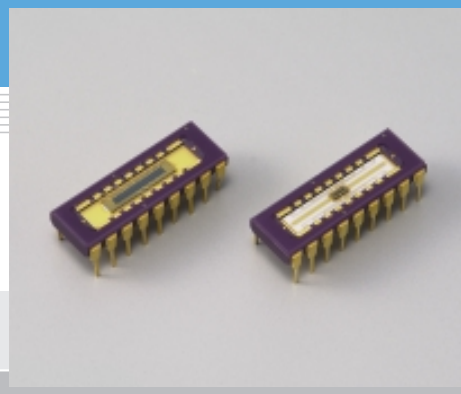


InGaAs PIN photodiode array G7150/G7151-16

16-element array



Features

- 16-element array
- For simple measurement

Applications

- Near Infrared (NIR) spectrophotometer

General ratings

Parameter	G7150-16	G7151-16	Unit
Package	DIP		-
Active area	0.45 × 1 (× 16 elements)	0.08 × 0.2 (× 16 elements)	mm

Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Reverse voltage	VR	5	V
Operating temperature	Topr	-25 to +70	°C
Storage temperature	Tstg	-25 to +70	°C

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

Parameter	Symbol	Condition	G7150-16			G7151-16			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Spectral response range	λ		-	0.9 to 1.7	-	-	0.9 to 1.7	-	μm
Peak sensitivity wavelength	λ_p		-	1.55	-	-	1.55	-	μm
Photo sensitivity	S	$\lambda=1.3 \mu\text{m}$		0.9	-		0.9	-	A/W
		$\lambda=1.55 \mu\text{m}$		0.95	-		0.95	-	
Dark current	Id	VR=1 V	-	5	25	-	0.2	1	nA
Cut-off frequency	fc	VR=1 V, RL=50 Ω $\lambda=1.3 \mu\text{m}$, -3 dB	-	30	-	-	300	-	MHz
Terminal capacitance	Ct	VR=1 V, f=1 MHz	-	100	-	-	10	-	pF
Shunt resistance	Rsh	VR=10 mV	-	100	-	-	1000	-	M Ω
Detectivity	D*	$\lambda=\lambda_p$	-	5×10^{12}	-	-	5×10^{12}	-	$\text{cm} \cdot \text{Hz}^{1/2} / \text{W}$
Noise equivalent power	NEP	$\lambda=\lambda_p$	-	2×10^{-14}	-	-	3×10^{-15}	-	$\text{W} / \text{Hz}^{1/2}$

Spectral response

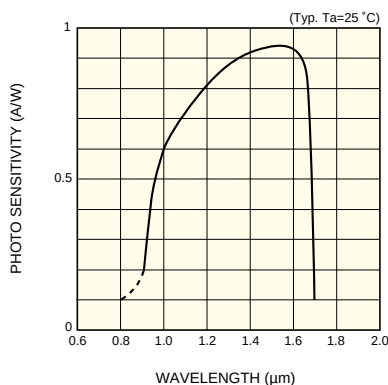
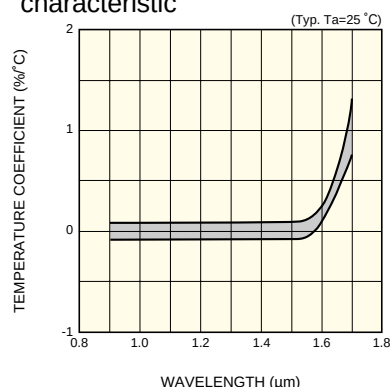
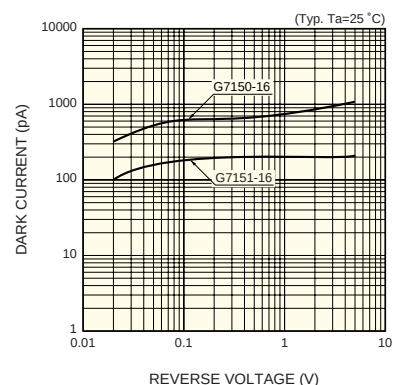


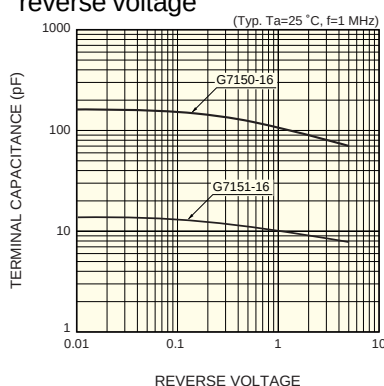
Photo sensitivity temperature characteristic



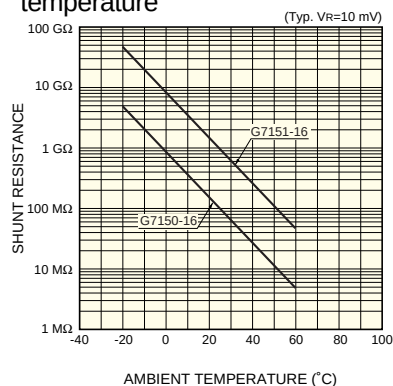
Dark current vs. reverse voltage



Terminal capacitance vs. reverse voltage

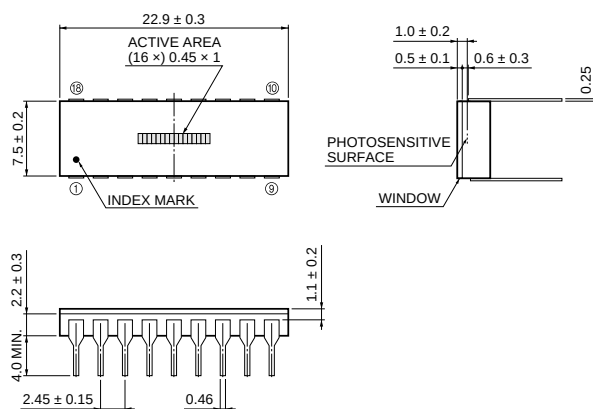


Shunt resistance vs. ambient temperature

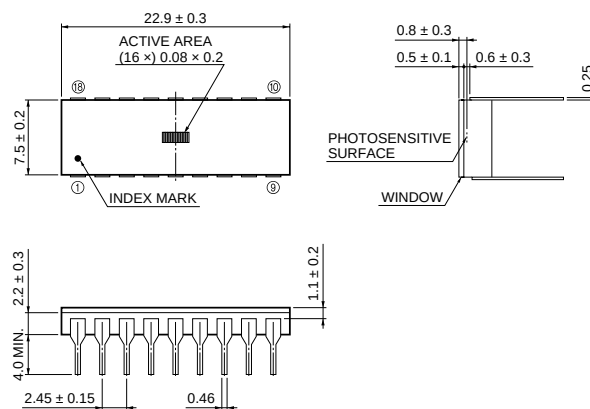


Dimensional outlines (unit: mm)

G7150-16



G7151-16



PIN No.	DETECTOR	PIN No.	DETECTOR	PIN No.	DETECTOR	PIN No.	DETECTOR
①	1	⑥	KC	⑪	14	⑯	6
②	3	⑦	11	⑫	12	⑰	4
③	5	⑧	13	⑬	KC	⑱	2
④	7	⑨	15	⑭	10		
⑤	9	⑩	16	⑮	8		

PIN No.	DETECTOR	PIN No.	DETECTOR	PIN No.	DETECTOR	PIN No.	DETECTOR
①	1	⑥	KC	⑪	14	⑯	6
②	3	⑦	11	⑫	12	⑰	4
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⑤	9	⑩	16	⑮	8		

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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 Trappu, 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

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