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DATA SHEET

PART NO.: LC150PTDT

REV: A / 0

CUSTOMER'S APPROVAL : _____

DCC : _____

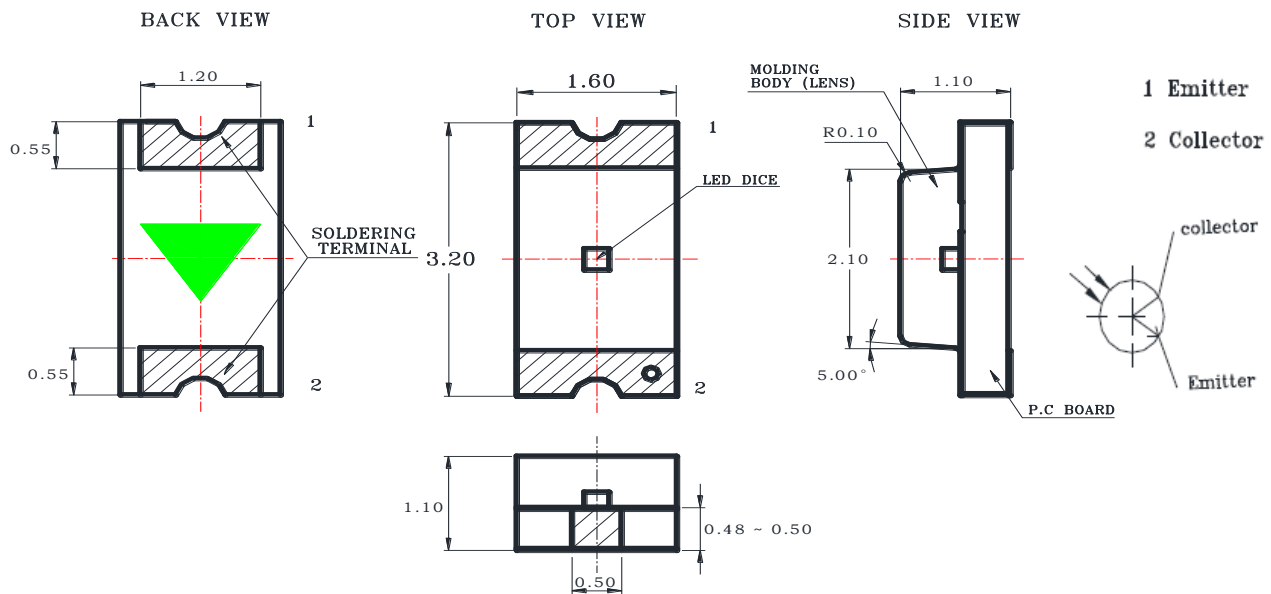
DRAWING NO. : DS-71-21-0001G

DATE : 2021-01-07

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● PACKAGE OUTLINE DIMENSIONS



Notes:

1. All dimensions are in millimeters.
2. Tolerance is $\pm 0.1\text{mm}$ (.004") unless otherwise noted.

● Features

- * Top view, wide view angle, single color Chip LED.
- * Package in 8mm tape on 7" diameter reels.
- * Compatible with automatic Pick & Place equipment.
- * Compatible with Infrared and Wave soldering reflow solder processes.
- * EIA STD package.
- * I.C. compatible.
- * Pb free product.
- * Meet RoHS Green Product.
- * Moisture sensitivity level: 3

● Chip Materials

* Dice Material : Silicon

● Absolute Maximum Ratings(Ta=25°C)

SYMBOL	PARAMETER	MAX	UNIT
PD	Power Dissipation Per Chip	50	mW
V(BR)CEO	Collector-Emitter Voltage	30	V
Topr	Operating Temperature Range	-40°C to 85°C	
Tstg	Storage Temperature Range	-40°C to 85°C	

● Electro-Optical Characteristics(Ta=25°C)

SYMBOL	PARAMETER	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
BVCEO	Collector-Emitter Breakdown Voltage	Ic = 50μA Ee = 0 mw/cm ²	60			V
BVECO	Emitter-Collector Breakdown Voltage	IE=50μA Ee= 0 mw/cm ²	5			V
ICEO	Collector Dark Current	VCE=20V Ee=0 mw/cm ²			30	nA
ICEO	Collector Dark Current	IC=5mA IB=1mA			50	nA
VCE(S)	Collector-Emitter Saturation Voltage	IC=2mA Ee=0.5 mw/cm ²			.0.25	V
TR/TF	Rise / Fall Time	VCE=5V IC=2mA RL=1000Ω		15/15		uS
IC	On Stat Collector Current	VCE=5V Ee=0.1 mw/cm ²		2		mA
λP	Spectral Sensitivity Wavelength			940		nm

● Typical Electro-Optical Characteristics Curves

Fig. 1 Collector Power Dissipation vs. Ambient Temperature

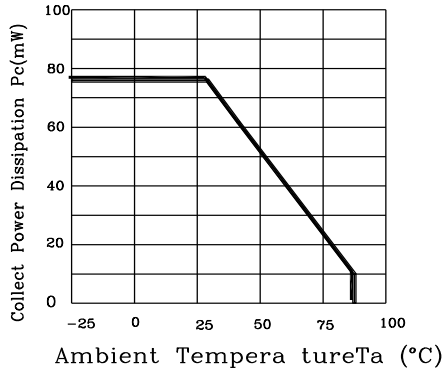


Fig. 2 Collector Dark Current vs. Ambient Temperature

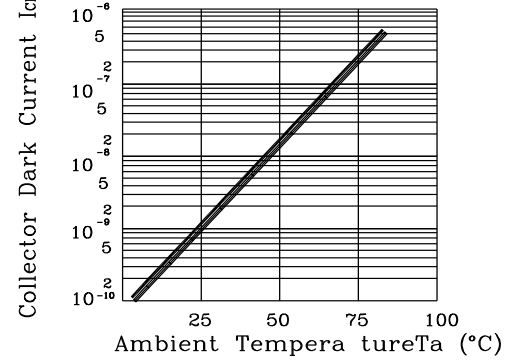


Fig. 3 Relative Collector Current vs. Ambient Temperature

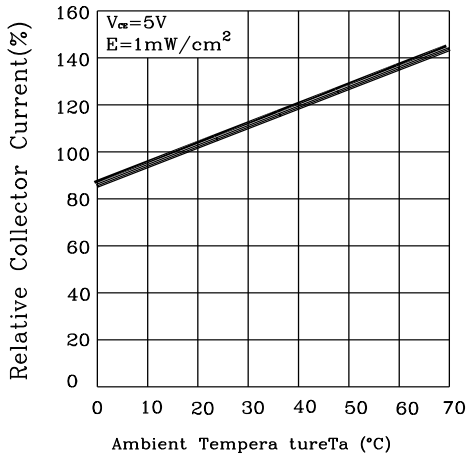


Fig. 4 Collector current vs Irradiance

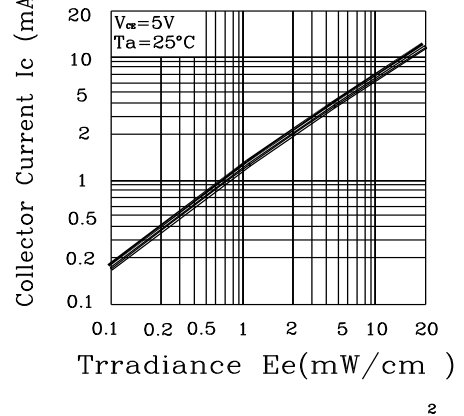


Fig. 5 Spectral Sensitivity

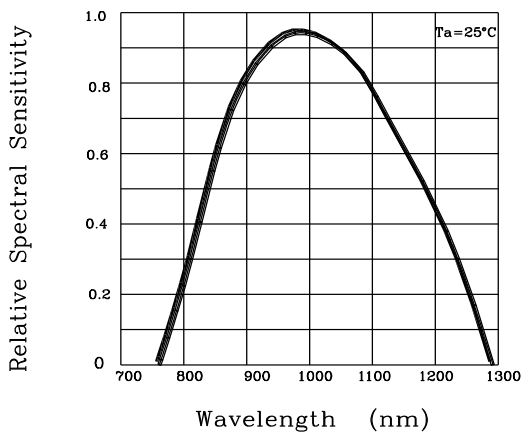
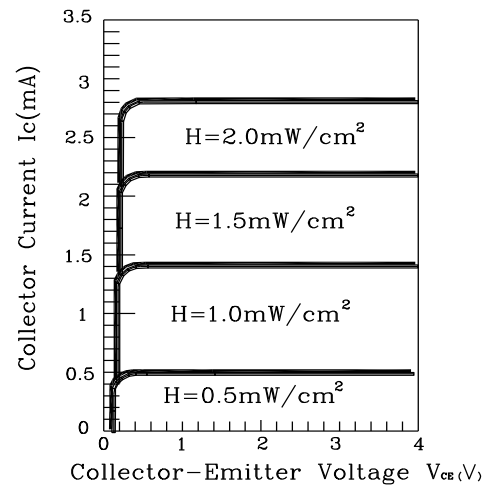


Fig. 6 Collector Current vs Collector-Emitter Voltage



● Label Explanation



ITEM CODE:PARA LIGHT

PART NO:LC150PTDT

IV --- Luminous Intensity Code

LOT NO: EN S L 12 09 0110
 A B C D E F

A---EN: Emos Code

B---S:SMD

C---Local

D---Year

E---Month

F---SPEC.

PACKING QUANTITY OF BAG :

3000pcs for 150、170、110、155、115 series

3000pcs for white series

4000pcs for 191 series

5000pcs for 192 series

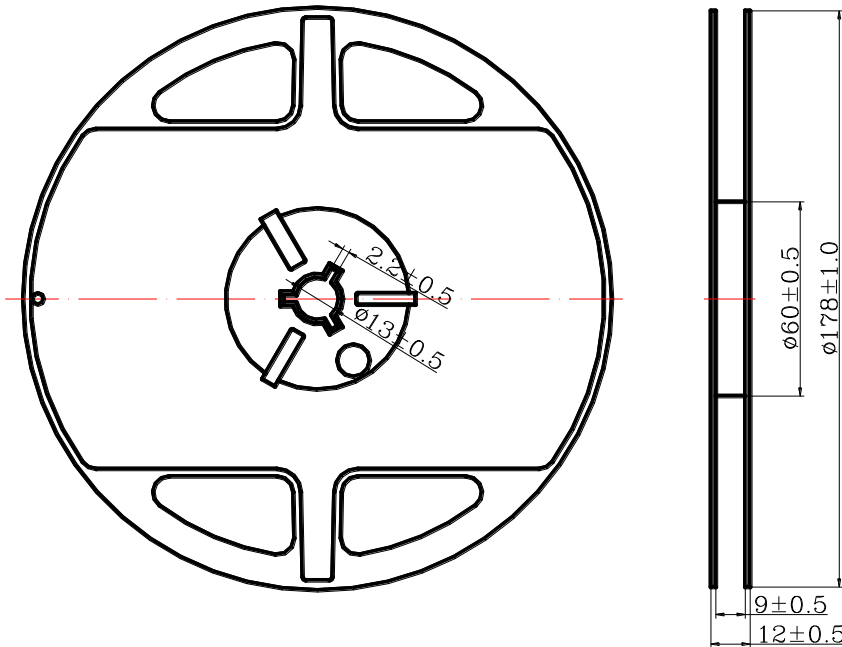
DATE CODE: 2012 09 10
 G H I

G--- Year

H--- Month

I --- Day

● Reel Dimensions



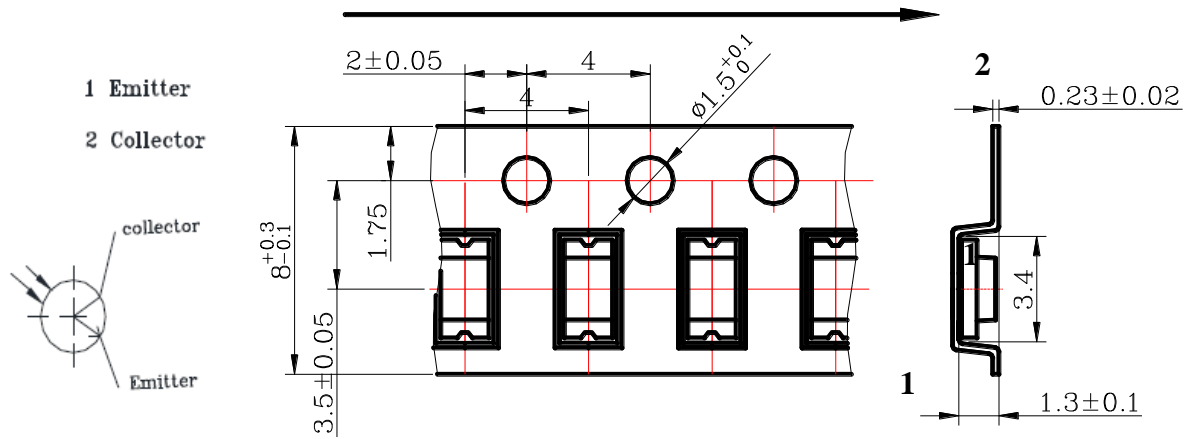
Notes:

1. Taping Quantity : 3000pcs
2. The tolerances unless mentioned is $\pm 0.1\text{mm}$, Angle $\pm 0.5^\circ$, Unit : mm.

● Package Dimensions Of Tape And Reel

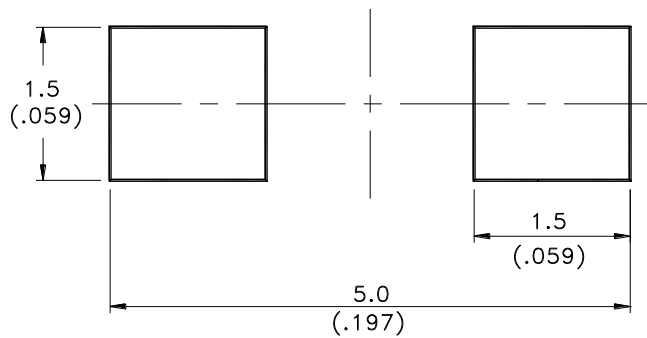
Notes:All dimensions are in millimeters.

Progressive direction



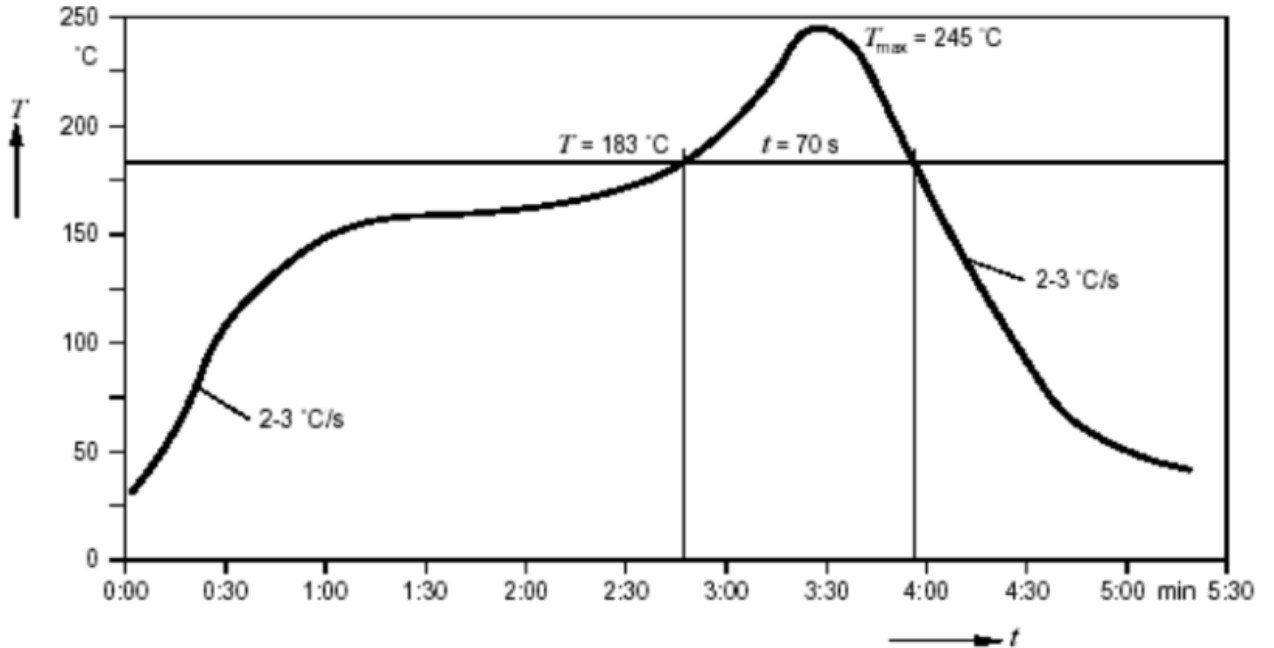
● Cleaning

- * If cleaning is required , use the following solutions for less than 1 minute and less than 40°C.
- * Appropriate chemicals: Ethyl alcohol and isopropyl alcohol.
- * Effect of ultrasonic cleaning on the LED resin body differs depending on such factors as the oscillator output, size of PCB and LED mounting method. The use of ultrasonic cleaning should be enforced at proper output after confirming there is no problem.

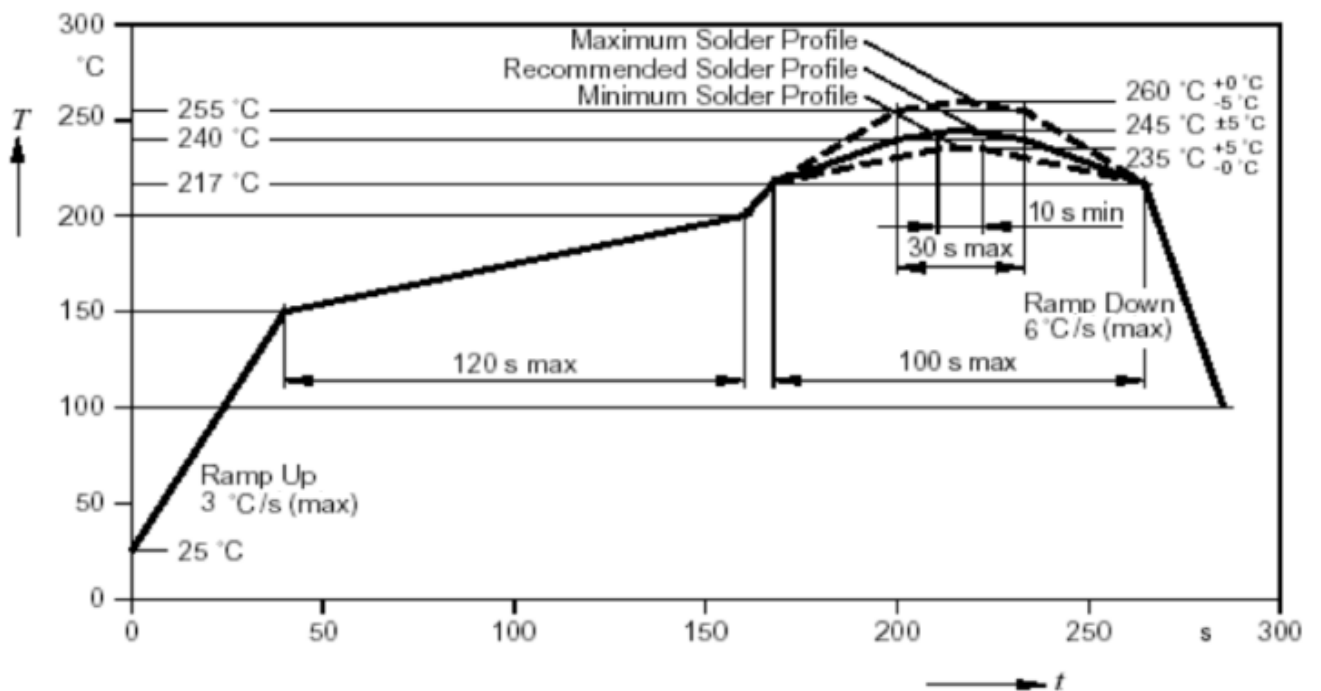
● Suggest Soldering Pad Dimensions

↑
↓
Direction of PWB camber
and go to reflow furnace

● Suggest Sn/Pb IR Reflow Soldering Profile Condition:



● Suggest Pb-Free IR Reflow Soldering Profile Condition:



CAUTIONS

1.Application Limitation :

The LED's described here are intended to be used for ordinary electronic equipment (such as office equipment, communication equipment and household application).Consult PARA's sales in advance for information on application in which exceptional quality and reliability are required, particularly when the failure or malfunction of the LED's may directly jeopardize life or health (such as airplanes, automobiles, traffic control equipment, life support system and safety devices).

2.Storage :

If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.

Baking treatment: $60 \pm 5^{\circ}\text{C}$ for 24 hours.

3.Soldering

Do not apply any stress to the lead frame during soldering while the LED is at high temperature.

Recommended soldering condition.

Reflow Soldering :

Pre-heat $120 \sim 150^{\circ}\text{C}$, 120sec. MAX., Peak temperature : 240°C Max. Soldering time : 10 sec Max.

Soldering Iron : (Not recommended)

Temperature 300°C Max., Soldering time : 3 sec. Max.(one time only), power dissipation of iron : 20W Max. use SN60 solder of solder with silver content and don't to touch LED lens when soldering.

Wave soldering :

Pre-heat 100°C Max, Pre-heat time 60 sec. Max, Solder wave 260°C Max, Soldering time 5 sec. Max. preformed consecutively cooling process is required between 1st and 2nd soldering processes.

4. Lead-Free Soldering

For Reflow Soldering :

- 1、Pre-Heat Temp:150-180°C ,120sec.Max.
- 2、Soldering Temp:Temperature Of Soldering Pot Over 230°C ,40sec.Max.
- 3、Peak Temperature:260°C , 5sec.
- 4、Reflow Repetition:2 Times Max.
- 5、Suggest Solder Paste Formula 93.3 Sn/3.1 Ag/3.1 Bi /0.5 Cu

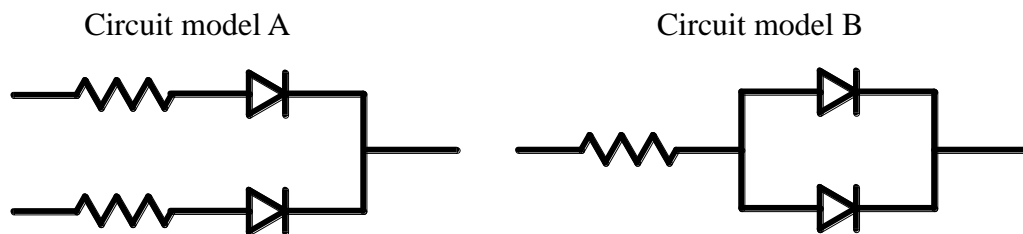
For Soldering Iron (Not Recommended) :

- 1、Iron Tip Temp:350°C Max.
- 2、Soldering Iron:30w Max.
- 3、Soldering Time:3 Sec. Max. One Time.

For Dip Soldering :

- 1、Pre-Heat Temp:150°C Max. 120 Sec. Max.
- 2、Bath Temp:265°C Max.
- 3、Dip Time:5 Sec. Max.

5. Drive Method



(A)Recommended circuit.

(B)The difference of brightness between LED`s could be found due to the Vf-If characteristics of LED.