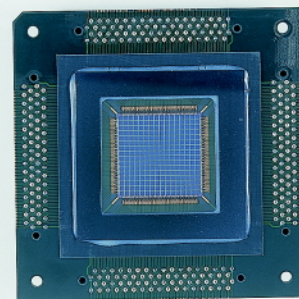


16 × 16 element Si PIN photodiode array

S3805

For high-speed 2D photometry by parallel readout



S3805 is a 16 × 16 element PIN photodiode array developed for 2D photometry. Each element is closely arranged to provide a high effective area ratio. The entire array is mounted on an easy-to-use PC board. The output from each element can be read out in parallel or randomly, thus allowing high-speed 2D photometry.

Features

- 16 × 16 elements
- Large active area ratio
Element size: 1.3 × 1.3 mm
Element pitch: 1.5 mm
- High-speed response: $t_r=3.5$ ns ($V_R=5$ V)
- Flat glass window
- High-density mount connector provided

Applications

- High-speed 2D photometry
Biological/medical research
Gene research
Semiconductor research
- 2D spectrophotometry

General ratings

Parameter	Symbol	Value	Unit
Element size	A	1.3 × 1.3	mm
Element pitch	-	1.5	mm
Package	-	Glass epoxy PC board	-
Window material	-	Flat glass	-

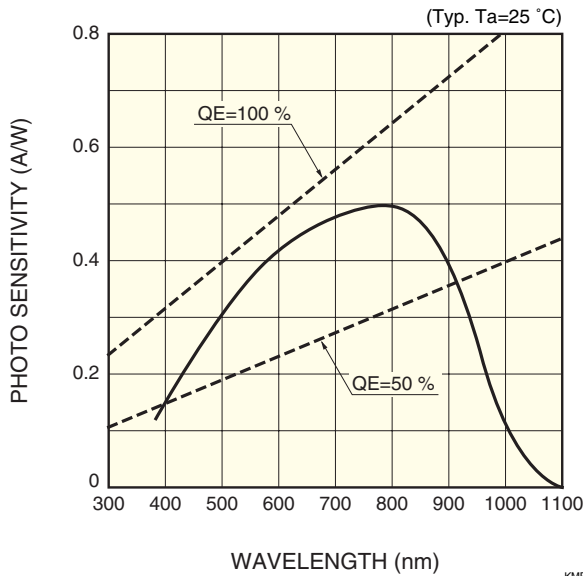
Absolute maximum ratings

Parameter	Symbol	Value	Unit
Reverse voltage	V_R Max.	15	V
Consumption electric power	P	50	mW
Operating temperature	T_{opr}	-20 to +60	°C
Storage temperature	T_{stg}	-20 to +80	°C

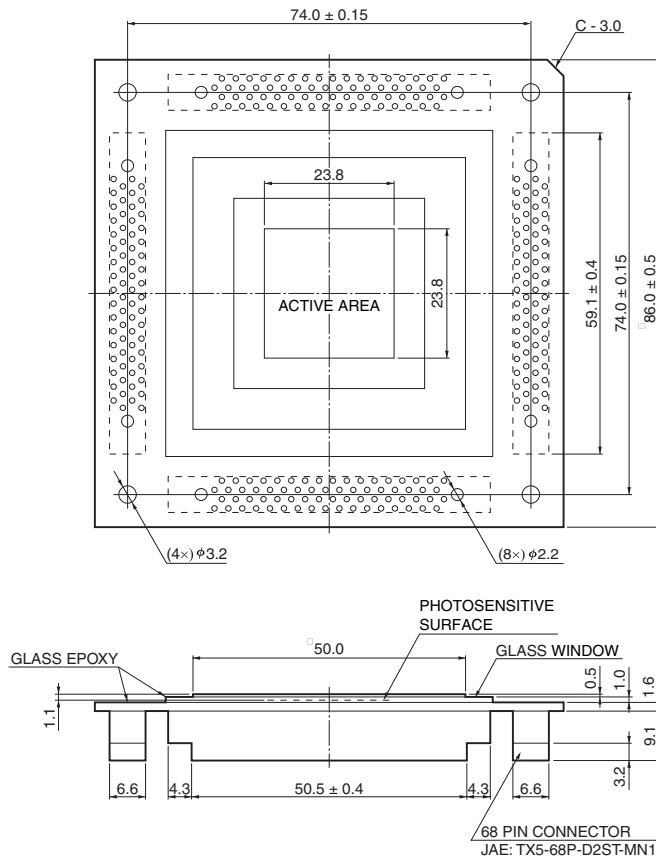
Electrical and optical characteristics ($T_a=25$ °C, per 1 element)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		320 to 1000			nm
Peak sensitivity wavelength	λ_p			800		nm
Photo sensitivity	S	$\lambda=\lambda_p$	0.4	0.5	-	A/W
Dark current	I_D	$V_R=5$ V	-	0.1	1.0	nA
Cut-off frequency	f_c	$V_R=5$ V, $R_L=50$ Ω $\lambda=690$ nm	-	100	-	MHz
Rise time	t_r	$V_R=5$ V, $R_L=50$ Ω $\lambda=690$ nm	-	3.5	-	ns
Terminal capacitance	C_t	$V_R=5$ V, $f=1$ MHz	-	15	-	pF

■ Spectral response



■ Dimensional outline (unit: mm)



Note) For pin connection, please contact our sales office.

HAMAMATSU

HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Hamamatsu City, 435-8558 Japan, Telephone: (81) 053-434-3311, Fax: (81) 053-434-5184, <http://www.hamamatsu.com>

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, P.O.Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1) 908-231-0960, Fax: (1) 908-231-1218

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49) 08152-3750, Fax: (49) 08152-2658

France: Hamamatsu Photonics France S.A.R.L.: 8, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: 33-(1) 69 53 71 00, Fax: 33-(1) 69 53 71 10

United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44) 1707-294888, Fax: (44) 1707-325777

North Europe: Hamamatsu Photonics Norden AB: Smidesvägen 12, SE-171 41 Solna, Sweden, Telephone: (46) 8-509-031-00, Fax: (46) 8-509-031-01

Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39) 02-935-81-733, Fax: (39) 02-935-81-741

Cat. No. KMPD1011E04
Aug. 2001 DN