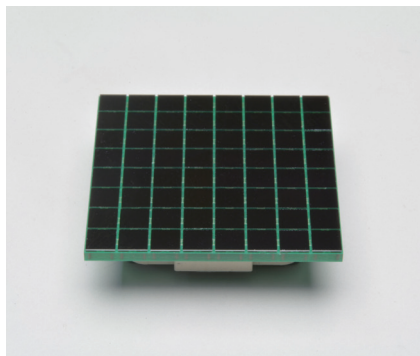


64-element Si photodiode array



S13620-02

Back-illuminated photodiode array for non-destructive X-ray inspection, suitable structure for tiling

The S13620-02 is an 8 × 8 element Si photodiode array with a back-illuminated type structure for X-ray non-destructive inspection. The back-illuminated photodiode array is easy to handle because there are no bonding wires or photosensitive area on the incident surface side. You can mount a scintillator without being concerned about damaging wires. In addition, it is designed with minimal dead space around the product. This makes it possible to arrange multiple products side by side. There is no crosstalk between channels.

Features

- **2D (8 × 8 element) array**
- **Spectral response range: 400 to 1100 nm**
- **Package size: 24 (W) × 24 (H) mm**
- **Element pitch: 3.0 mm × 64 elements**
- **Easy coupling with a scintillator**
Because there are no wires in the photosensitive area and the optical coupling efficiency with an scintillator can be maximized, it is suitable for X-ray non-destructive inspection equipment.

Applications

- **General industrial measurement**
- **X-ray non-destructive inspection and the like**

Structure

Parameter	Specification	Unit
Package size	24 × 24	mm
Element size	2.8 × 2.8	mm
Photosensitive area	2.5 × 2.5/element	mm
Number of elements	64 (8 × 8)	element
Package	Glass epoxy	-

Absolute maximum ratings

Parameter	Symbol	Condition	Value	Unit
Reverse voltage	VR max	Ta=25 °C	10	V
Operating temperature	Topr	No dew condensation*1	-20 to +60	°C
Storage temperature	Tstg	No dew condensation*1	-20 to +80	°C

*1: When there is a temperature difference between a product and the surrounding area in high humidity environment, dew condensation may occur on the product surface. Dew condensation on the product may cause deterioration in characteristics and reliability.

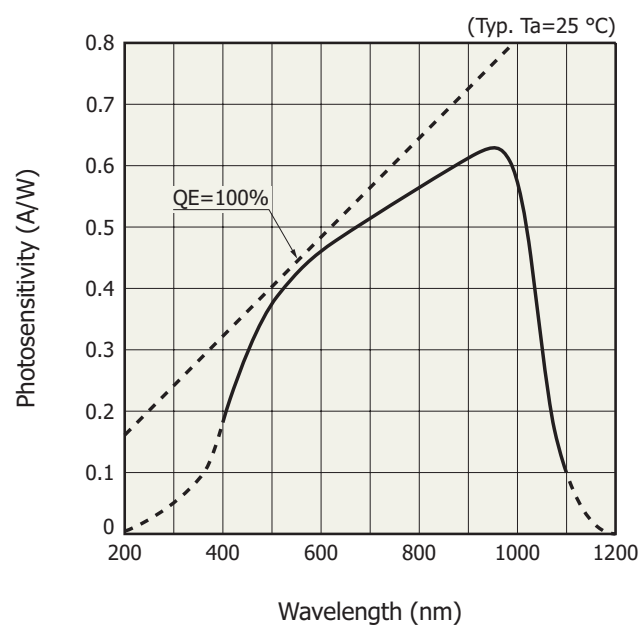
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

These products are also available as scintillator-mounted products (custom order products) such as CsI (TI), phosphor sheet, GOS, and CWO. Consult with your nearest Hamamatsu sales office.

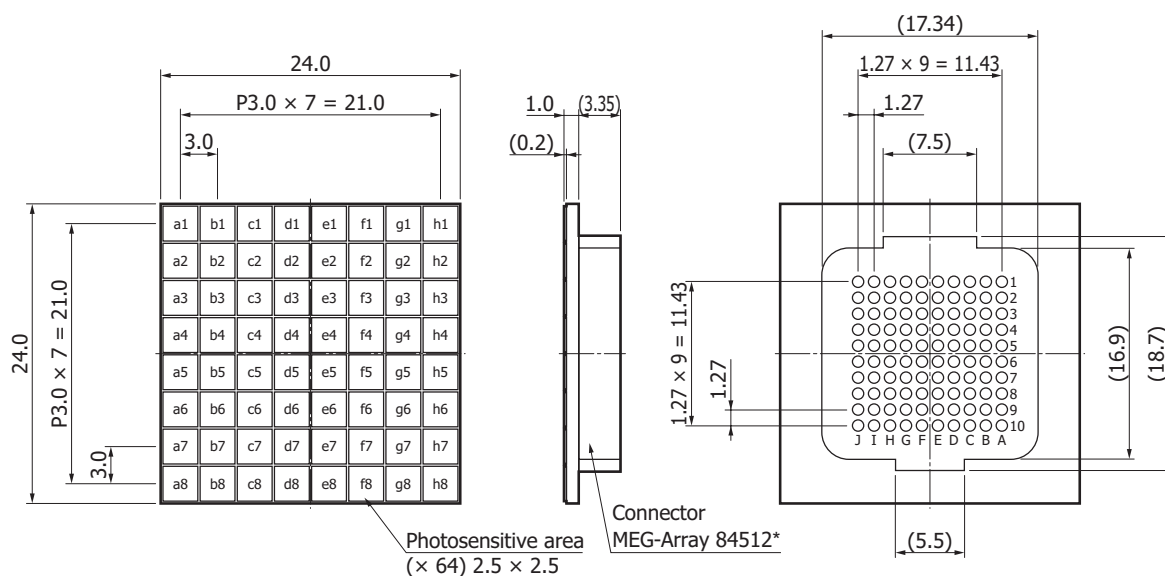
Electrical and optical characteristics [Ta=25 °C, per element]

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	400 to 1100	-	nm
Peak sensitivity wavelength	λ_p		-	960	-	nm
Photosensitivity	S	$\lambda=540$ nm	380	420	-	mA/W
		$\lambda=920$ nm	550	610	-	
Short circuit current	I _{sc}	100 lx, 2856 k	4.5	5.5	-	μ A
Dark current	I _D	V _R =10 mV	-	10	300	pA
Rise time	t _r	V _R =0 V, R _L =1 k Ω 10 to 90%, $\lambda=658$ nm	-	15	-	μ s
Terminal capacitance	C _t	V _R =0 V, f=10 kHz	40	60	90	pF

Spectral response



Dimensional outline (unit: mm)

Tolerance unless otherwise noted: ± 0.1

() Reference value

* Made by Amphenol

KMPDA0603EA

Pin connections

Pin no.	Element no.	Pin no.	Element no.	Pin no.	Element no.	Pin no.	Element no.	Pin no.	Element no.
A1	a1	C1	b1	E1	KC	G1	e2	J1	g2
A2	a2	C2	c1	E2	d1	G2	e3	J2	f3
A3	a3	C3	c2	E3	NC	G3	NC	J3	g3
A4	b4	C4	NC	E4	NC	G4	e4	J4	f4
A5	KC	C5	NC	E5	NC	G5	NC	J5	h4
A6	KC	C6	NC	E6	NC	G6	NC	J6	h5
A7	b5	C7	NC	E7	NC	G7	e5	J7	f5
A8	a6	C8	c7	E8	NC	G8	NC	J8	g6
A9	a7	C9	c8	E9	d8	G9	e6	J9	f6
A10	a8	C10	b8	E10	KC	G10	e7	J10	g7
B1	b2	D1	d2	F1	KC	H1	g1	K1	h1
B2	c3	D2	d3	F2	e1	H2	f1	K2	h2
B3	b3	D3	NC	F3	NC	H3	f2	K3	h3
B4	c4	D4	d4	F4	NC	H4	NC	K4	g4
B5	a4	D5	NC	F5	NC	H5	NC	K5	KC
B6	a5	D6	NC	F6	NC	H6	NC	K6	KC
B7	c5	D7	d5	F7	NC	H7	NC	K7	g5
B8	b6	D8	NC	F8	NC	H8	f7	K8	h6
B9	c6	D9	d6	F9	e8	H9	f8	K9	h7
B10	b7	D10	d7	F10	KC	H10	g8	K10	h8

Related information

www.hamamatsu.com/sp/ssd/doc_en.html

■ Precautions

- Disclaimer
- Surface mount type products

Information described in this material is current as of August 2018.

Product specifications are subject to change without prior notice due to improvements or other reasons. This document has been carefully prepared and the information contained is believed to be accurate. In rare cases, however, there may be inaccuracies such as text errors. Before using these products, always contact us for the delivery specification sheet to check the latest specifications.

The product warranty is valid for one year after delivery and is limited to product repair or replacement for defects discovered and reported to us within that one year period. However, even if within the warranty period we accept absolutely no liability for any loss caused by natural disasters or improper product use. Copying or reprinting the contents described in this material in whole or in part is prohibited without our prior permission.

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