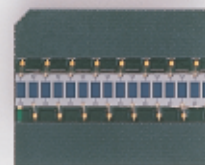


16-element Si photodiode array

S5668 series

Photodiode array ideal for light detection in a long, narrow area



S5668 series is a 16-element Si photodiode linear array. Each element has an active area of 1.175 mm (width) × 2.0 mm (height) and is arrayed at an element pitch of 1.575 mm. The entire linear array is mounted on a 25.4 mm (1 inch) long PC board. By linearly arranging two or more pieces of S5668 series, a long and narrow photodiode array can be easily configured at the same element pitch. For X-ray detection applications, S5668-11 with a CsI (TI) scintillator and S5668-34 with a ceramic scintillator are also available.

Features

- Active area: 1.175 × 2.0 mm per element
- Element pitch: 1.575 mm
- Mounted on a 1-inch (25.4 mm) long PC board
- Long and narrow format by multiple arrays
- High-speed response (S5668-02)
- Low capacitance (S5668-05)

Applications

- X-ray baggage inspection
- Multichannel spectrophotometry
- Optical position detection

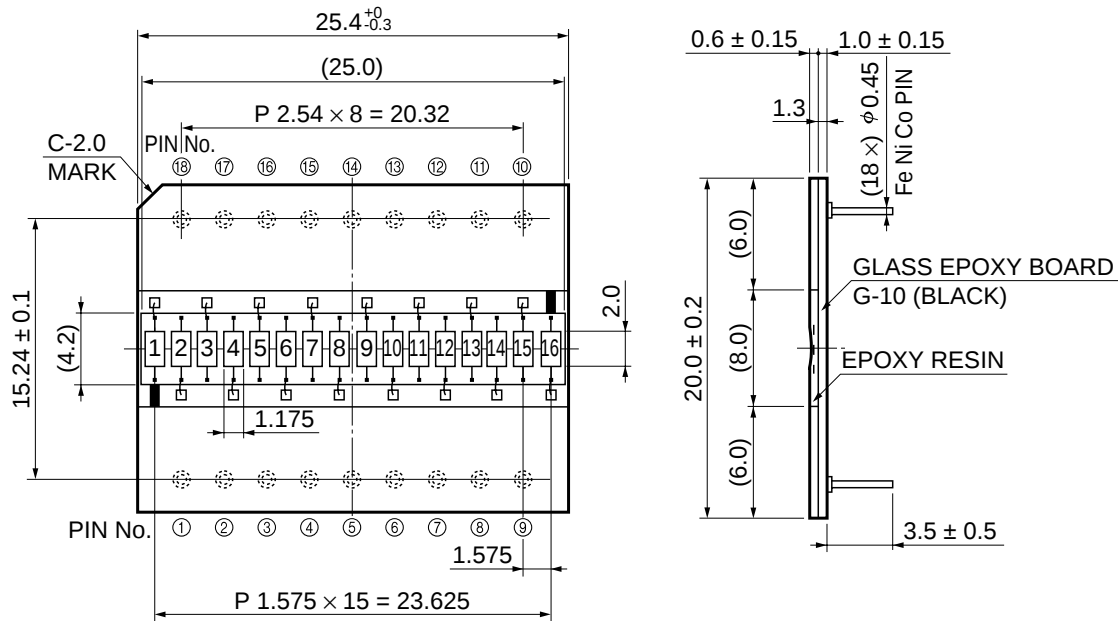
■ Absolute maximum ratings

Parameter	Symbol	Value	Unit
Reverse voltage	VR Max.	10	V
Operating temperature	Topr	-20 to +60	°C
Storage temperature	Tstg	-20 to +80	°C

■ Electrical and optical characteristics (Ta=25 °C, per 1 element)

Parameter	Symbol	Condition	S5668-01		S5668-02		S5668-05		Unit
			Typ.	Max.	Typ.	Max.	Typ.	Max.	
Spectral response range	λ		320 to 1100	-	320 to 1100	-	320 to 1060	-	nm
Peak sensitivity wavelength	λ_p		960	-	960	-	920	-	nm
Photo sensitivity	S	$\lambda=540$ nm	0.31	-	0.31	-	0.31	-	A/W
		$\lambda=\lambda_p$	0.56	-	0.58	-	0.56	-	
Dark current	ID	VR=10 mV	1	10	5	30	10	50	pA
Rise time	tr	VR=0 V RL=1 k Ω 10 to 90 %	0.7	-	0.1	-	0.1	-	μ s
Terminal capacitance	Ct	VR=0 V f=10 kHz	300	550	30	40	20	30	pF
Noise equivalent power	NEP	VR=10 mV $\lambda=540$ nm	4.0×10^{-15}	-	9.3×10^{-15}	-	2.6×10^{-14}	-	W/Hz ^{1/2}

■ Dimensional outline (unit: mm)



①	CATHODE COMMON
②	ANODE 2
③	ANODE 4
④	ANODE 6
⑤	ANODE 8
⑥	ANODE 10
⑦	ANODE 12
⑧	ANODE 14
⑨	ANODE 16
⑩	CATHODE COMMON
⑪	ANODE 15
⑫	ANODE 13
⑬	ANODE 11
⑭	ANODE 9
⑮	ANODE 7
⑯	ANODE 5
⑰	ANODE 3
⑱	ANODE 1

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