

Customer Approved
Date:

Part No.:
LB153PT1B-A01T2

DATA SHEET

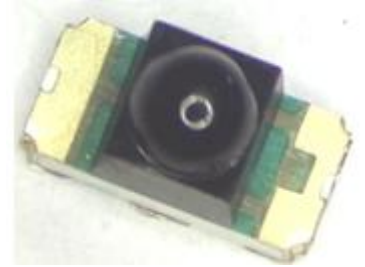
Issue Date: 2018.08.08
Issue No.: LTD-153PT-001
REVISION: V2

Designer	Checker	Approver
<i>Vic</i>	<i>Rock</i>	<i>Jeff</i>

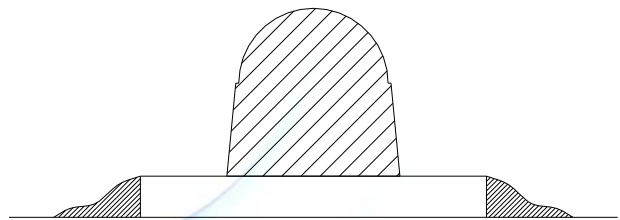
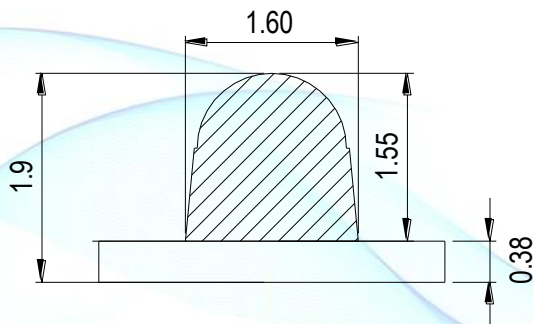
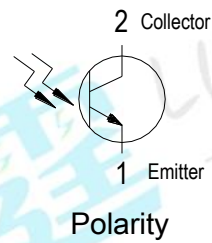
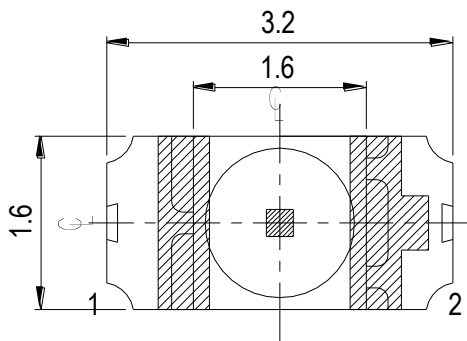
SMD Type ■ Top view 1206 Lens Package
LB153PT1B-A01T2

Features

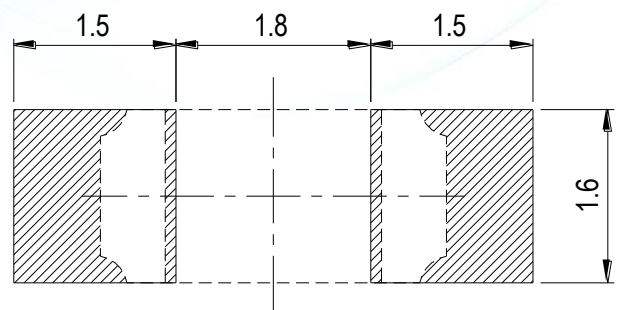
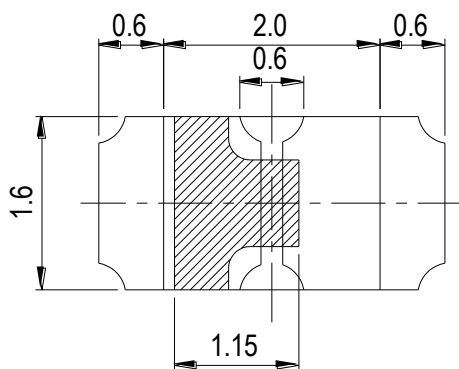
- 1206 Lens package
- Top view LED
- Fast response time
- Pb-free
- RoHS compliant



Package Dimensions



Recommended Solder Pad



Note:
Tolerance unless mentioned is ± 0.1 mm, Unit = mm.

Applications

- Miniature switch
- Counters and sorter
- Infrared applied system
- Position sensor

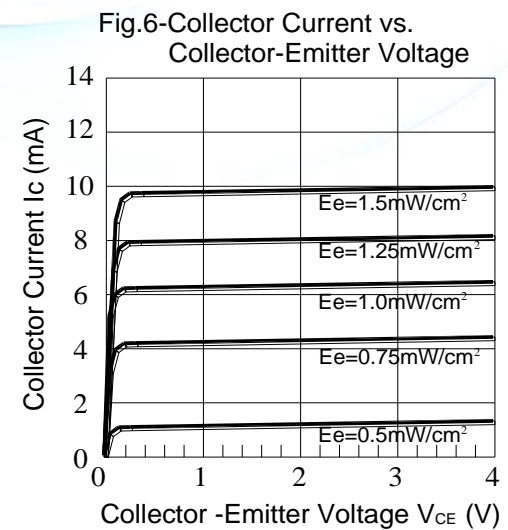
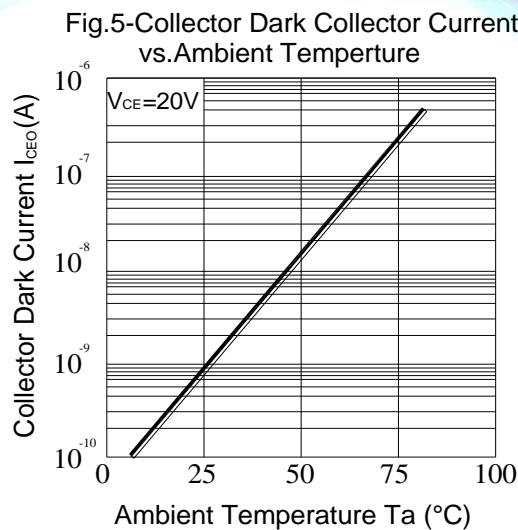
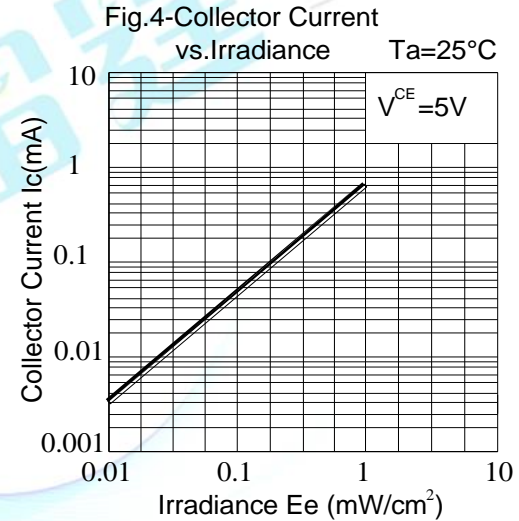
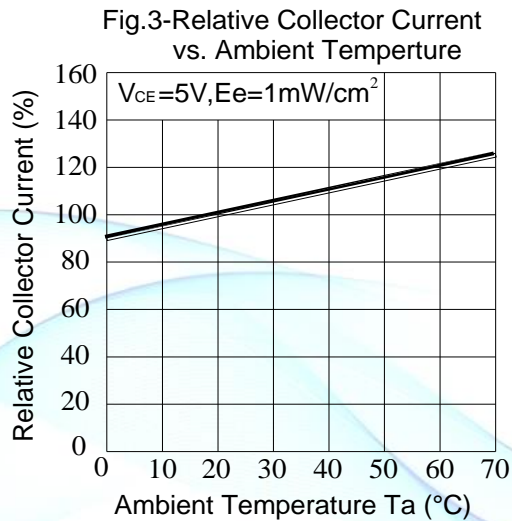
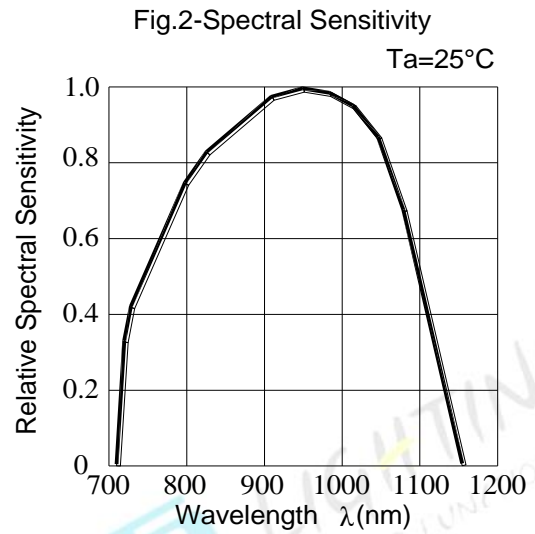
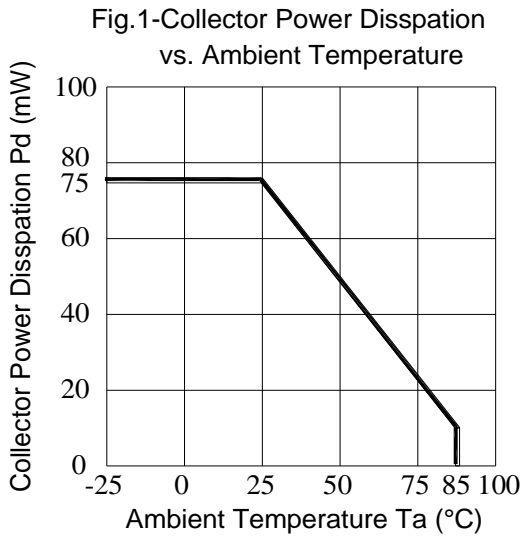
Absolute Maximum Ratings (T_{Soldering}=25°C)

Parameter	Symbol	Rating	Unit
Collector-Emitter Voltage	V _{CEO}	30	V
Emitter-Collector-Voltage	V _{ECO}	5	V
Collector Current	I _C	20	mA
Operating Temperature	T _{opr}	-25 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +85	°C
Soldering Temperature	T _{sol}	260	°C
Power Dissipation at(or below) 25°C Free Air Temperature	P _c	75	mW

Electro-Optical Characteristics (T_{Soldering}=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Rang Of Spectral Band width	$\lambda_{0.5}$	730	---	1100	nm	---
Wavelength Of Peak Sensitivity	λ_P	---	940	---	nm	---
Collector-Emitter Breakdown Voltage	BV_{CEO}	60	---	---	V	$I_C=500\mu A$ $E_e=0mW/cm^2$
Emitter-Collector Breakdown Voltage	BV_{ECO}	7	---	---	V	$I_E=50Ma$ $E_e=0mW/cm^2$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	---	---	0.4	V	$I_C=5mA$ $E_e=1m W/cm^2$
Collector Dark Current	I_{CEO}	---	---	50	nA	$V_{CE}=10V$ $E_e=0mW/cm^2$
On State Collector Current	$I_{C(ON)}$	0.3	---	---	mA	$V_{CE}=5V$ $E_e=1mW /cm^2$
Rise Time	t_r	---	15	---	μS	$V_{CE}=5V$
Rang Of Spectral Band width	$\lambda_{0.5}$	730	---	1100	μS	$I_C=1mA$ $R_L=1000\Omega$

Typical Electro-Optical Characteristics Curves



Moisture Resistant Packing Materials

Label Explanation





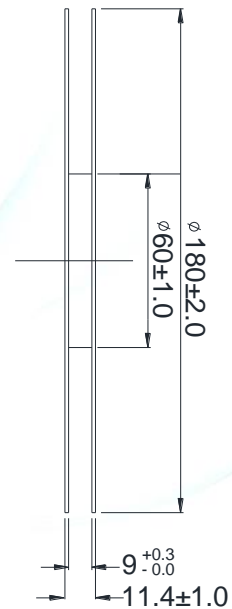
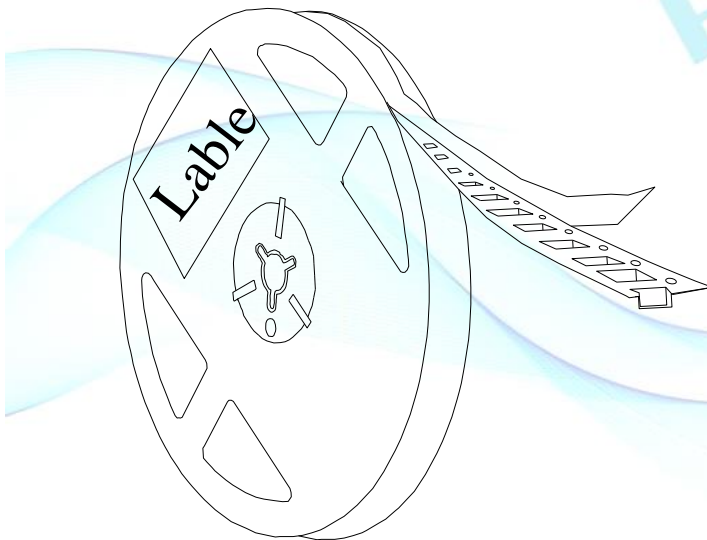

雷霆 LIGHTING
— LED FUNCTION —

P/N: ××××××××××
 TYPE: L×××××××-××××

	CODE	MIN	MAX	
IV:	××	××	××	mW
HUE:	××	××	××	
VF:	××	××	××	V
QYT:	××××			
LOT NO.:	××××××××××			

- * QR code:
Contains all of the following information
- * P/N: Product Number
- * TYPE :Part NO.
- * IV: Bin Rank
- * HUE: Peak Wavelength Rank
- * VF: Forward Voltage Rank
- * QTY: Packing Quantity
- * LOT NO.: Lot Number

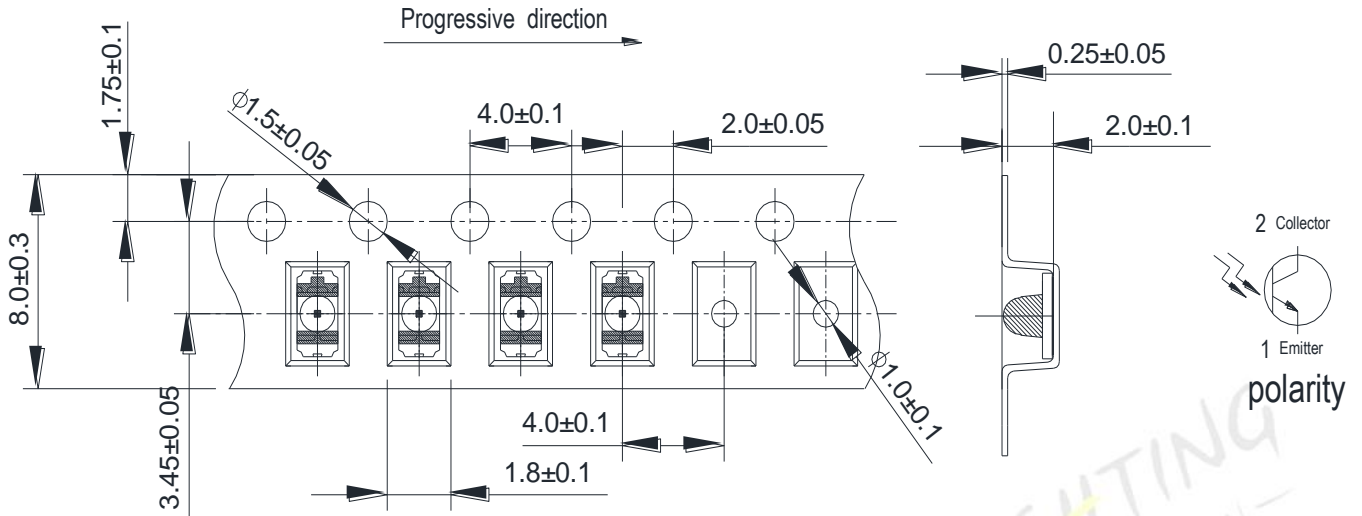
Taping method: Loaded Quantity 2,000 pcs Per Reel



Direction of unreeling →

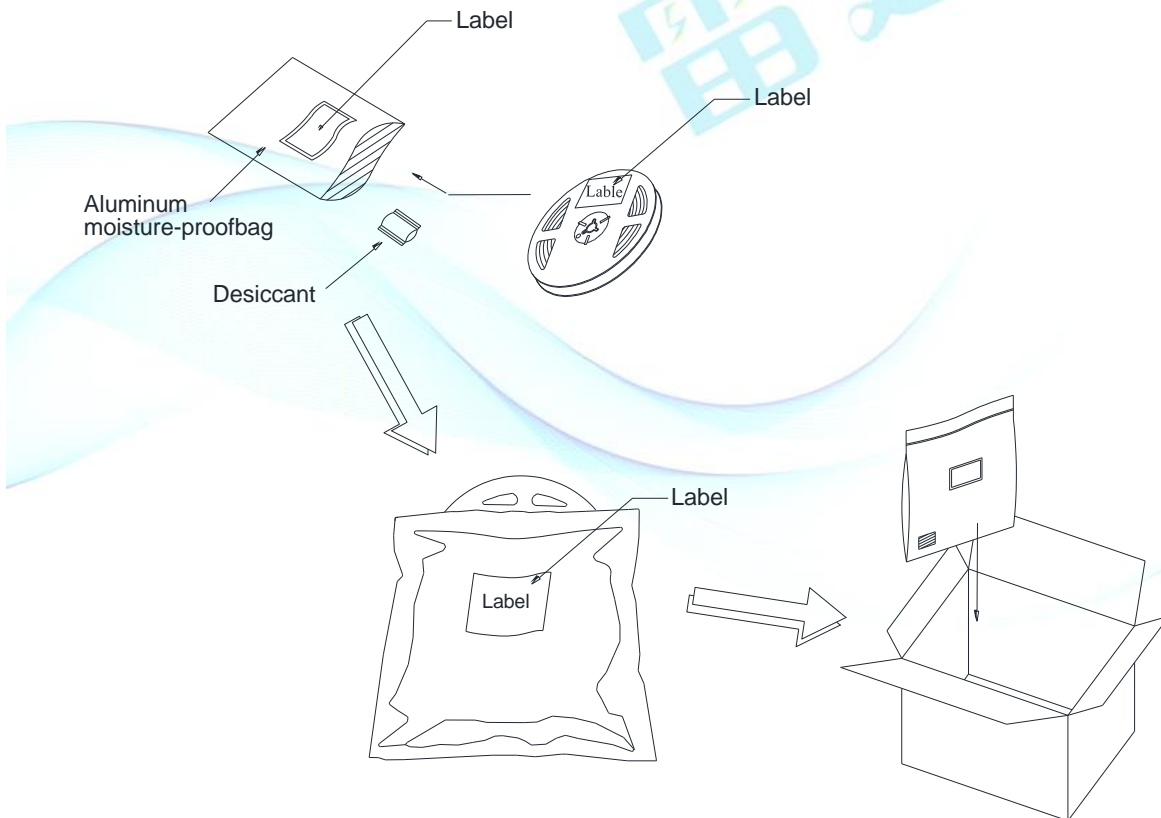
- Notes:
1. Tolerance unless mentioned is ±0.1mm, Unit = mm.
 2. Minimum packing amount is 1000 pcs per reel.

Carrier Tape Dimensions:



Note:
Tolerance unless mentioned is ± 0.1 mm, Unit = mm.

Moisture Resistant Packing Process



Moisture/Reflow sensitivity classification
IPC / JEDEC J-STD-020C: Level 2

Reliability Test Items and Conditions

The reliability of products shall be satisfied with items listed below.

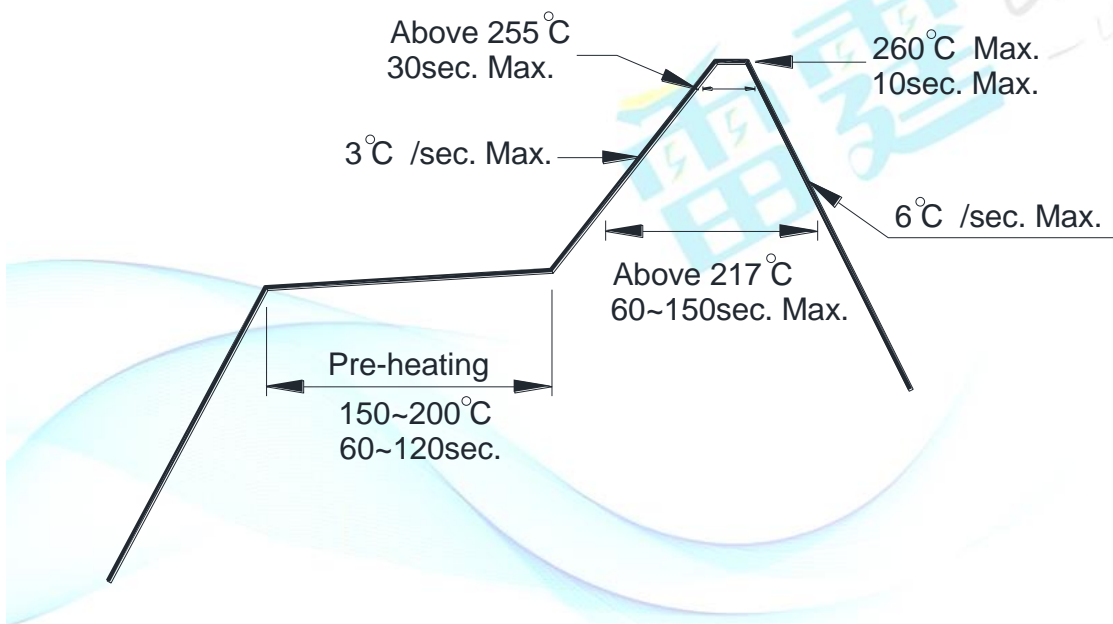
Confidence level : 90%

LTPD : 10%

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Re
1	Reflow Soldering	Temp.: 260°C/10sec.	6 Min.	22 PCS.	0/1
2	Thermal Shock	H : +100°C/5min ∩ 10 sec L : -10°C/5min	300 Cycles	22 PCS.	0/1
3	Temperature Cycle	H : +100°C/15min ∩ 5 min L : -40°C/15min	300 Cycles	22 PCS.	0/1
4	High Temperature/Humidity Storage	Ta=85°C,85%RH	1000 Hrs.	22 PCS.	0/1
5	Low Temperature Storage	Ta=-40°C	1000 Hrs.	22 PCS.	0/1
6	High Temperature Storage	Ta=100°C	1000 Hrs.	22 PCS.	0/1
7	DC Operation Life	VCE=5V	1000 Hrs.	22 PCS.	0/1

Precautions for Use

1. Over-current-proof
Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).
2. Storage
 - 2.1 Do not open moisture proof bag before the products are ready to use.
 - 2.2 Before opening the package: The LEDs should be kept at 30°C or less and 90%RH or less.
 - 2.3 After opening the package: The LED's floor life is 1 year under 30°C or less and 60%RH or less. If unused LEDs remain, it should be stored in moisture proof packages.
 - 2.4 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±5°C for 24 hours.
3. Soldering Condition
 - 3.1 Pb-free solder temperature profile



- 3.2 Reflow soldering should not be done more than two times.
- 3.3 When soldering, do not put stress on the LEDs during heating.
- 3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

5. 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 the LEDs will or will not be damaged by repairing.