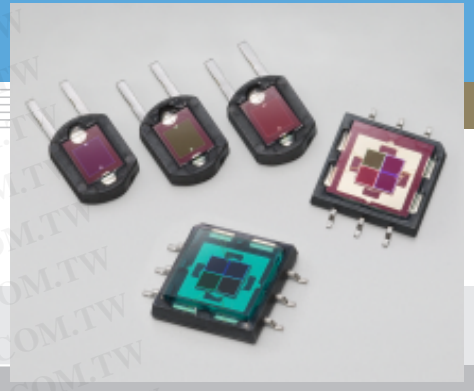


# Si photodiode

## S6428-01, S6429-01, S6430-01, S7505, S7505-01

**NEW**

### RGB color sensor



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).  
 S7505, S7505-01 use a 3-channel (RGB) photodiode having blue, green and red sensitivities, and is molded into a surface-mountable 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, S7505-01

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

#### General ratings / Absolute maximum ratings

Type No.	Dimensional outline	Active area size (mm)	Effective active area (mm <sup>2</sup> )	Absolute maximum ratings		
				Reverse voltage VR Max. (V)	Operating temperature T <sub>opr</sub> (°C)	Storage temperature T <sub>stg</sub> (°C)
S6428-01	①	2.4 × 2.8	6.7	10	-10 to +60	-20 to +70
S6429-01						
S6430-01						
S7505	②	Green, red: 1.5 × 1.5	Green, red: 2.25	10	-10 to +60	-20 to +70
S7505-01		Blue : 1.5 × 1.5 (2 elements)	Blue : 4.5			

**NEW**

#### Applications

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

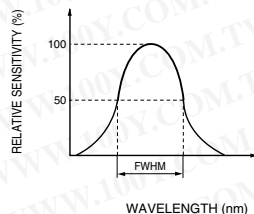
勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-54151736  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

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

Type No.	Spectral response range $\lambda$ (nm)	Peak sensitivity wavelength $\lambda_p$ (nm)	Photo sensitivity S $\lambda=\lambda_p$ (A/W)	Dark current I <sub>D</sub> VR=1 V		Temp. coefficient of I <sub>D</sub> (times/°C)	Rise time t <sub>r</sub> VR=0 V RL=1 kΩ 10 to 90 % (μs)	Terminal capacitance C <sub>t</sub> VR=0 V f=10 kHz		Spectral response half width FWHM *2 (nm)						
				Typ. (pA)	Max. (pA)			Typ. (pF)	Max. (pF)							
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	Blue	460	0.22	10 *1	200 *1	1.12	0.5	150	300	90						
	Green	540	0.27							70						
	Red	660	0.45							90						
S7505-01	Blue	460	0.18							150	300	1.12	0.5	150	300	90
	Green	540	0.23													60
	Red	620	0.16													70

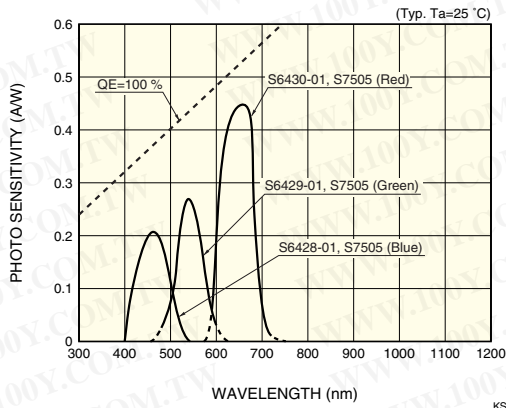
**NEW**

\*1: All elements.  
 \*2: Defined as shown in the figure at right.



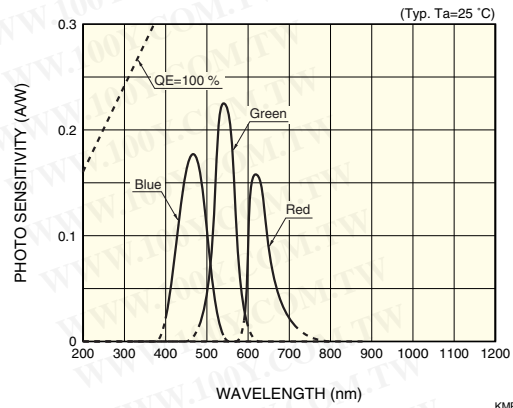
# Si photodiode S6428-01, S6429-01, S6430-01, S7505, S7505-01

## ■ Spectral response (S6428-01, S6429-01, S6430-01, S7505)



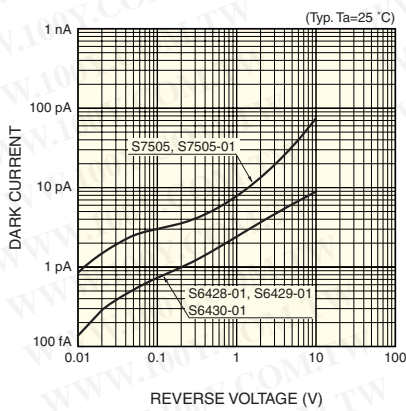
KSPDB0141EB

## ■ Spectral response (S7505-01)



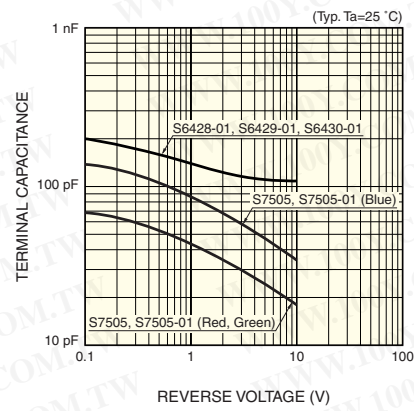
KMPDB0217EA

## ■ Dark current vs. reverse voltage



KSPDB0142EB

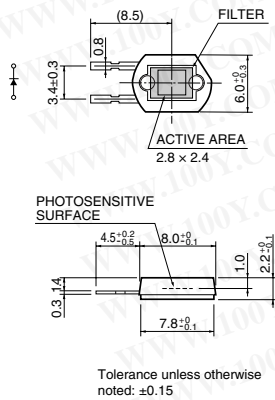
## ■ Terminal capacitance vs. reverse voltage



KSPDB0143EB

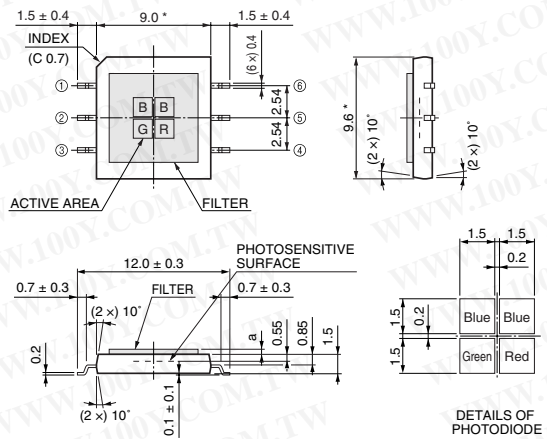
## ■ Dimensional outlines (unit: mm)

### ① S6428-01, S6429-01, S6430-01



KSPDA0056EA

### ② S7505, S7505-01



- ① ANODE (Blue)
- ② CATHODE COMMON
- ③ ANODE (Green)
- ④ ANODE (Red)
- ⑤ CATHODE COMMON
- ⑥ NC

Tolerance unless otherwise noted:  $\pm 0.1$   
Chip position accuracy with respect to the package dimensions marked \*  
 $X, Y \leq \pm 0.2$   
 $\theta \leq \pm 2^\circ$

Type No.	a
S7505	0.4
S7505-01	0.6

KMPDA0073EC

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