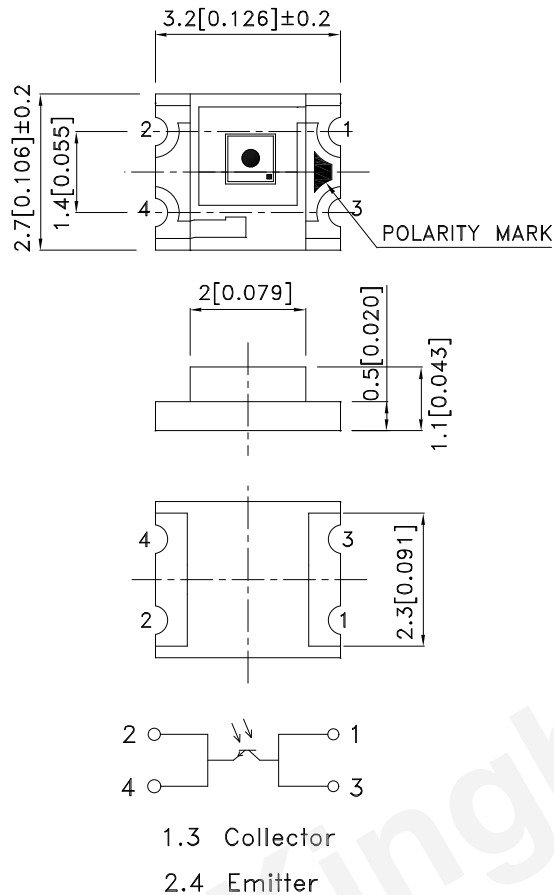


Package Dimensions



Description

The KPS-3227SP1C is a NPN silicon phototransistor, It is a good effective solution to the power saving of display backlighting appliances and the device is sensitive to the visible spectrum.

Features

- *Lead-free package.
- *Component in accordance with RoHS.
- *Adapted to human eye responsive.
- *Wide angle of half sensitivity.
- *Moisture sensitivity level : level 3.
- * Package:2000 pcs/ Reel.

Applications

Detection of ambient light to control display backlighting in:

- *Mobile phones
- *PDAs
- *Note books
- *Video cameras

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.1 (0.004") unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.



*Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit	Notice
Collector Emitter Voltage	V_{ce0}	60	V	$I_{ce0}=100\mu A$
Emitter-Collector Voltage	V_{eco}	4	V	$I_{eco}=100\mu A$
Operating Temperature	T_{opr}	-40 to +85	°C	-
Storage Temperature	T_{stg}	-40 to +85	°C	-
Soldering Temperature	T_{sol}	260	°C	-

Note:

- 1.Soldering time<=5 seconds

*Electrical and Optical Characteristics (Ta=25°C)

Parameter	Symbol	Value			Unit	Conditions
		Min.	TYP.	Max.		
Collector Emitter Breakdown Voltage	BVceo	60	-	-	V	I _{ceo} =100μA
Emitter Collector Breakdown Voltage	BVeco	4	-	-	V	I _{eco} =100μA
Collector dark current	I _D	-	10	100	nA	V _{CE} =5V E _V =0Lx
Light Current(1)	I _{PH1}	-	6	-	μA	V _{CE} =5V, E _V =100 Lx ^[1]
Light Current(2)	I _{PH2}	-	130	-	μA	V _{CE} =5V, E _V =1000 Lx ^[1]
Light Current(3)	I _{PH3}	-	950	-	μA	V _{CE} =5V, E _V =1000 Lx ^[2]
Light Current(4)	I _{PH4}	-	420	-	μA	V _{CE} =5V, E _V =1000 Lx ^[3]
Saturation Output Voltage	V _O	4.5	4.7	-	V	V _{CC} =5V, E _V =1000Lx ^[1] , R _L =75KΩ
Peak Wavelength	λ _P	-	580	-	nm	-
Response Wavelength	λ	390	-	700	nm	>10% Response
Collector Emitter Saturation Voltage	V _{CE (sat)}	-	-	0.4	V	I _C =10 mA

Notes:

- 1.White Fluorescent light (Color Temperature = 6200K) is used as light source.
- 2.Illuminance by CIE standard illuminant-A/2856K, incandescet lamp.
- 3.Sunlight (Color Temperature = 4600K) is used as light source.

Fig.1 Illuminance vs. Output Phtocurrent

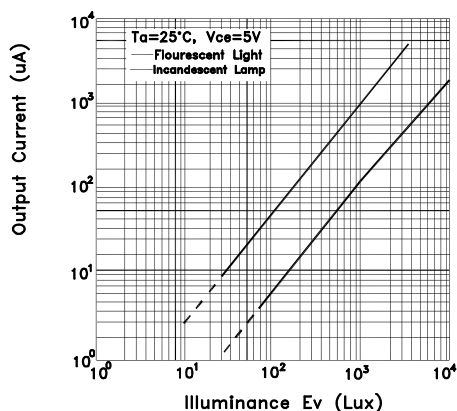
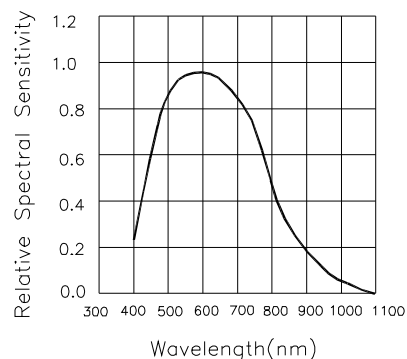
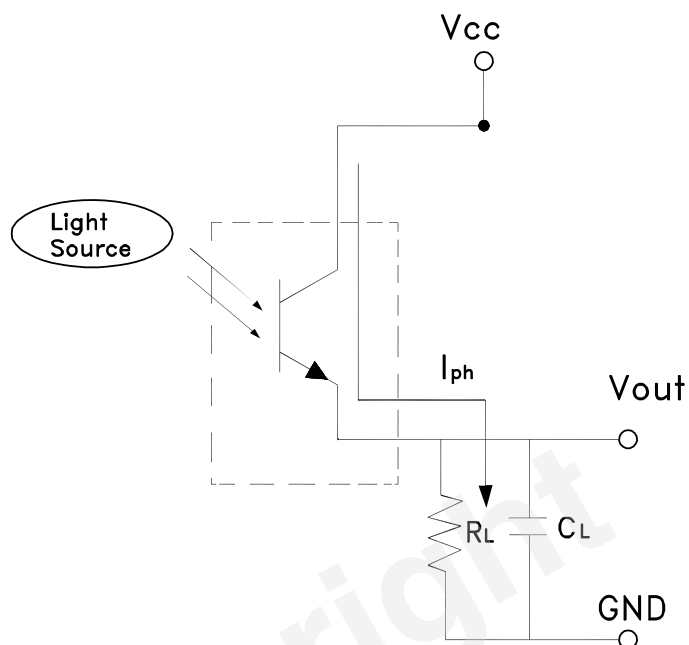


Fig.2 Relative Spectral Responsivity vs. Wavelength



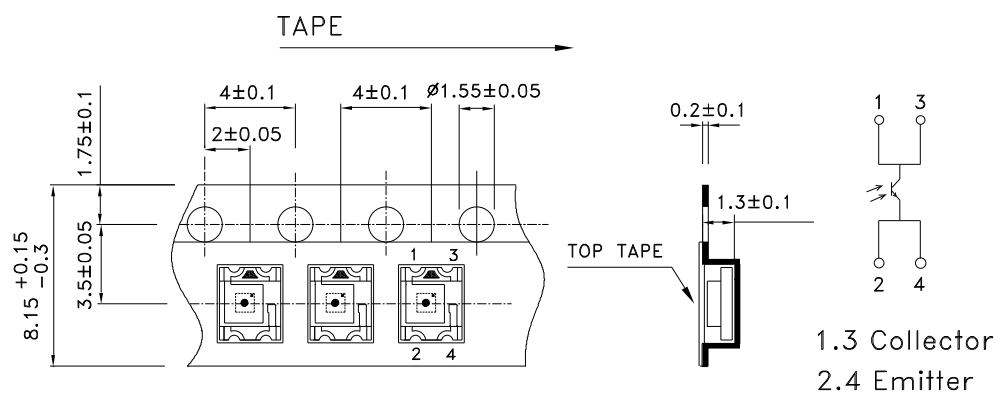
Converting Photocurrent to Voltage



Notes:

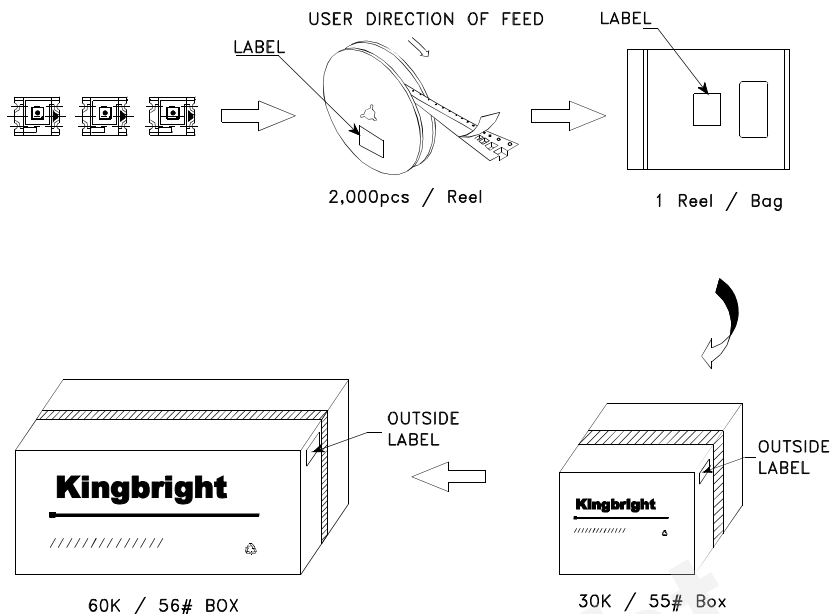
1. The output voltage (V_{out}) is the product of photocurrent (I_{ph}) and loading resistor (R_L)
2. A right loading resistor shall be chosen to meet the requirement of maximum ambient light, and output saturation voltage:
 $V_{out(max)} = I_{out(max)} \times R_L \leq V_{out(saturation)} = V_{cc} - 0.3V$


Tape Specifications (Units : mm)



PACKING & LABEL SPECIFICATIONS

KPS-3227SP1C



Kingbright	
P/NO: KPS-3227xxx	
QTY: 2,000 pcs	Q.C. XX-XX-XXXX PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
	
RoHS Compliant	

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