Data Sheet

Customer: _____

Part No: CL-SPD150PT-R-01

Sample No: _____

Description: PT SMD

Item No: _____

Customer			
Check	Inspection	Approval	Date

Features:

. High photo sensitivity

. High radiant sensitivity

. Wide range of collector current

. This product doesn't contain restriction substance,

comply ROHS standard

Applications

. Light sensors

. Position sensors

. Photo interrupters

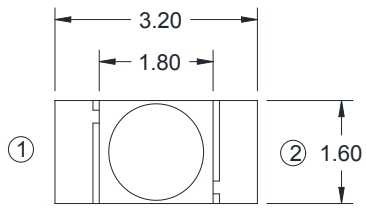
. Miniature switches

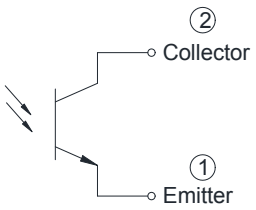
Description

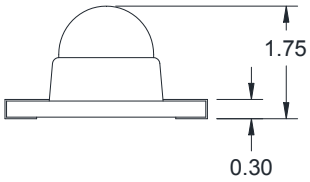
. This phototransistor is a high speed and high sensitive silicon NPN epitaxial planar phototransistor in SMD package.

. the device is spectrally matched with to visible and near infrared radiation.

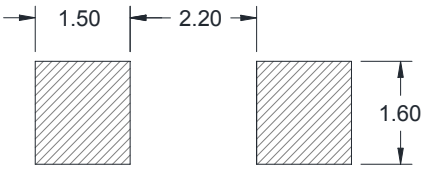
Package Dimensions in millimeters

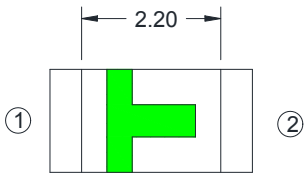


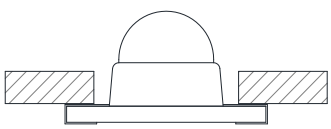




Reflow Soldering







Notes:

1 . All dimensions are in millimeters.

2. All dimension tolerance is ±0.2mm unless otherwise noted.

3. Specifications are subject to change without notice

Selection Guide

Part No.	Chip Materials	Lens Type
CL-SPD150PT-R-01	Silicon	Water clear

Electrical And Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min	Typ.	Max	Units	Condition
Collector- Emitter Breakdown Voltage	BV_{CEO}	60	-	-	V	I_C=100uA E_e=0mw/cm 2
Emitter-Collector Breakdown Voltage	BV_{ECO}	7	-	-	V	I_C=100uA E_e=0mw/cm 2
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	0.4	V	I_C=2mA E_e=1mw/cm 2
On State Collector Current	$I_{C(on)}$	-	1.0	-	mA	E_e=1mW/cm 2 V_{CE} =5V
Collector Dark Current	I_{CEO}	-	-	50	nA	E_e=0mW/cm V_{CE} =20V
Rise Time	tr	-	15	-	us	V_{CE}=5v I_C=1mA RL=1000Ω
Fall Time	tf	-	15	-	us	
Peak Wavelength	λp	-	940	-	nm	----
Rang of Spectral Bandwidth	λ 0.5	730	-	1100	nm	----

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Ratings	Units	Notice
Collector-Emitter Voltage	V_{CEO}	30	V	- -
Emitter-Collector-Voltage	V_{ECO}	5	V	- -
Power Dissipation	P_D	75	mw	- -
Operating Temperature	Topr	-20~+80	℃	- -
Storage Temperature	Tstg	-40~+100	℃	- -
Soldering Temperature	Tsd	260 （＜10sec）	℃	

Typical Optical-Electrical Characteristic Curves

Fig.1 Dark Current Vs Ambient Temperature

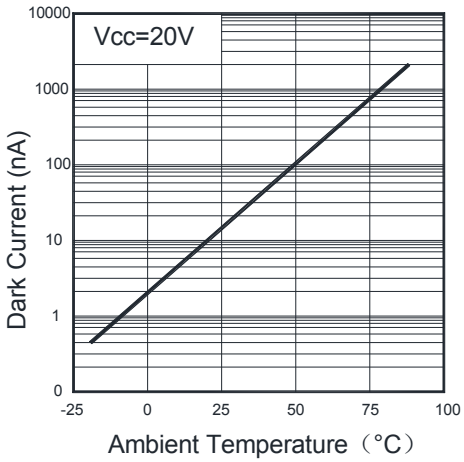


Fig.2 Power Dissipation Vs Ambient Temperature

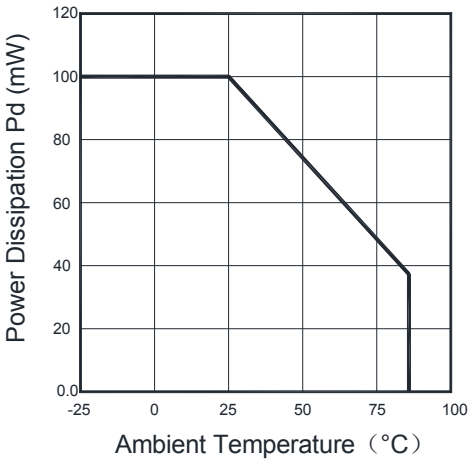


Fig.3 Relative Collector Current Vs Ambient Temperature

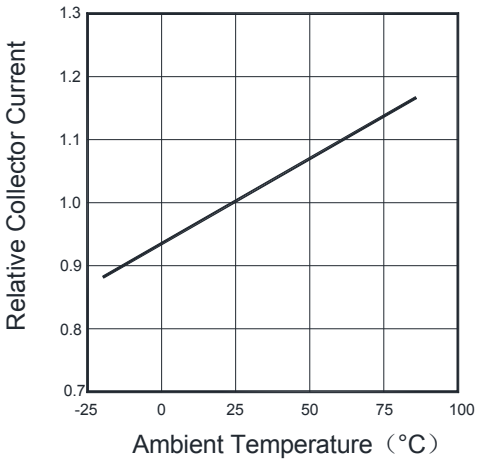


Fig.4 Relative Collector Current Vs Irradiance

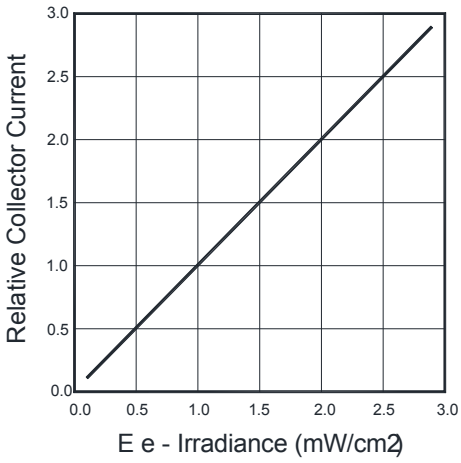


Fig.5 Relative Collector Current Vs Collector-Emitter Voltage

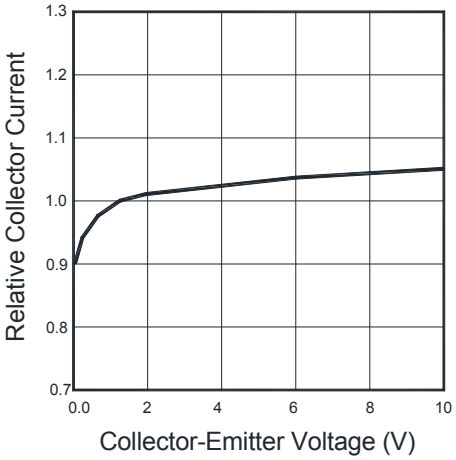
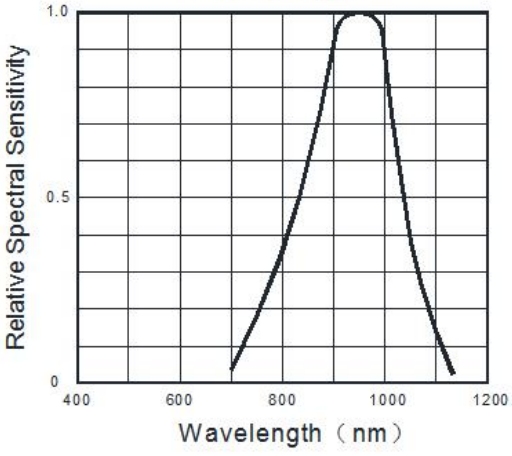


Fig.6 Relative Spectral Sensitivity vs Wavelength



Reliability Test Item And Condition

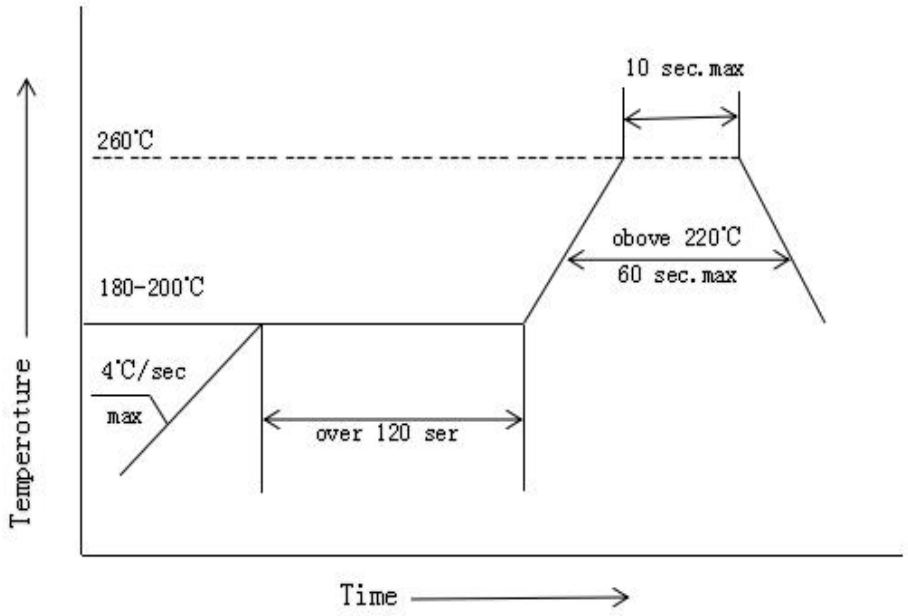
Test Item	Test Condition	Time	Quantity	Ac/Re
Life Test	Ta=25℃±5℃ IF=20mA	1000H	22	0/1
Storage at High Temperature	Ta=100±5℃	1000H	22	0/1
Storage at Low Temperature	Ta=-40±5℃	1000H	22	0/1
Storage at High Temperature/High Humidity	Ta:85±5℃,RH:85±5%	1000H	22	0/1
Temperature cycle	100℃~25℃~-40℃~25℃ (30min)(5min)(30min) (5min)	100 Cycles	22	0/1
Red ink	Ta=100±5℃	2H	22	0/1
Reflow soldering	Temp:260℃max T=10 sec	3 times	22	0/1

The technical information shown in the data sheets are limited to the typical characteristics and circuit examples of the referenced products.It does not constitute the warranting of industrial property nor the granting of any license.

SMT Reflow Soldering Instructions SMT

1.Reflow soldering should not exceed once

2.When soldering , do not put stress on the LEDs during heating .



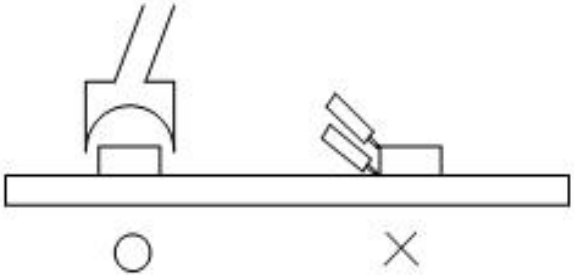
Soldering iron

1.When hand soldering, the temperature of the iron must less than 300℃ for 3 seconds

2.The hand solder should be done only one times

Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of LEDs will or will not be damaged by repairing.



Storage

The package is sealed:

1.Recommended storage condition :At 5℃~30℃ and relative humidity 90% RH max.

2.It is recommended that SMD out of their original packaging are used within Half a year.

The package is opened:

1.Completed within 24 hours.

2.Stored at5℃~30℃ and 60% RH or less.

3.LEDs stored more than 24 hours should be baked at about 65℃±5℃ for at least 24 hours before solder assembly.

ESD

Static Electrisity will damage the LED.

The following procedures may decrease the possibility of ESD damage.

1.All productive machinery and test instruments must be electrically grounded.

2.Use a condustive wrist band or anti-electostatic glove when handling these LEDs.

3.Manintain a humidity level of 50%RHor higher in production areas.

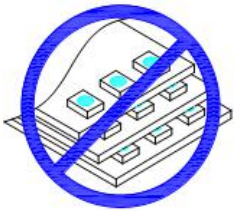
4.Use anti-static packaging for transport and storage.

Handling Precautions

1.Do not stack together assembled PCBs containing LEDs. Impact may scratch the silicone lens or damage.

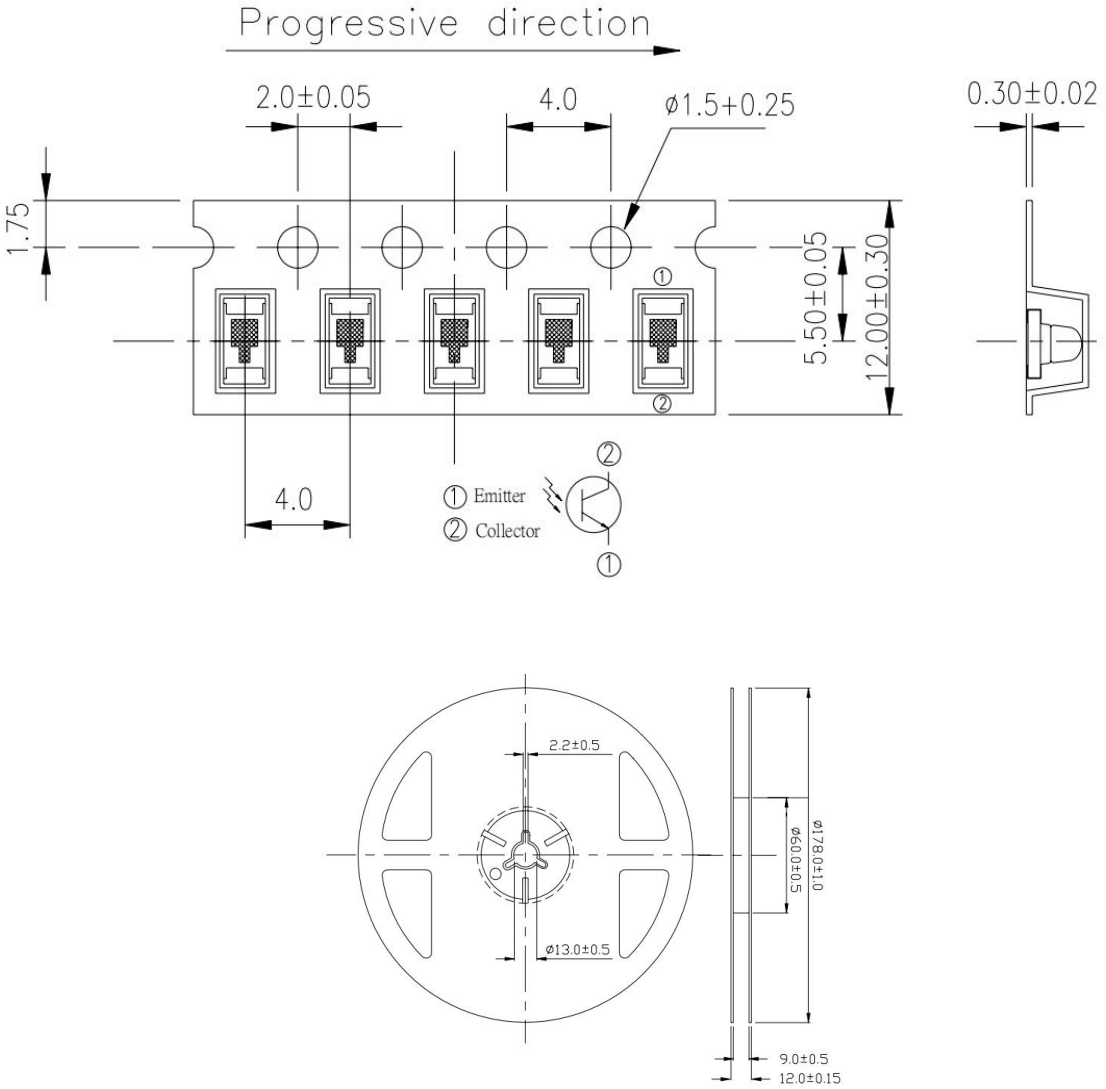
2.Not available in the situation of acidity for PH.

3.Electrostatic sensitive device



Packaging

Carrier tape（MPQ:1000PCS/reel）



Note:The tolerances unless mentioned is ±0.1mm,Unit:mm

Moisture Resistant Packaging