Light Sensor

TYPE:LS06-S/M/B

LS06-S/M/B

Production Specification

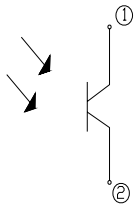★ **Replacement of CdS PhotoResistor**

★ **RoHS Compliant**

■ **TYPICAL APPLICATIONS**

• Night light and Electronic toy controls
• Cemera exposure
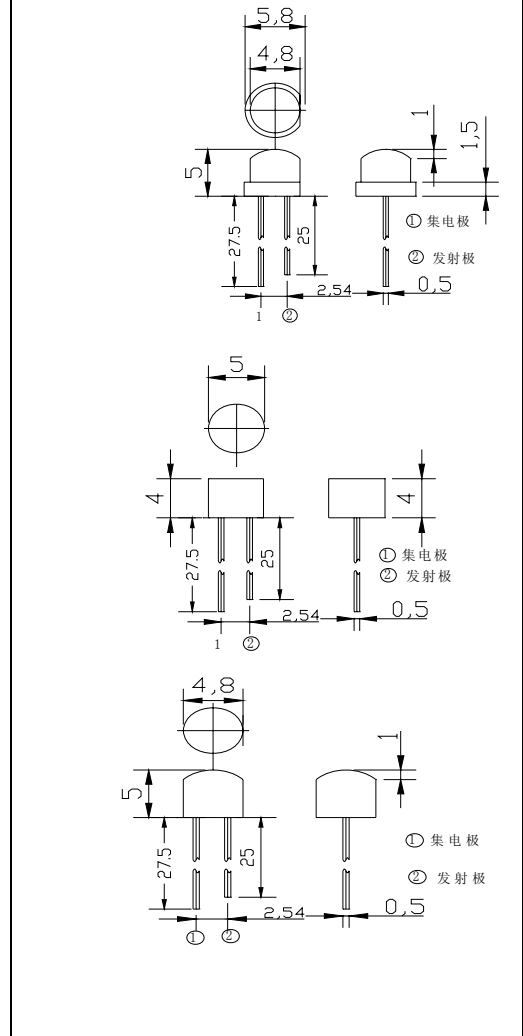• Switch for Photoelectric equipments

■ **FEATURES**

• Linear output conforming to illuminance
• Temperature Stable
• Low dark current and Low working Lux

■ **FUNCTIONAL PIN DESCRIPTION**

①Collector   ②Emitter

Outline Dimensions(mm)

■ **MAXIMUM RATINGS (Ta= 25°C)**

| Characteristics	Symbol	Rating	Unit
Collector-Emitter Voltage	V_{DD}	70	V
Emitter-Collector Voltage	V_{ECO}	7	V
Collector current	I_C	20	mA
Collector Power Dissipation	P_D	100	mW
Operating Temperature	T_{opr}	-25~+70	°C
Storage Temperature	T_{stg}	-25~+80	°C
Soldering Temperature [1]	T_{sol}	260	°C

***1 At the position of 2mm from the bottom of the package within 5 seconds.**

■ ELECTRICAL AND OPTICAL CHARACTERISTICS (Ta= 25°C)

Parameter	Symbol	Test Conditions		Min	Type	Max	Unit
Collector Light Current	I_C	V_{CE}=5V,E_v=100Lux, (E_e=1Mw/cm^2) ※2	S	228	239.5	249	mA
			M	179	186.7	193	
			B	310	328.5	339	
Collector Dark Current	I_{CEO}	V_{CE}=5V, E_e= 0 ※2				10	nA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=2mA,I_B=100uA				2.0	V
PeakSensitivity Wavelength	λp				850		nm
Spectral Sensitivity	Δλ				450-1050		nm
Angular Response	Δθ		S		±55		deg.
			M		±65		
			B		±60		
Rising Response Time	t_r	V_{CC}=5V, I_C=1mA, R_L=1K			15		µs
Falling Response Time	T_f				15		µs
Current Gain	H_{FE}	V_{CE}=5V, I_C=2mA,	S	630		1070	
			M	860		1470	
			B	1200		2000	

※2 E_v ,E_e are illuminance irradiant by CIE standard light source A(tungsten lamp)at 2856K

■ TEST SCHEMATIC CIRCUITS
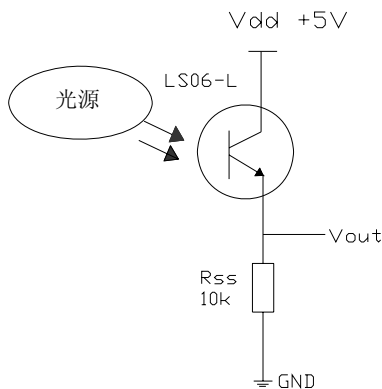
Photocurrent=V_{out}/R_{ss}

*R_{ss} is recommended to use high stable resistor.

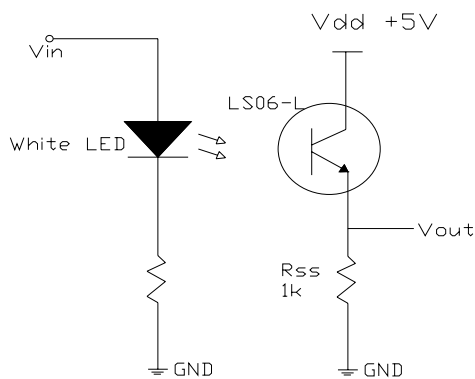**Figure 1 - Photocurrent Measurement Circuit**

Figure 2 - Measuring Method for Switching Time
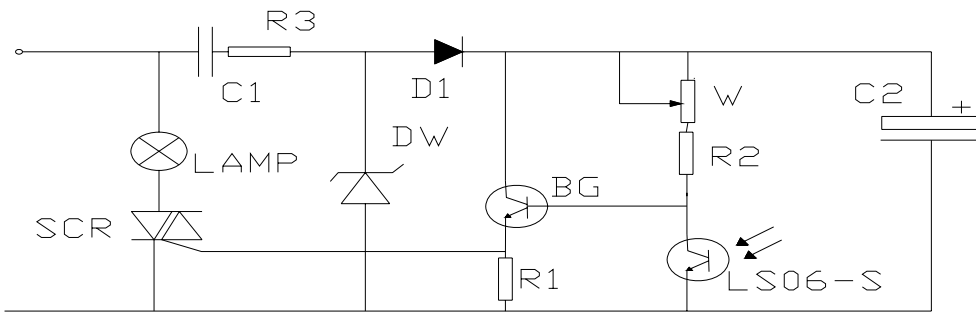
APPLICATION EXAMPLES
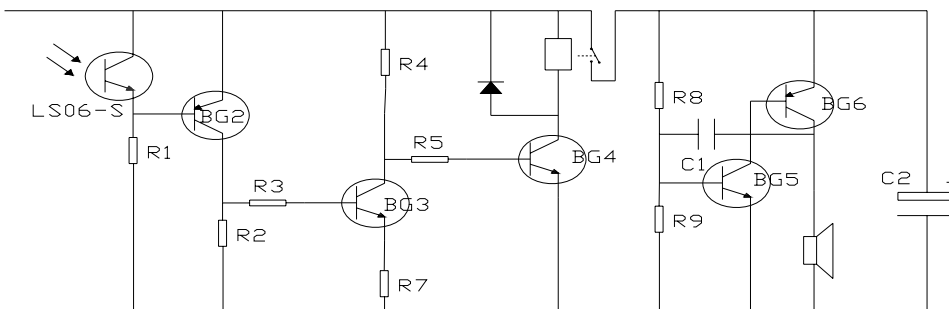

Figure 3. Night light Control

Figure 4. Security Alarm Control

CAUTIONS FOR USE

♦ Application circuit diagrams and circuit constants contained herein are shown as examples of standard use and operation.

♦ Be sure to perform soldering at values within the maximum ratings.
 Do not perform reflow soldering.

♦ The photocurrent will be influenced if the dirty or destroy on the surface.

♦ The sensors are small, transparent, plastic packages.
They are sensitive to moisture and come in sealed, moisture proof packages.