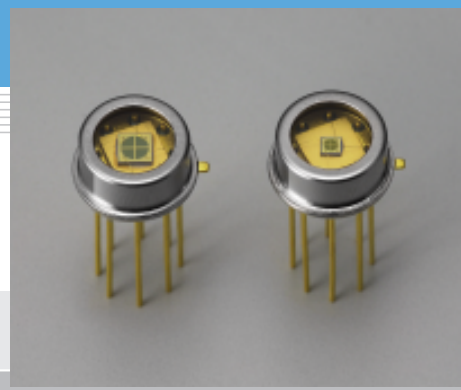


InGaAs PIN photodiode G6849 series

Quadrant type



Features

- Active area
G6849 : $\phi 2$ mm quadrant element
G6849-01: $\phi 1$ mm quadrant element
- Low noise
- High reliability

Applications

- Spot light position detection
- Measurement equipment

General ratings

Parameter	G6849	G6849-01	Unit
Package	TO-5		-
Active area	$\phi 2$ /quadrant	$\phi 1$ /quadrant	mm

Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Reverse voltage	VR	5	V
Operating temperature	Topr	-40 to +85	°C
Storage temperature	Tstg	-55 to +125	°C

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

Parameter	Symbol	Condition	G6849			G6849-01			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	-	2	20	-	0.15	1.5	nA
Cut-off frequency	fc	VR=1 V, RL=50 Ω $\lambda=1.3 \mu\text{m}$, -3 dB	-	20	-	-	50	-	MHz
Terminal capacitance	Ct	VR=1 V, f=1 MHz	-	70	-	-	20	-	pF
Shunt resistance	Rsh	VR=10 mV	-	50	-	-	200	-	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}	-	-	1×10^{-14}	-	$\text{W}/\text{Hz}^{1/2}$

Spectral response

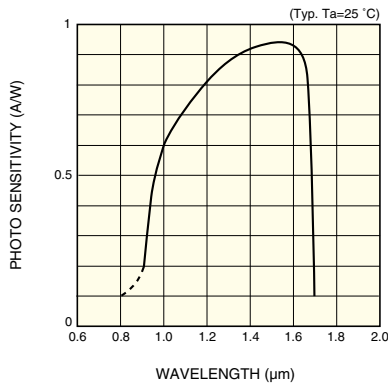
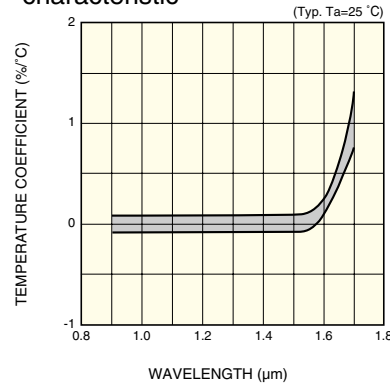
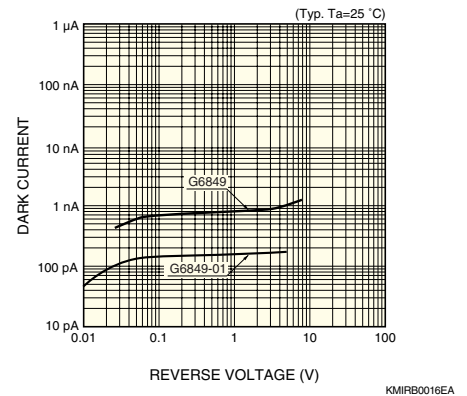


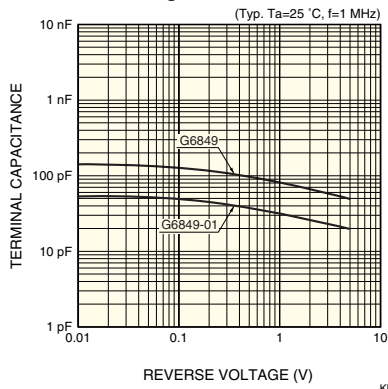
Photo sensitivity temperature characteristic



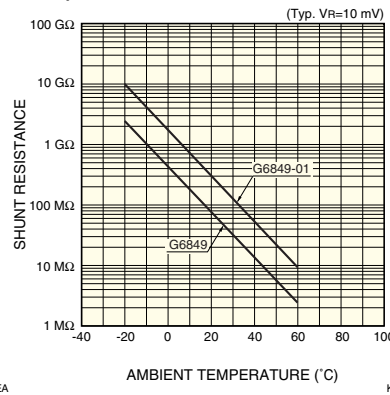
Dark current vs. reverse voltage



Terminal capacitance vs. reverse voltage

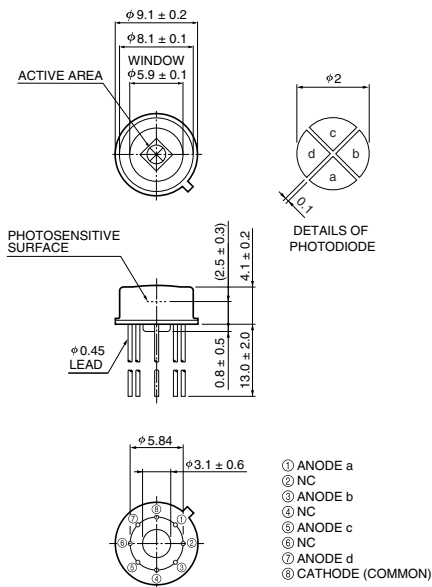


Shunt resistance vs. ambient temperature



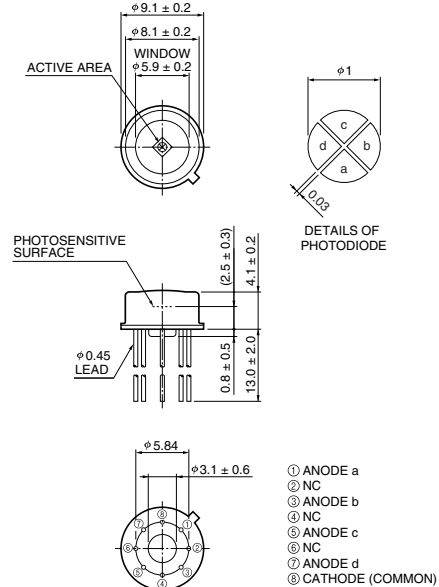
Dimensional outlines (unit: mm)

G6849



KIRDA0059EA

G6849-01



KIRDA0143EA

HAMAMATSU

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