

Si photodiodes



S6428-01

S6429-01

S6430-01

S7505-01

RGB color sensor

The S6428-01, S6429-01 and S6430-01 are color sensors designed to respectively detect monochromatic colors of blue ($\lambda_p=460$ nm), green ($\lambda_p=540$ nm) and red ($\lambda_p=660$ nm).

The S7505-01 uses a 3-channel (RGB) photodiode having blue, green and red sensitivities, and is molded into a surface mount type package.

Features

S6428-01, S6429-01, S6430-01

- Plastic package (6 × 8 mm)
- Spectral response range
 - S6428-01: 400 to 540 nm ($\lambda_p=460$ nm)
 - S6429-01: 480 to 600 nm ($\lambda_p=540$ nm)
 - S6430-01: 590 to 720 nm ($\lambda_p=660$ nm)
- Insensitive to near IR range
- High sensitivity
 - S6428-01: 0.22 A/W Typ. ($\lambda=\lambda_p$)
 - S6429-01: 0.27 A/W Typ. ($\lambda=\lambda_p$)
 - S6430-01: 0.45 A/W Typ. ($\lambda=\lambda_p$)
- Low dark current

S7505-01

- 3 ch (RGB) Si photodiode
- Surface mount type plastic package (9 × 9.6 mm)
- High sensitivity

Applications

- White balance adjustment
- Color identification
- Projector and TV brightness level detection
- Color control
- Light source color temperature detection

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

General ratings/Absolute maximum ratings

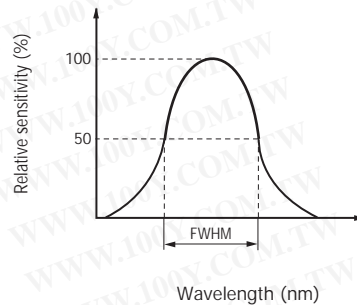
Type No.	Active area size (mm)	Effective active area (mm ²)	Absolute maximum ratings		
			Reverse voltage V _r Max. (V)	Operating temperature T _{opr} (°C)	Storage temperature T _{stg} (°C)
S6428-01	2.4 × 2.8	6.7	10	-10 to +60	-20 to +70
S6429-01					
S6430-01					
S7505-01	Green, Red: 1.5 × 1.5 Blue : 1.5 × 1.5 (2 elements)	Green, Red: 2.25 Blue : 4.5			

Electrical and optical characteristics (Typ. Ta=25 °C, unless otherwise noted)

Type No.	Spectral response range λ (nm)	Peak sensitivity wavelength λ_p (nm)	Photo sensitivity S $\lambda = \lambda_p$ (A/W)	Dark current I _D V _R =1 V		Temp. coefficient of I _D (times/°C)	Rise time t _r V _R =0 V R _L =1 kΩ 10 to 90 % (μs)	Terminal capacitance C _t V _R =0 V f=10 kHz		Spectral response half width FWHM *2 (nm)
				Typ. (pA)	Max. (pA)			Typ. (pA)	Max. (pA)	
S6428-01	400 to 540	460	0.22	5	20	1.12	0.5	200	400	90
S6429-01	480 to 600	540	0.27							70
S6430-01	590 to 720	660	0.45							90
S7505-01	Blue	400 to 540	0.18	10 *1	200 *1			150	300	90
	Green	480 to 600	0.23							60
	Red	590 to 720	0.16							70

*1: All elements

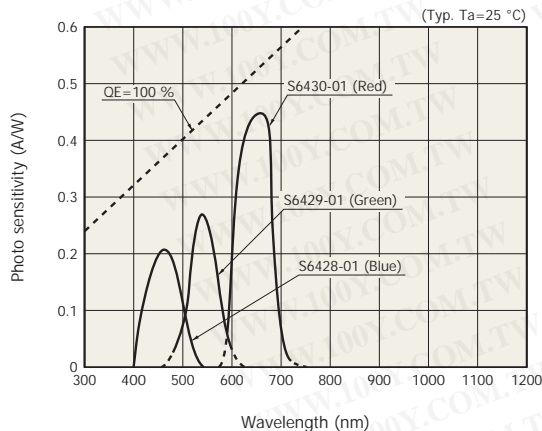
*2: Defined as shown in the figure at right



KSPDC0031EA

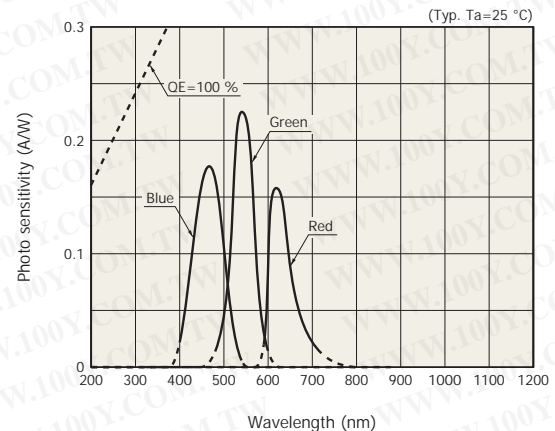
Spectral response

S6428-01, S6429-01, S6430-01



KSPDB0141EC

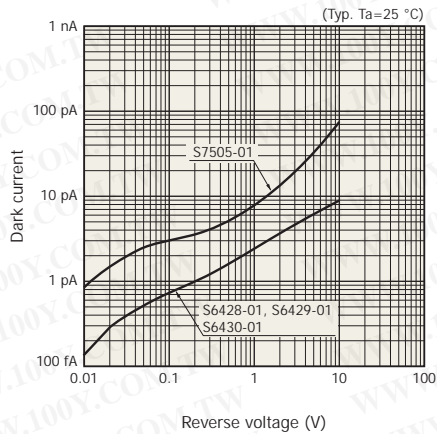
S7505-01



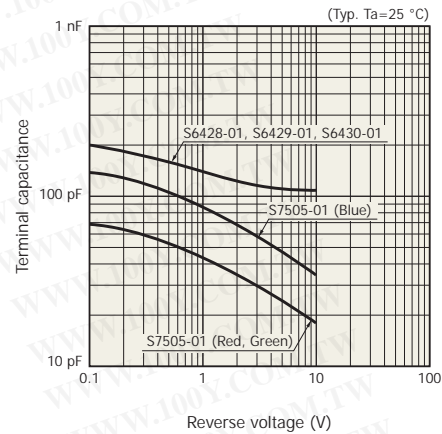
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Dark current vs. reverse voltage

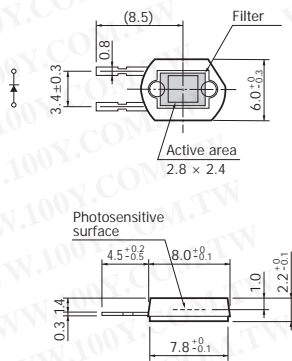


Terminal capacitance vs. reverse voltage



Dimensional outlines (unit: mm)

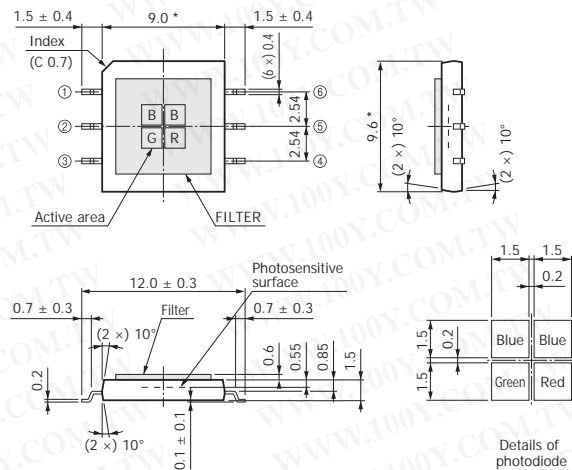
S6428-01, S6429-01, S6430-01



Tolerance unless otherwise noted: ±0.15
Lead surface finish: Palladium
Packing: tray (100 pcs/tray)

KSPDA0056EA

S7505-01



- ① Anode (Blue)
- ② Cathode common
- ③ Anode (Green)
- ④ Anode (Red)
- ⑤ Cathode common
- ⑥ NC

Tolerance unless otherwise noted: ±0.1

Chip position accuracy with respect to the package dimensions marked *

X, Y ±0.2

θ ±2°

Lead surface finish: gold plating
Packing: stick (50 pcs/stick)

KMPDA0073ED

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Note: If excessive vibration is continuously applied to the glass filter, there is a risk that the filter may come off, so secure the glass filter with a holder.

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