

S12497, S12498

**A scintillator can be mounted directly on the chip.**

The S12497 and S12498 are Si photodiodes suitable for non-destructive inspection of baggage and the like and general industrial measurement. As they are back-illuminated photodiodes, photosensitive area does not have wires, and therefore a scintillator can be mounted directly on the photodiode.

## Features

- Spectral response range : 400 to 1100 nm
- Photosensitive area  
S12497: 9.5 × 9.5 mm, S12498: 6.0 × 6.0 mm
- Easy scintillator mounting

## Applications

- Non-destructive X-ray inspection
- General industrial measurement and the like

## Structure

Parameter	Symbol	S12497	S12498	Unit
Photosensitive area	-	9.5 × 9.5	6.0 × 6.0	mm
Package	-	PWB with pins		-
Window material	-	None		-

## Absolute maximum ratings

Parameter	Symbol	Condition	Value	Unit
Reverse voltage	V <sub>R</sub> max	T <sub>a</sub> =25 °C	10	V
Operating temperature	T <sub>opr</sub>	No dew condensation*	-20 to +60	°C
Storage temperature	T <sub>stg</sub>	No dew condensation*	-20 to +80	°C

\* 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.

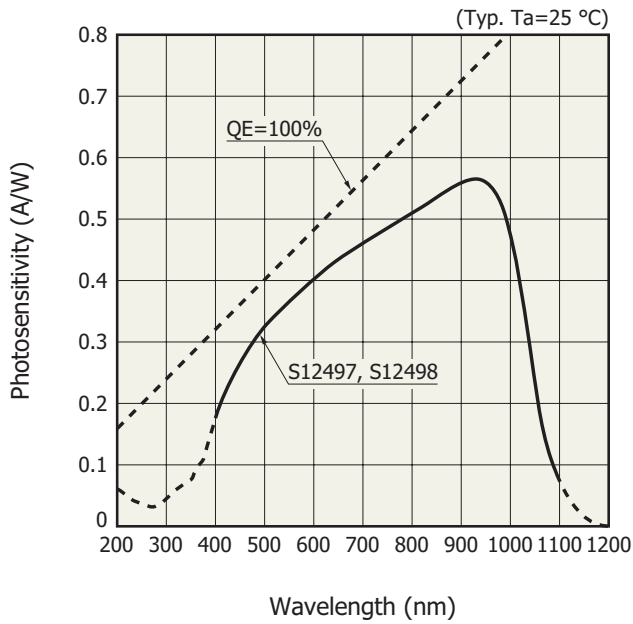
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

## Electrical and optical characteristics (T<sub>a</sub>=25 °C)

Parameter	Symbol	Condition	S12497			S12498			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Spectral response	λ		400	-	1100	400	-	1100	nm
Peak sensitivity wavelength	λ <sub>p</sub>		-	920	-	-	920	-	nm
Photosensitivity	S	λ=540 nm	0.32	0.36	-	0.32	0.36	-	A/W
		λ=920 nm	0.52	0.57	-	0.52	0.57	-	
Short circuit current	I <sub>sc</sub>	100 lx, 2856 K	60	75	-	15	30	-	μA
Dark current	I <sub>D</sub>	V <sub>R</sub> =10 mV	-	50	200	-	10	150	pA
Rise time	t <sub>r</sub>	V <sub>R</sub> =0 V, R <sub>L</sub> =1 kΩ 10 to 90%, λ=658 nm	-	15	-	-	15	-	μs
Terminal capacitance	C <sub>t</sub>	V <sub>R</sub> =0 V, f=10 kHz	750	950	1150	330	380	430	pF

Note: 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.

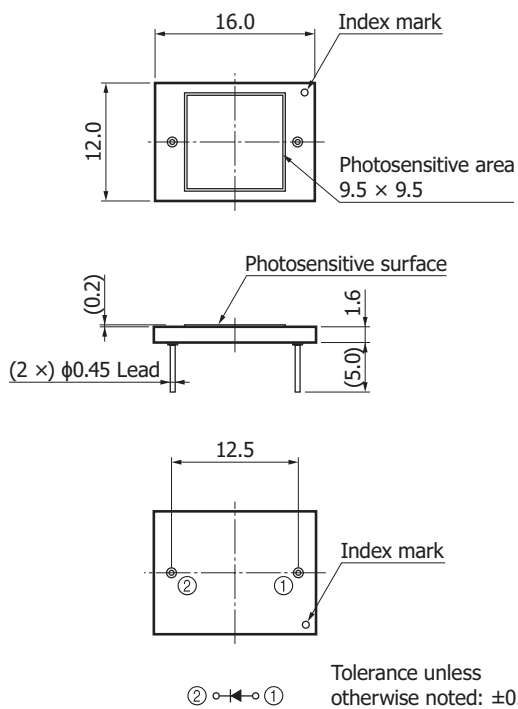
**Spectral response**



KSPDB0360EA

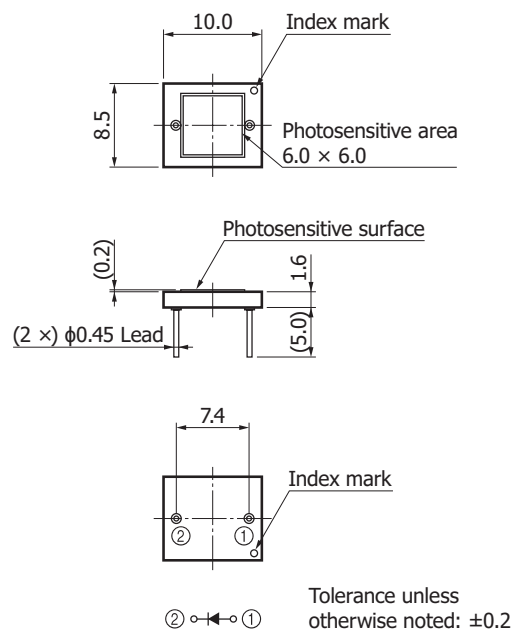
**Dimensional outlines (unit: mm)**

S12497



KSPDA0212EA

S12498



KSPDA0213EA

**Related information**

[www.hamamatsu.com/sp/ssd/doc\\_en.html](http://www.hamamatsu.com/sp/ssd/doc_en.html)

## ■ Precautions

- Disclaimer
- Unsealed products

## ■ Technical information

- Si photodiode/Application circuit examples

Information described in this material is current as of March, 2020.

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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