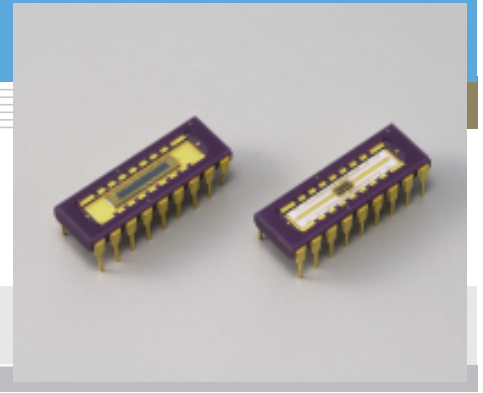


# InGaAs PIN photodiode array

## 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

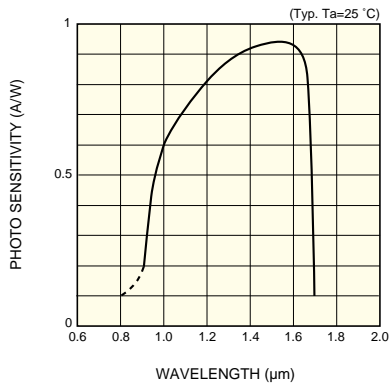
\* No condensation

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

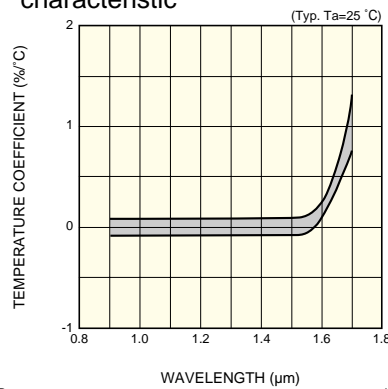
Parameter	Symbol	Condition	G7150-16			G7151-16			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Spectral response range	$\lambda$		-	0.9 to 1.7	-	-	0.9 to 1.7	-	$\mu\text{m}$
Peak sensitivity wavelength	$\lambda_p$		-	1.55	-	-	1.55	-	$\mu\text{m}$
Photo sensitivity	S	$\lambda=1.3 \mu\text{m}$	0.8	0.9	-	0.8	0.9	-	A/W
		$\lambda=1.55 \mu\text{m}$	0.85	0.95	-	0.85	0.95	-	
Dark current	ID	VR=1 V	-	5	25	-	0.2	1	nA
Cut-off frequency	fc	VR=1 V, RL=50 $\Omega$ $\lambda=1.3 \mu\text{m}$ , -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 $\Omega$
Detectivity	D*	$\lambda=\lambda_p$	-	$5 \times 10^{12}$	-	-	$5 \times 10^{12}$	-	cm $\cdot$ Hz <sup>1/2</sup> /W
Noise equivalent power	NEP	$\lambda=\lambda_p$	-	$2 \times 10^{-14}$	-	-	$3 \times 10^{-15}$	-	W/Hz <sup>1/2</sup>

G7150/G7151-16 may be damaged by Electro Static Discharge, etc. Be careful when using G7150/G7151-16.

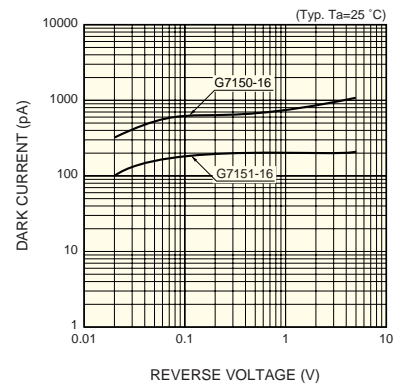
### Spectral response



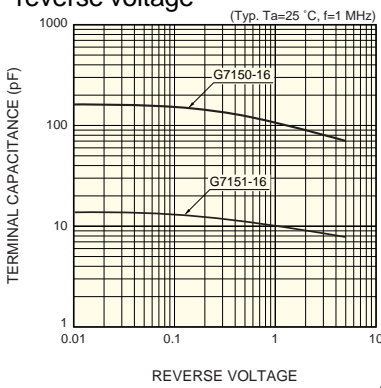
### Photo sensitivity temperature characteristic



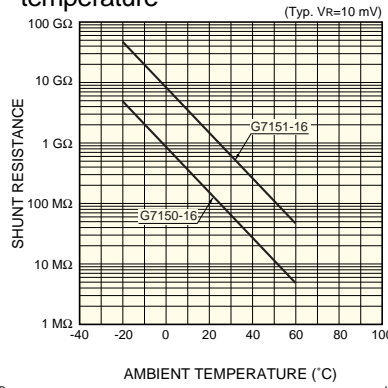
### Dark current vs. reverse voltage



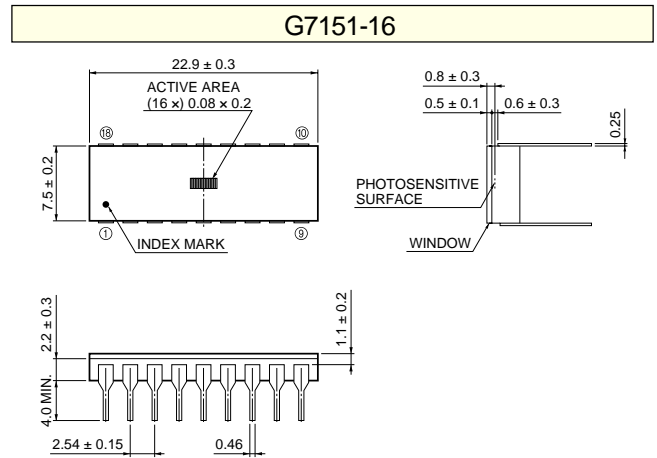
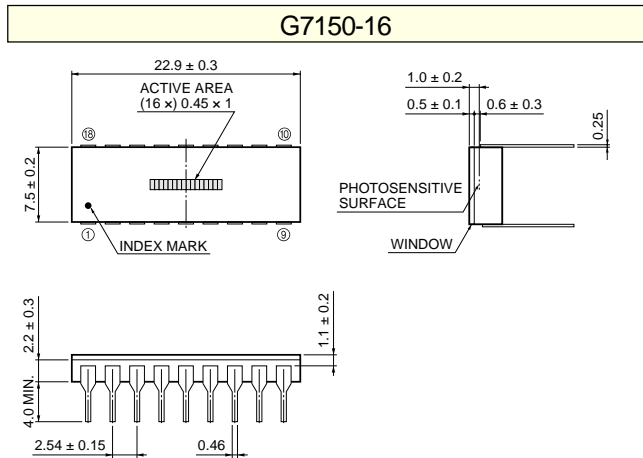
### Terminal capacitance vs. reverse voltage



### Shunt resistance vs. ambient temperature



### Dimensional outlines (unit: mm)



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

\* CATHODE COMMON

PIN No.	DETECTOR	PIN No.	DETECTOR	PIN No.	DETECTOR	PIN No.	DETECTOR
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②	3	⑦	11	⑫	12	⑰	4
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\* CATHODE COMMON

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