

Environmentally friendly photosensitive sensor

Product specifications

Customer	
Date	2021.11.18
Model	LBCETC1-100
Product number	

Make	
Approval	
Customer Signatures	

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Product function

1.

(CdS)

ROHS
- Replace Photoresistors(Cds),RoHS Compliance/Pb-free/Cd-free.
2.

LCD
- adjust background light automatically,LCD,mobile phone,camera,Computer Camera etc.
3.
- Suitable for all kinds of light control products and light control toys,such as night lamp etc.
4.
- Suitable for all kinds of infrared light detection and testing equipment



Product Features

1.

850nm
- Peak sensitive wavelength 850nm
2.
- Low Power Consumption
3.
- High reliability
4.
- Perfect consistency, completely solve the problems of early start or poor consistency of the lamp.
5.

+85

/65%

1000H
- Fast response, stable performance, no drift at 1000h starting point under + 85 / 65% humidity condition
6.
- Size customized, easy for Installation.

Ta=25 MAXIMUM RATING (TA = 25 ° C)

Parameter name	Symbol	Rating	Unit
- Collector-Emitter Voltage	V_{CEO}	20	V
- Emitter-Collector Voltage	V_{ECO}	5	V
Consumption	P_c	70	mW
Working temperature	T_{opr}	-25 85	°C
Storage temperature	T_{stg}	-40 100	°C

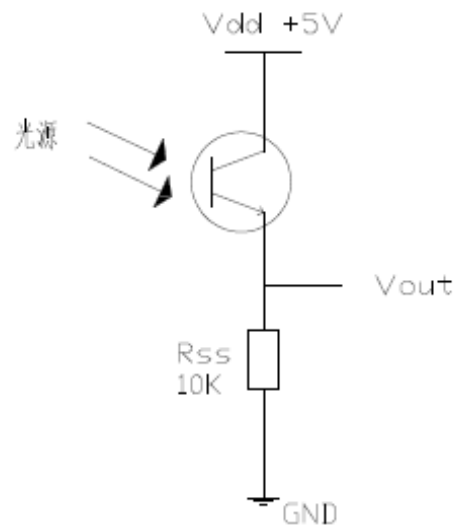
Ta=25 ELECTOR-OPTICAL CHARACTERISTICS (TA = 25 ° C)

Parameter	Symbol	Testing conditions	Min.	Typical Value	Max.	Units
Photo-current	$I_L(1)$	$V_{DD}=5V, E_V=10Lux$	80	100	120	μA
	$I_L(2)$	$V_{DD}=5V, E_V=50Lux$		300		μA
	$I_L(3)$	$V_{DD}=5V, E_V=100Lux$		500		μA
Dark current	I_{CEO}	$V_{DD}=5V, E_V=0Lux$			0.2	μA
Photosensitive peak wavelength		\		850		nm
Sensitivity wave range		\	450		1050	nm
- Collector-emitter Breakdown Voltage	$B_{V_{CEO}}$	$I_c=100\mu A$ $E_e=0mW/cm^2$			70	V
- Emitter-Collector Breakdown Voltage	$B_{V_{ECO}}$	$I_E=10\mu A$ $E_e=0mW/cm^2$			30	V
Collector-Emitter saturation voltage	$V_{ce(sat)}$	$I_c=2mA$ $E_e=1mW/cm^2$			0.4	V
Response time	Rise time	t_r	$V_{CE}=5V,$ $I_C=1mA$	25		μs
	Fall time	t_f		30		

2850K LED.

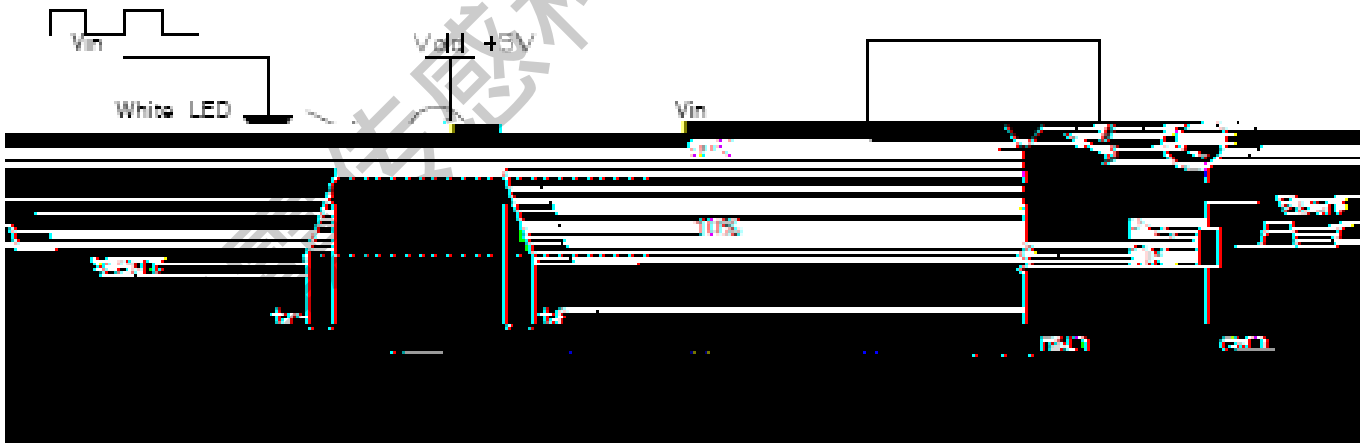
Notes The test light source adopts 2850k color temperature led

Test schematic



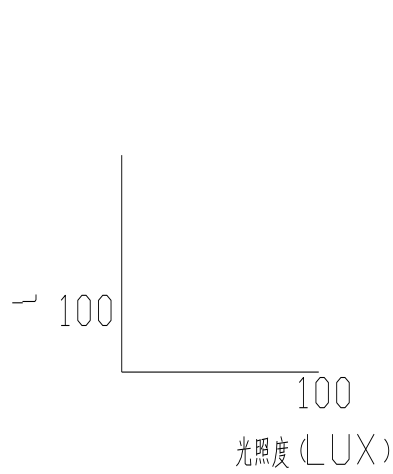
Photocurrent = V_{out} / R_{ss}

- * R_{ss}
High stable resistance is recommended for R_{ss}

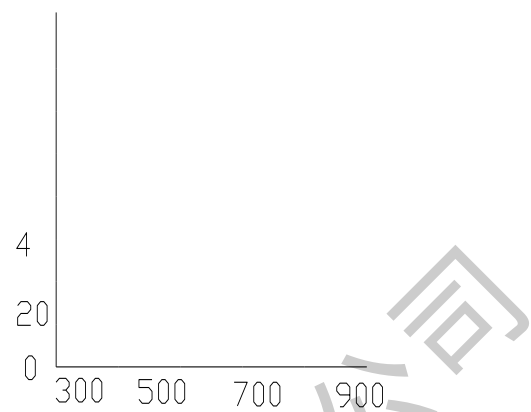


Measurement method of switching time

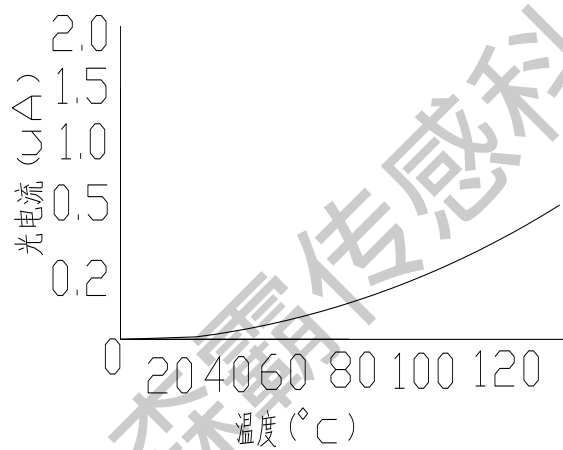
Typical photoelectric characteristics curves



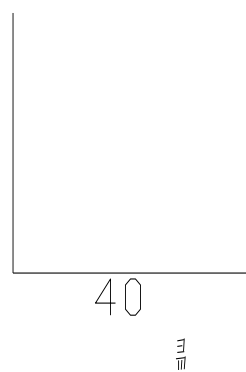
Change of illuminance and photocurrent



Photowavelength map



Temperature and photocurrent diagram



Temperature and dark current diagram



Reliability Test

Test Parameter	Reference Criterion	Test Condition	Time	Quantity	/ Ac/RE
Resistance to Solder Heat	JESD22-B106	260 ±5	10sec	30PCS	0/1
Thermal Cycle	JESD22-A104	110 (15min) 5min - 15 (15min)			

Recommended Soldering Conditions

Mode		Condition
Manually Soldering	Soldering Iron Temperature	340 50 Max340 (power:50Wmax)
	Soldering Time	3 ≤ 3 seonds
	Soldering Position	1.5mm 1.5mm Min.(Form soldering joint to colloid)
Wave Soldering	Preheat	110 80 110 Max.80 sec.Max.
	Temperature	260 ≤ 260
	Soldering Time	5 ≤ 5 seonds
Solder pot Soldering	Preheat	100 60 100 Max.60 sec.Max
	Preheat Temperature	260 ≤ 260
	Soldering Time	5 ≤ 5 seonds
	Soldering Posiion	2mm 2mm(Form soldering joint to colloid)

Notes

Careless operation in the welding process will cause product damage. During the welding process, any
