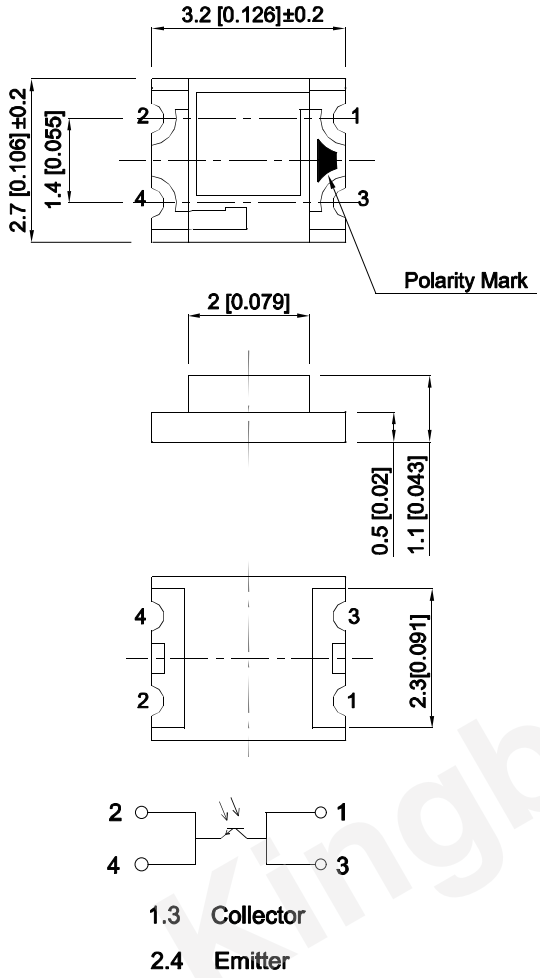
Package Dimensions



Part Number: KPS-3227SP1C

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_{ceo}	60	V	Iceo=100μA
Emitter-Collector Voltage	V_{eco}	4	V	Ieco=100μA
Operating Temperature	Topr	-40 to +85	ºC	-
Storage Temperature	Tstg	-40 to +85	ºC	-

Note:

1. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

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

Parameter	Symbol	Value			Unit	Conditions
		Min.	TYP.	Max.		
Collector Emitter Breakdown Voltage	BVceo	60	-	-	V	Iceo=100μA
Emitter Collector Breakdown Voltage	BVeco	4	-	-	V	Ieco=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,Ev=100 Lx[1]
Light Current(2)	I_{PH2}	-	130	-	μA	V_{CE}=5V,Ev=1000 Lx[1]
Light Current(3)	I_{PH3}	-	950	-	μA	V_{CE}=5V,Ev=1000 Lx[2]
Light Current(4)	I_{PH4}	-	420	-	μA	V_{CE}=5V,Ev=1000 Lx[3]
Saturation Output Voltage	Vo	4.5	4.7	-	V	V_{CC}=5V,E_V=1000Lx[1], R_L=75KΩ
Peak Wavelength	λP	-	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. Luminance by CIE standard illuminant-A/2856K,incandescet lamp.
3. Sunlight (Color Temperature = 4600K) is used as light source.
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

Fig.1 Illuminance vs. Output Phtocurrent

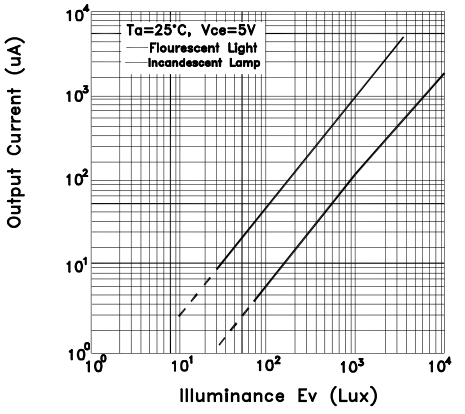
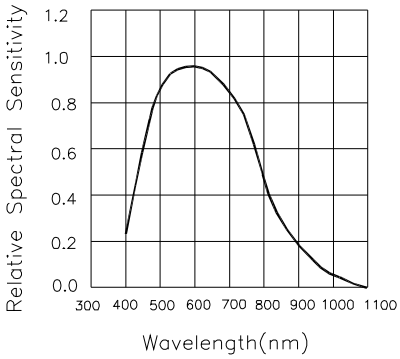
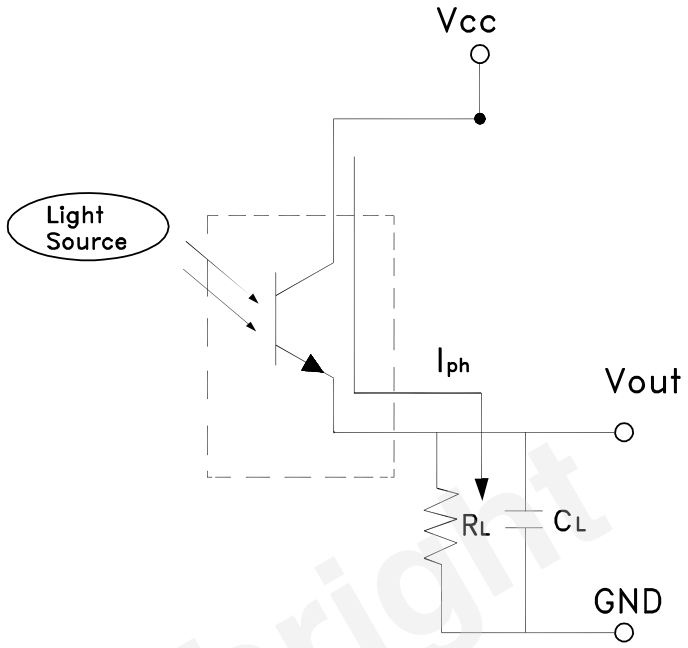


Fig.2 Relative Spectral Responsivity vs. Wavelength



Converting Photocurrent to Voltage



Notes:

1.The output voltage (Vout) is the product of photocurrent (IPH) and loading resistor (RL)

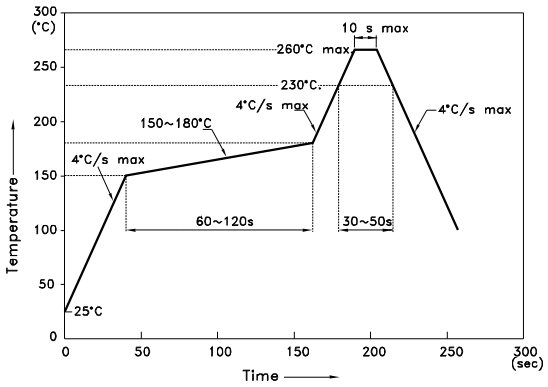
2.A right loading resistor shall be chosen to meet the requirement of maximum ambient light, and output saturation voltage:

Vout(max)=Iout(max.)XRL≤Vout(sataration)=Vcc−0.3V

KPS-3227SP1C

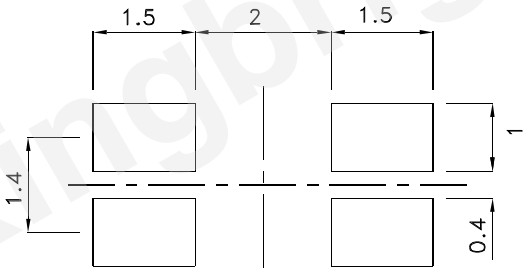
Reflow soldering is recommended and the soldering profile is shown below.
Other soldering methods are not recommended as they might cause damage to the product.

Reflow Soldering Profile For Lead-free SMT Process.

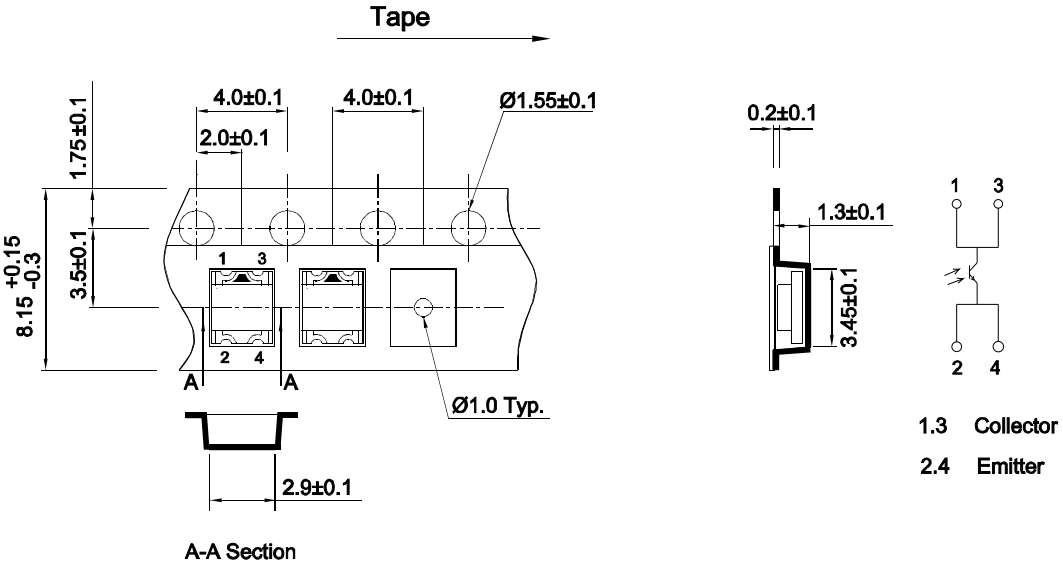


NOTES:
1. We recommend the reflow temperature 245°C(+/-5°C).The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

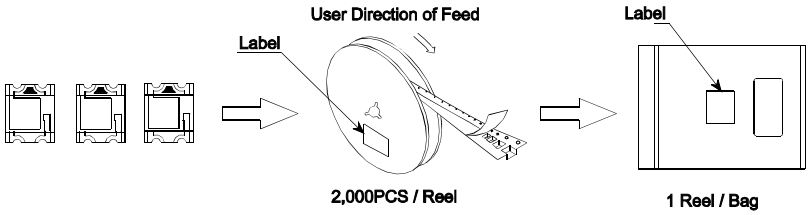
Recommended Soldering Pattern
(Units : mm; Tolerance: ± 0.1)

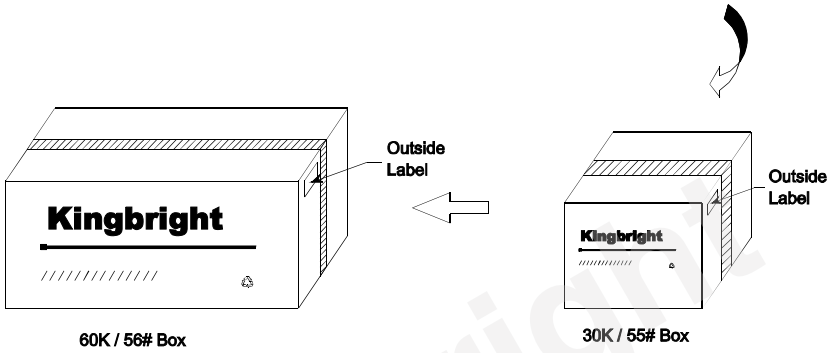


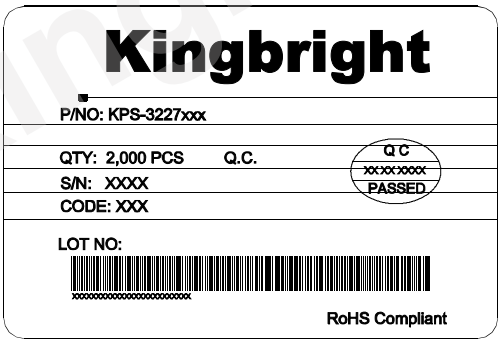
Tape Specifications
(Units : mm)



PACKING & LABEL SPECIFICATIONS **KPS-3227SP1C**







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