

# KDT00030 Phototransistor Photo Detector

## Features

- Spectral response close to human eye
- Good output linearity across wide illumination range
- Small footprint: 1.7mm x 0.8mm
- Low profile: 0.6mm
- Phototransistor with filter technology

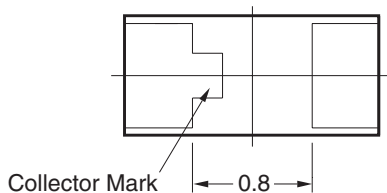
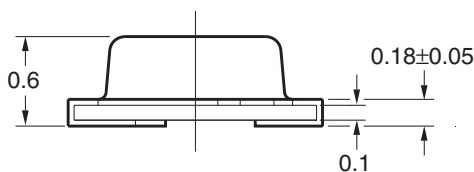
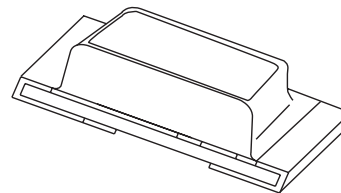
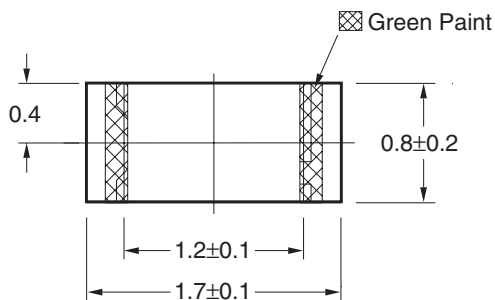
## Applications

- Cell Phones, Notebook PCs, PDAs, Digital Still Cameras

## Description

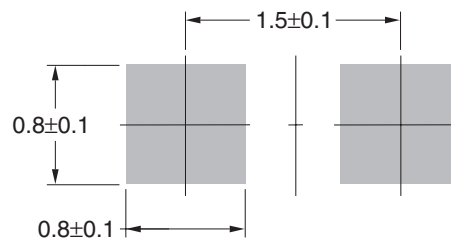
The KDT00030 is a small, low profile photo detector. It incorporates a phototransistor detector chip which makes it an ideal choice for low cost ambient light measurement applications like mobile appliances backlighting.

## Package Dimension

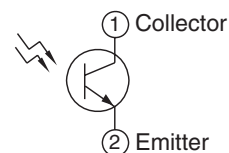


**Note:**  
All dimensions are in mm, tolerances are  $\pm 0.1$ mm unless otherwise specified.

## Recommended Solder Screen Pattern (for reference only)



## Schematic



**Absolute Maximum Ratings**

Symbol	Parameter	Min.	Max.	Unit
$V_{CE}$	Collector-Emitter Voltage		60	V
$T_{OPR}$	Operating Temperature	-40	+85	°C
$T_{STG}$	Storage Temperature	-40	+100	°C

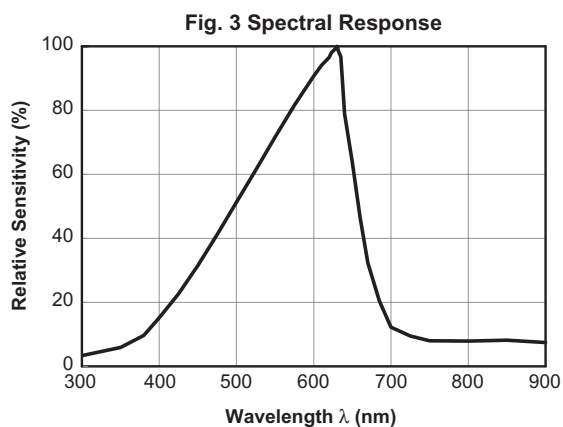
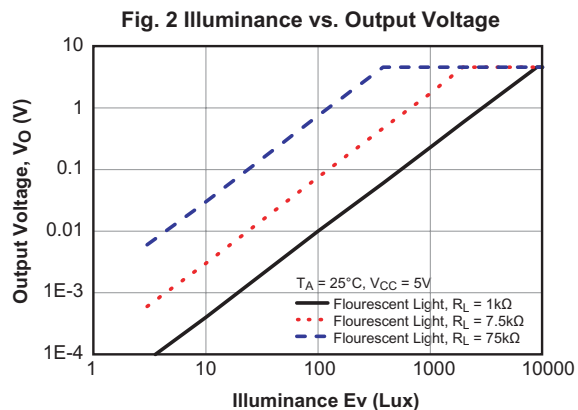
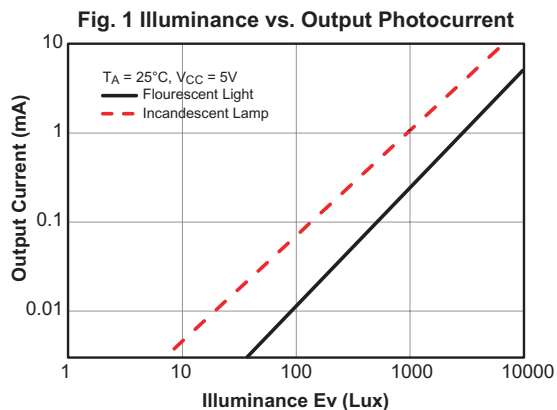
**Electrical/Optical Characteristics** ( $T_A = 25^\circ\text{C}$  and  $V_{CE} = 5.0\text{V}$ , unless specified otherwise)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
$I_L(1)$	Light Current (1)	$E_V = 100 \text{ Lx}^{(1)}$	7	10		$\mu\text{A}$
$I_L(2)$	Light Current (2)	$E_V = 1,000 \text{ Lx}^{(1)}$	200	230		$\mu\text{A}$
$I_L(3)$	Light Current (3)	$E_V = 1,000 \text{ Lx}^{(2)}$	950	1,100		$\mu\text{A}$
$I_L(3) / I_L(2)$	Light Current Ratio			4.8		
$I_{LEAK}$	Dark Current	$V_{CE} = 10\text{V}, E_V = 0$			0.1	$\mu\text{A}$
$V_O$	Saturation Output Voltage	$V_{CC} = 5\text{V}, E_V = 1000 \text{ Lx},$ $R_L = 75\text{k}\Omega$	4.5	4.6		V
$\lambda_p$	Peak Sensitivity, Wavelength			630		nm

**Notes:**

1. White fluorescent light (color temperature = 6,500K)
2. Illuminance by CIE standard illuminant-A / 2856K incandescent lamp.


## Typical Performance Characteristics





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