ~ +125	50 / 40 pin DIP
A5C-38	38													
PHOTOVOLTAIC SERIES														
A2V-16	16	1.92	1.57 x 1.22	1.59	0.60	1000	---	170	---	4.8 e -15	---			48 / PCB
A5V-35	35	3.9	4.39 x 0.89	0.99	0.60	1000	---	340	---	4.8 e -15	---			50 / 40 pin DIP
A5V-38	38													
A2V-76	76	1.8	6.45 x 0.28	0.31	0.50	500	---	160	---	8.2 e -15	---			49 /Ceramic
UV ENHANCED SERIES (All Specifications @ λ =254 nm, VBIAS = -10V)														
A5V-35UV	35	3.9	4.39 x 0.89	0.99	0.06	500	---	340	---	6.8 e -14	---			50 / 40 pin DIP

MONOLITHIC SOLDERABLE CHIP ARRAYS
TYPICAL ELECTRO-OPTICAL SPECIFICATIONS AT $T_A=23^{\circ}\text{C}$

Model No.	Number of Elements	Element Size mm (inches)	Active Area per Element mm^2 (inches 2)	Pitch mm (inches)	Short Circuit Current / element (mA)	Open Circuit Voltage / element (mV)	Shunt Resistance ($M \Omega$)	Capacitance (pF)
					10 mW/cm 2 2850 $^{\circ}\text{K}$	10 mW/cm 2 2850 $^{\circ}\text{K}$	-10 mV	0 V
					typ	typ	typ	typ
A4V-2 A4V-2L §	2	1.52 X 2.79 (0.06 X 0.110)	4.24 (0.007)	1.91 (0.075)	0.07	500	1000	500
A4V-4 A4V-4L	4							
A4V-6 A4V-6L	6							
A4V-8 A4V-8L	8							
A4V-10 A4V-10L	10							
A4V-12 A4V-12L	12							

§ The L series solderable chips are mounted on a 1.25" x 0.25" PCB at the center.
The chips are equipped with a 2" long bare tinned leads soldered to all anodes and the common cathode.

V suffix indicates the device is optimized for photovoltaic operation
C suffix indicates the device is optimized for photoconductive operation.

For MECHANICAL DRAWINGS Click Here

