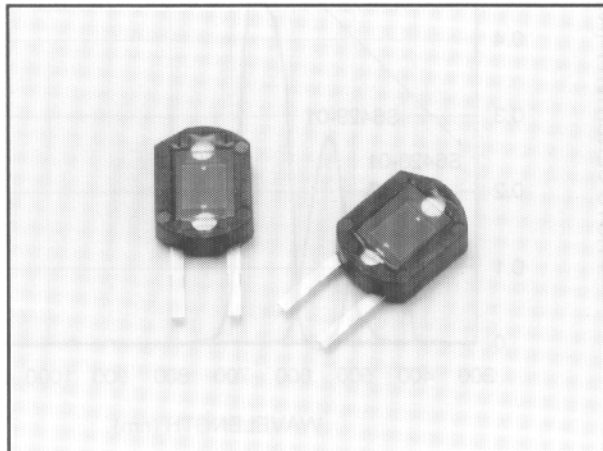


Single color sensors

FEATURES

- 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)
- Non-sensitivity in infrared region
- 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. ($\lambda=\lambda_p$)
- High-speed response: 0.5 μ s Typ. ($V_R=0$ V, $R_L=1$ k Ω)
- Low terminal capacitance: 200 pF Typ. ($V_R=0$ V, $f=10$ kHz)
- Low dark current



APPLICATIONS

- Color recognition
- Color copier
- Optical switch
- Bar-cord reader
- Sensor for red LD/LED

They are monochromatic color sensors: S6428-01: Blue ($\lambda_p=460$ nm), S6429-01: Green ($\lambda_p=540$ nm), S6430-01: Red ($\lambda_p=660$ nm).

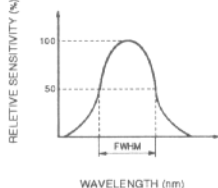
■ ABSOLUTE MAXIMUM RATINGS ($T_a=25$ °C)

Parameter	Symbol	Value	Unit
Reverse Voltage	V_R Max.	10	V
Operating Temperature	T_{opr}	-10 to +60	°C
Storage Temperature	T_{stg}	-20 to +70	°C

■ ELECTRICAL AND OPTICAL CHARACTERISTICS ($T_a=25$ °C)

Parameter	Symbol	Condition	S6428-01		S6429-01		S6430-01		Unit
			Typ.	Max.	Typ.	Max.	Typ.	Max.	
Spectral Response Range	λ		400 to 540		480 to 600		590 to 720		nm
Peak Sensitivity Wavelength	λ_p		460	-	540	-	660	-	nm
Photo Sensitivity	S	$\lambda=\lambda_p$	0.22	-	0.27	-	0.45	-	A/W
Dark Current	I_D	$V_R=1$ V	5	20	5	20	5	20	pA
Temperature Coefficient of Dark Current	-		1.12	-	1.12	-	1.12	-	times/°C
Rise Time	t_r	$V_R=0$ V, $R_L=1$ k Ω 10 to 90 %	0.5	-	0.5	-	0.5	-	μ s
Terminal Capacitance	C_t	$V_R=0$ V, $f=10$ kHz	200	400	200	400	200	400	pF
Half Width of Spectral Response	FWHM	*1	90	-	70	-	90	-	nm

*1: Defined as right figure.



WAVELENGTH (nm)

KSPDC0031EA

Si PHOTODIODES S6428-01, S6429-01, S6430-01

Figure 1: Spectral Response

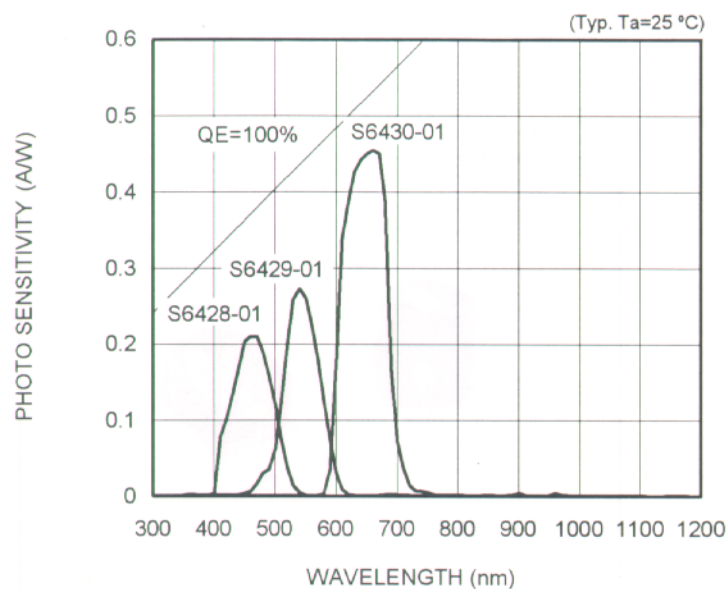


Figure 2: Dark Current vs. Reverse Voltage

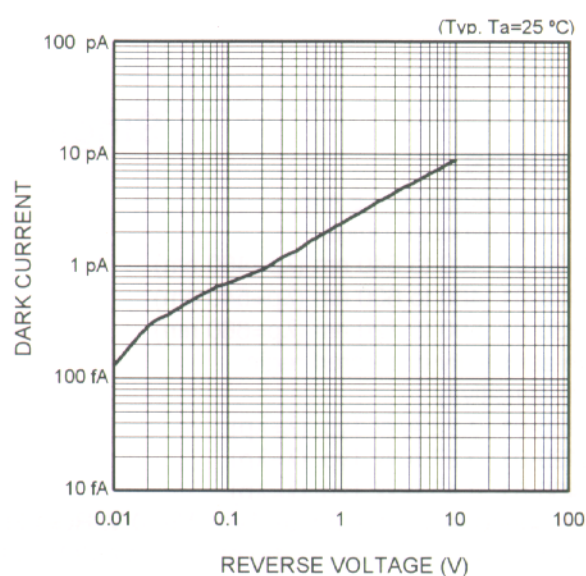


Figure 3: Terminal Capacitance vs. Reverse Voltage

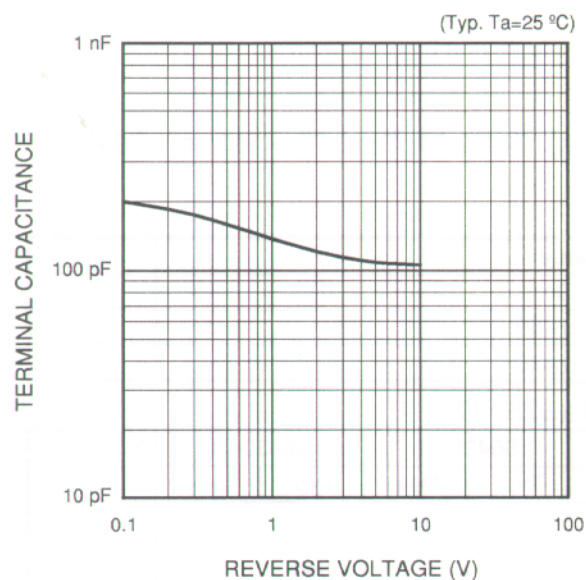
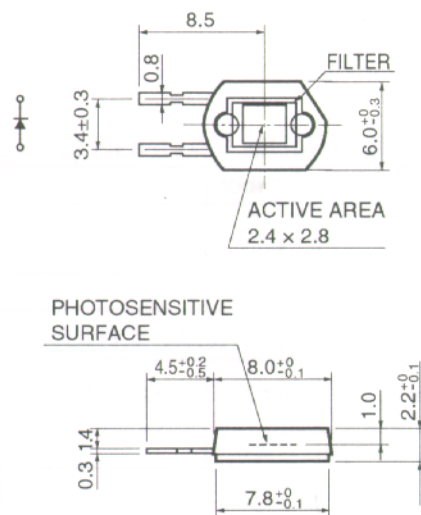


Figure 4: Dimensional Outline (Unit: mm)



KSPDA0056EA

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