

Silicon PIN Photodiode

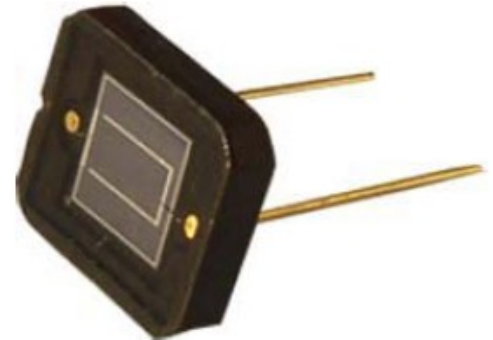
DS06CU

Description

The DS06CU is a high speed and high sensitive PIN photodiode in a miniature flat plastic package. Its top view construction makes it ideal as a low cost replacement of TO-5 devices in many applications. Due to its water clear epoxy the device is sensitive to visible and infrared radiation. The large active area combined with a flat case gives a high sensitivity at a wide viewing angle.

Features

- Large radiant sensitive area ($A=36 \text{ mm}^2$)
- Wide angle of half sensitivity $\phi = \pm 65^\circ$
- High photo sensitivity
- Suitable for visible and near infrared radiation
- Windowless package



Applications

- High speed photo detector
- ArF excimer laser detection
- Various UV detection

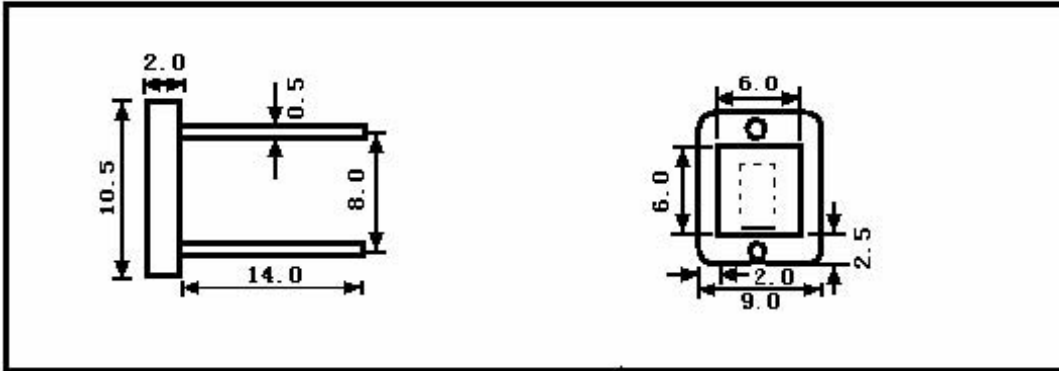
Absolute maximum ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Reverse voltage	$V_r \text{ Max.}$	30	v
Operating temperature	T_{opr}	-20 to +60	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +80	$^\circ\text{C}$

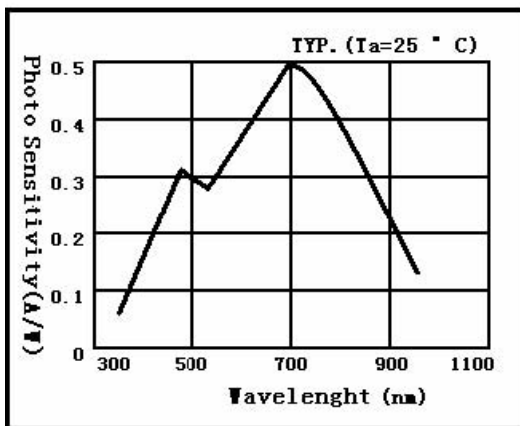
Electrical and optical characteristics ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	320 to 1100	-	nm
Peak sensitivity wavelength	λ_p		-	700	-	nm
Photo sensitivity	S	$I_{sc}=32\mu\text{A}$	0.3	0.42	-	mA/mW
Dark current	I_D	$V_r=0.01\text{V}$	-	0.1		nA
Terminal capacitance	C_t	$V_r=0 \text{ V}, f=10 \text{ kHz}$	-	4	-	nF
Rise time	t_r	$V_r=0 \text{ V}, R_L=1 \text{ k}\Omega$ 10 to 90 %	-	9	-	μs

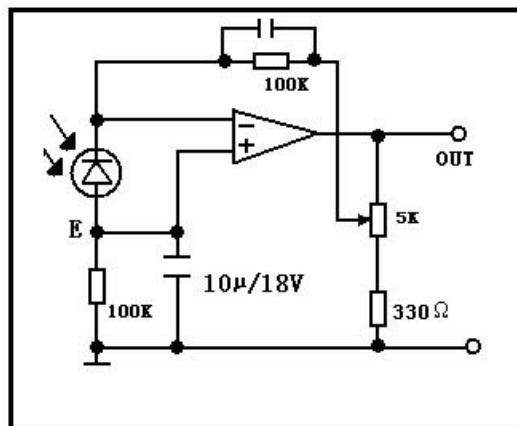
~Dimensional outline (unit: mm)



~Spectral Response



~Circuit



~Handling precautions Handle the photodiodes in a clean room.

Never touch the photodiode chip surface and wire bonding.

Wear dust-proof gloves and dust-proof mask.

Use an air dust cleaner to blow away dust and foreign matter on the photodiode chip surface.

Do not clean the photodiodes by any method other than air blow.