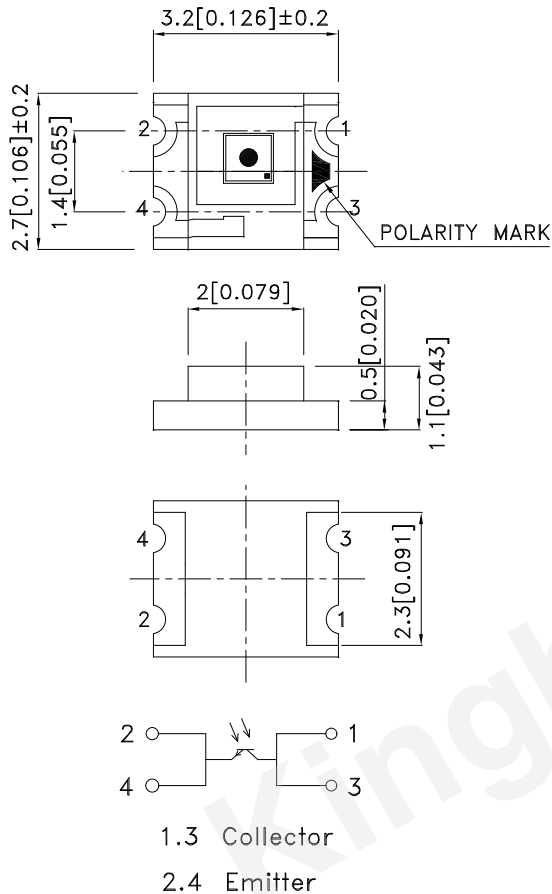


Part Number: KPS-3227SP1C

Package Dimensions



UNIT : MM[INCH]

TOLERANCE :±0.1[0.004] UNLESS OTHERWISE NOTED.

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:2KPCS/Reel.

Applications

Detection of ambient light to control display backlighting in:

- *mobile phones
- *PDAs
- *note books
- *Video cameras



*Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit	Notice
Collector Emitter Voltage	V _{ceo}	60	V	I _{ceo} =100μA
Emitter Collector Voltage	V _{eco}	4	V	I _{eco} =100μA
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
Angle of half sensitivity	2θ1/2	-	120	-	°	-
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 Photocurrent

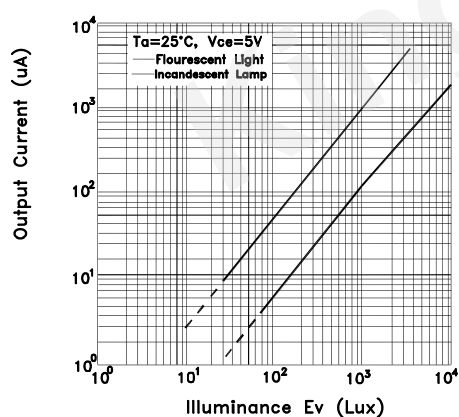


Fig.2 Relative Spectral Responsivity vs. Wavelength

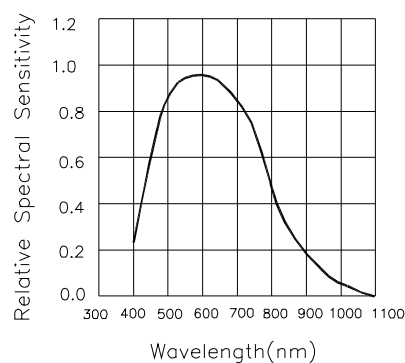
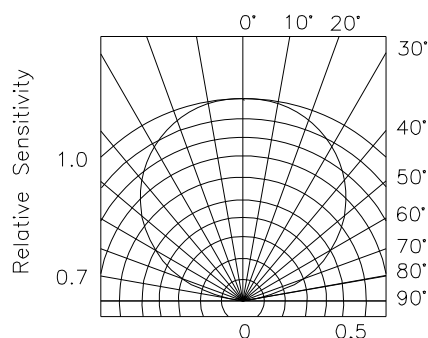
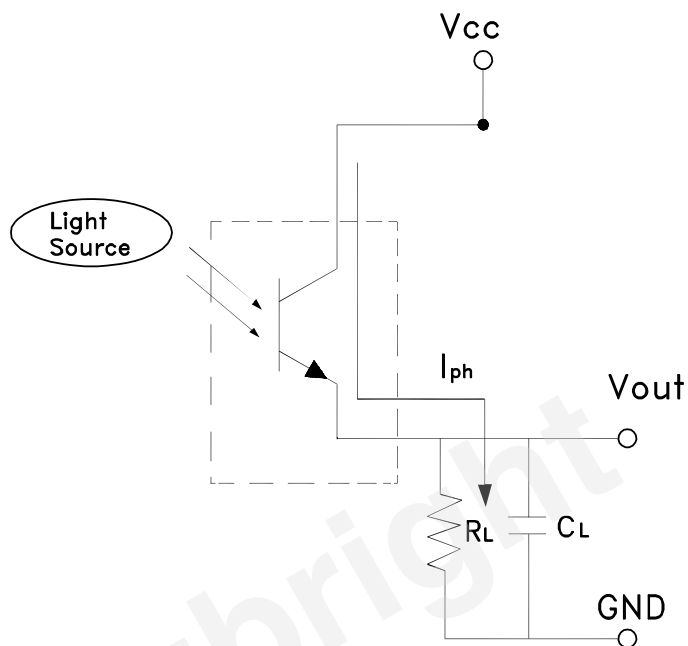


Fig.3 Relative radiant sensitivity vs. Angular displacement



Converting Photocurrent to Voltage

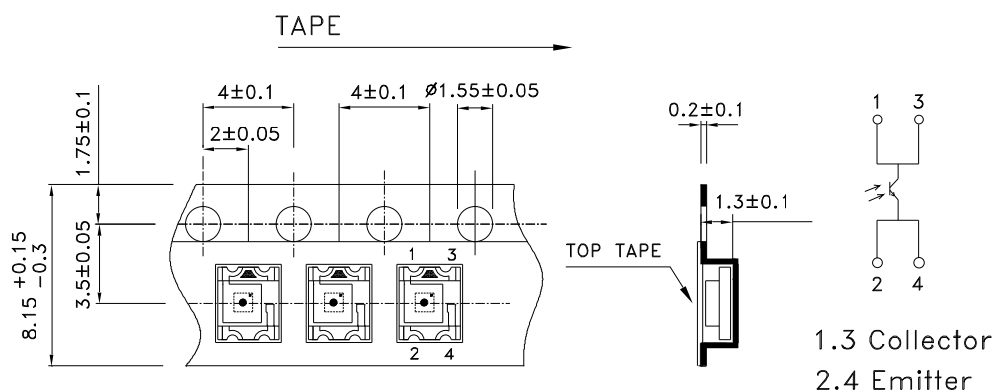


Notes:

- 1.The output voltage (Vout) is the product of photocurrent (IPH) and loading resistor (RL)
- 2.A right loading resistor shall be chosen to meet the requirement of maximum ambient light, and output saturation voltage:

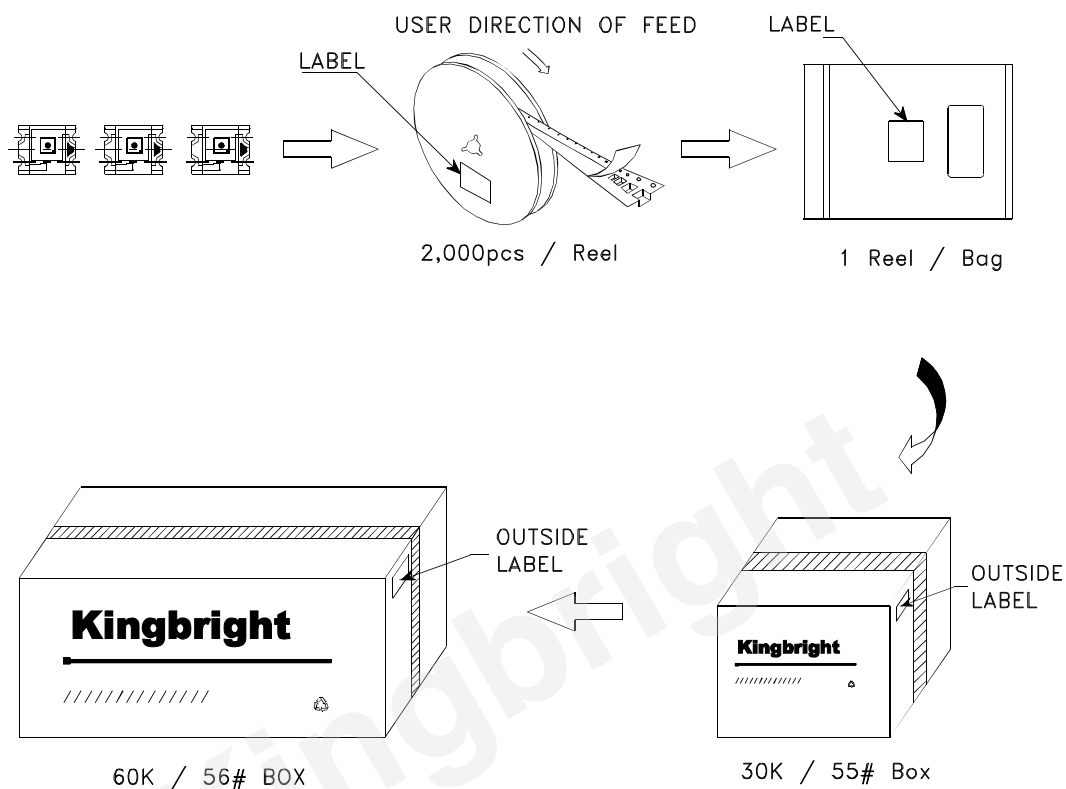
$$V_{out(max)} = I_{out(max)} \times R_L \leq V_{out(saturation)} = V_{cc} - 0.3V$$


Tape Specifications (Units : mm)



PACKING & LABEL SPECIFICATIONS

KPS-3227SP1C



Kingbright	
P/N0: KPS-3227xxx	
QTY: 2,000 pcs	Q.C. Q C xx xx xxxx PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
 <small>xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx</small>	
RoHS Compliant	