



BRIGHTTEK
BRIGHTTEK (EUROPE) LIMITED

Brighten Up The World With LED!



ISO/TS 16949:2009



BS EN ISO 14001:2004



QC 080000 IECQ HSPM

PRODUCT DATASHEET

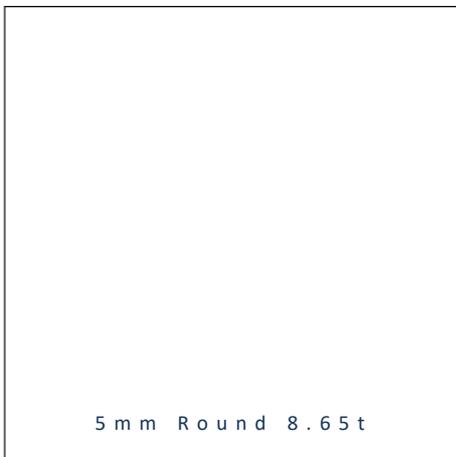


- ▶ PTH Lamp
- ▶ 5mm Round 8.65t
- ▶ Infrared (940nm)

NOF03L98 (Bulk)
NOF03L98T (Taping)



Release Date: 05 February 2018 Version: A1.3



5 m m R o u n d 8 . 6 5 t

5mm Round 8.65t

RoHS
Compliant



FEATURES:

- **Package:** 5mm Round 8.7t PTH Lamp
- **Forward Current:** 50mA
- **Forward Voltage (typ.):** 1.3V
- **Radiant Intensity (typ.):** 26mW/sr
- **Colour:** Infrared
- **Wavelength:** 940nm
- **Viewing angle:** 35°
- **Materials:**
 - Die: AlGaAs
 - Resin: Epoxy (Water Clear)
 - L/F Finish: Ag Plating
- **Operating Temperature:** -40~+85°C
- **Storage Temperature:** -40~+100°C
- **Grouping parameters:**
 - Forward voltage
 - Radiant intensity
 - Dominant Wavelength
- **Soldering methods:** Hand; Wave soldering
- **Preconditioning:** acc. to JEDEC Level 3
- **Packing:** 500pcs/Bulk; 2000pcs/Taping

APPLICATIONS:

- Security Device
- Remote Control
- Detection Device
- 3C Consumer Goods

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	I _F	100	mA
Peak Forward Current Duty 1/10, width 0.1ms	I _{FP}	1000	mA
Power Dissipation	P _D	220	mW
Reverse Voltage	V _R	5	V
Reverse Current @5V	I _R	10	μA
Electrostatic Discharge	ESD	2000	V
Operating Temperature	T _{OPR}	-40~+85	°C
Storage Temperature	T _{STG}	-40~+100	°C
Junction Temperature	T _j	110	°C

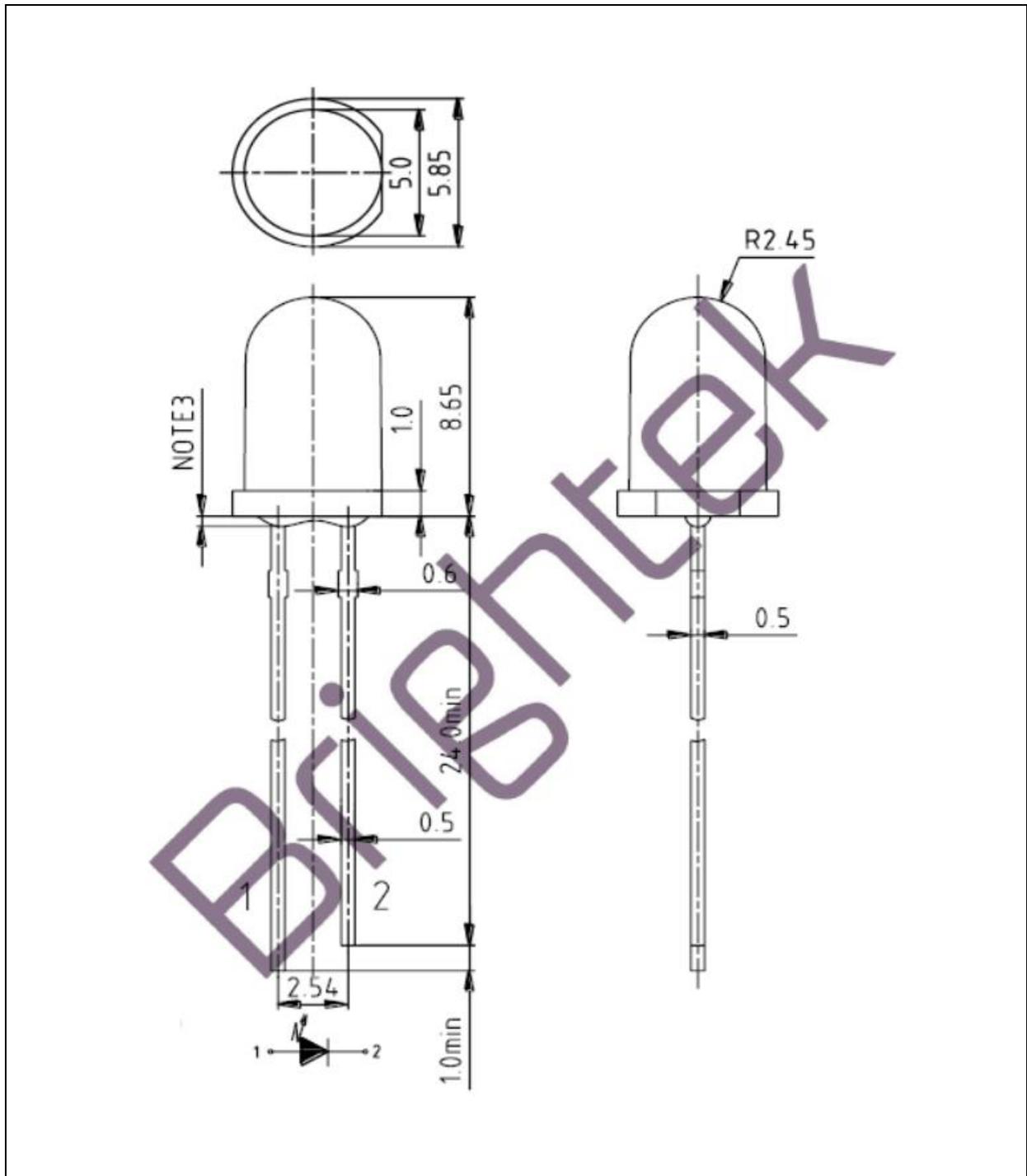
Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V _F	1.0	1.3	2.2	V	I _F =50mA
Radiant Intensity	I _e	13.7	26	72.8	mW/sr	I _F =50mA
Dominant Wavelength	λ _D	930	---	960	nm	I _F =50mA
Viewing Angle	2θ _{1/2}	---	35	---	deg	I _F =50mA

1. Luminous Intensity (I_v) ±10%, Forward Voltage (V_F) ±0.1V, Dominant Wavelength (λ_D) ±1nm

OUTLINE DIMENSION:

Package Dimension:



1. All dimensions are in millimetre (mm).
2. Tolerance ± 0.3 mm, unless otherwise noted.

BINNING GROUPS:

 Forward Voltage Classifications ($I_F = 50\text{mA}$):

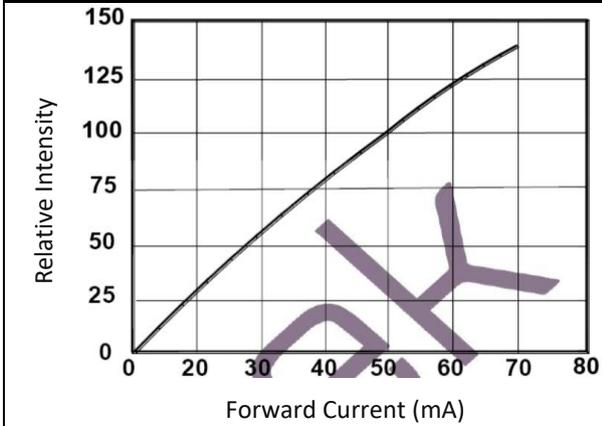
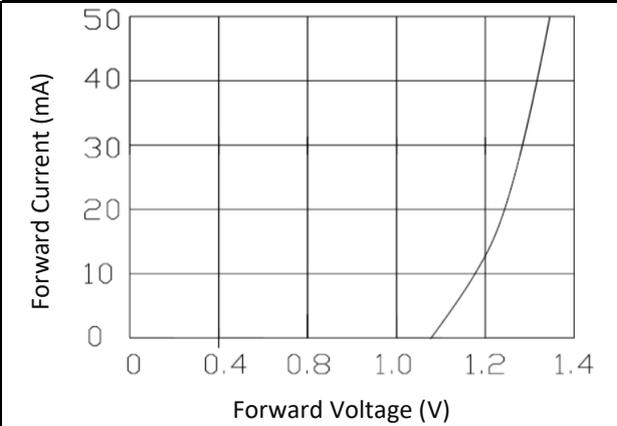
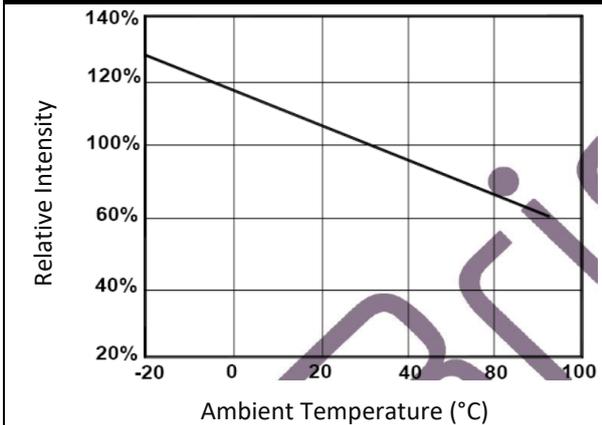
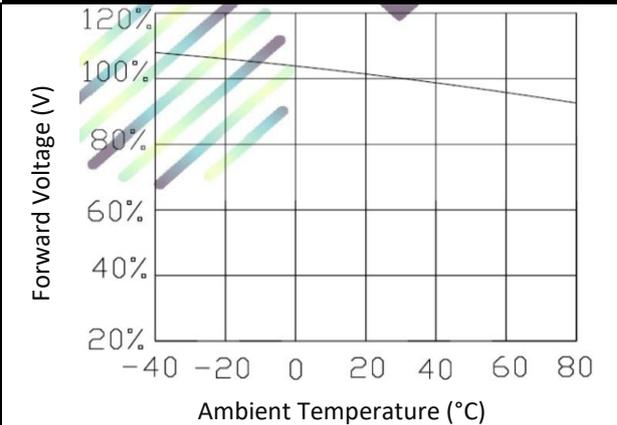
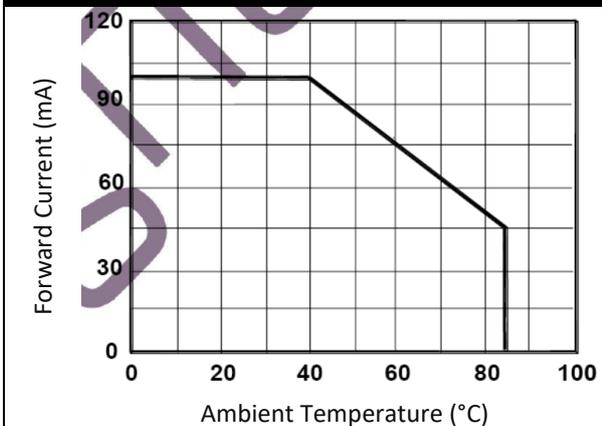
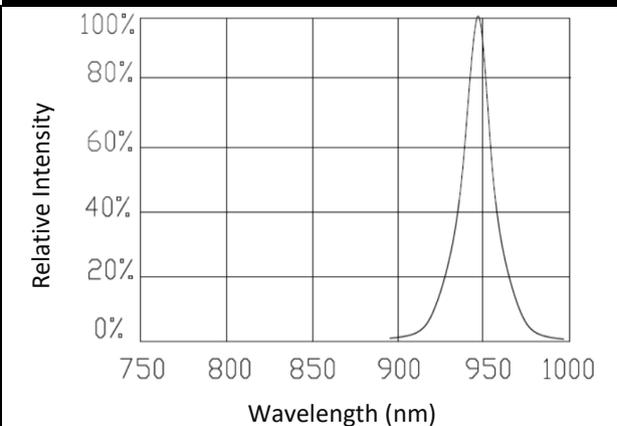
Code	Min.	Max.	Unit
V	1.0	2.2	V

 Radiant Intensity Classifications ($I_F = 50\text{mA}$):

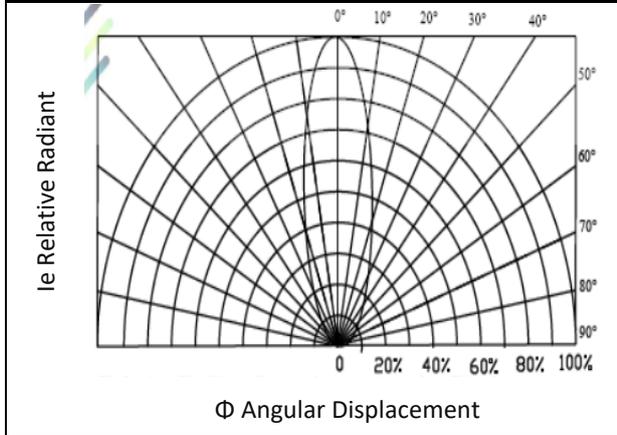
Code	Min.	Max.	Unit
I4	13.7	19.0	mW/sr
I5	19.0	26.6	
I6	26.6	37.2	
I7	37.2	52.0	
I8	52.0	72.8	

 Wavelength Classifications ($I_F = 50\text{mA}$):

Code	Min.	Max.	Unit
WL	930	960	nm

ELECTRO-OPTICAL CHARACTERISTICS:
Relative Intensity v.s. Forward Current

Forward Current v.s. Forward Voltage

Relative Intensity v.s. Temperature

Forward Voltage v.s. Temperature

Temperature Derating Chart

Wavelength v.s. Relative Intensity


Relative Intensity v.s. Angular Displacement

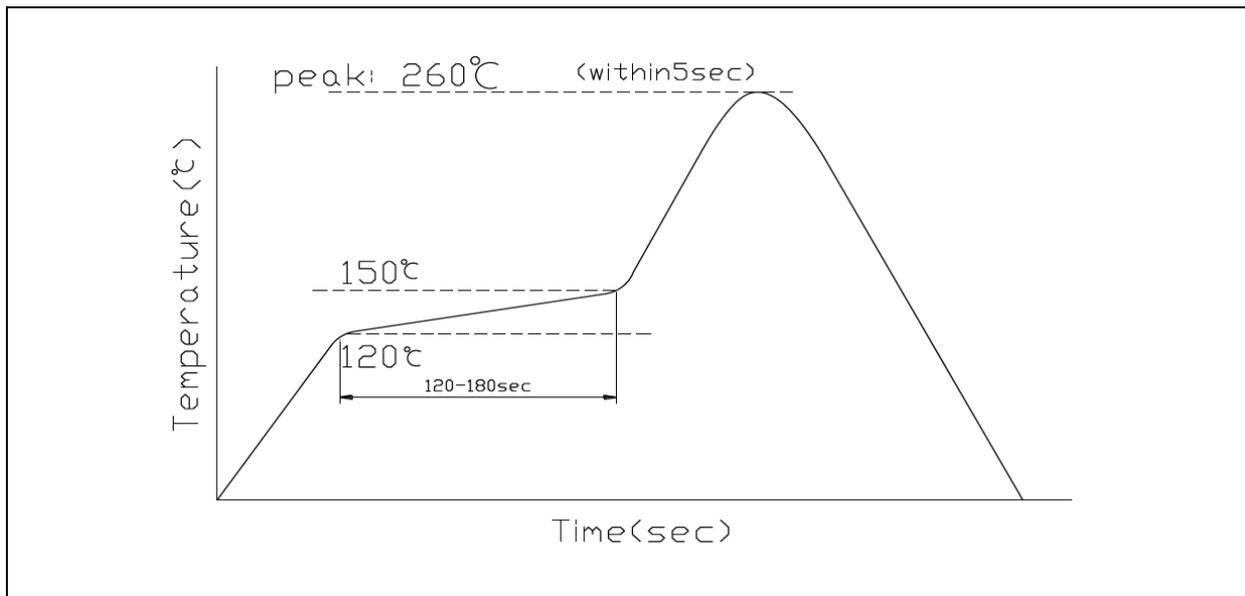


RECOMMENDED SOLDERING PROFILE:

Hand Solder (Solder Iron):

- Temperature at tip of iron: 300°C Max.
- Soldering Time: 3 seconds \pm 1 sec.
- Maximum reflow soldering: 1 time.

Wave Solder:

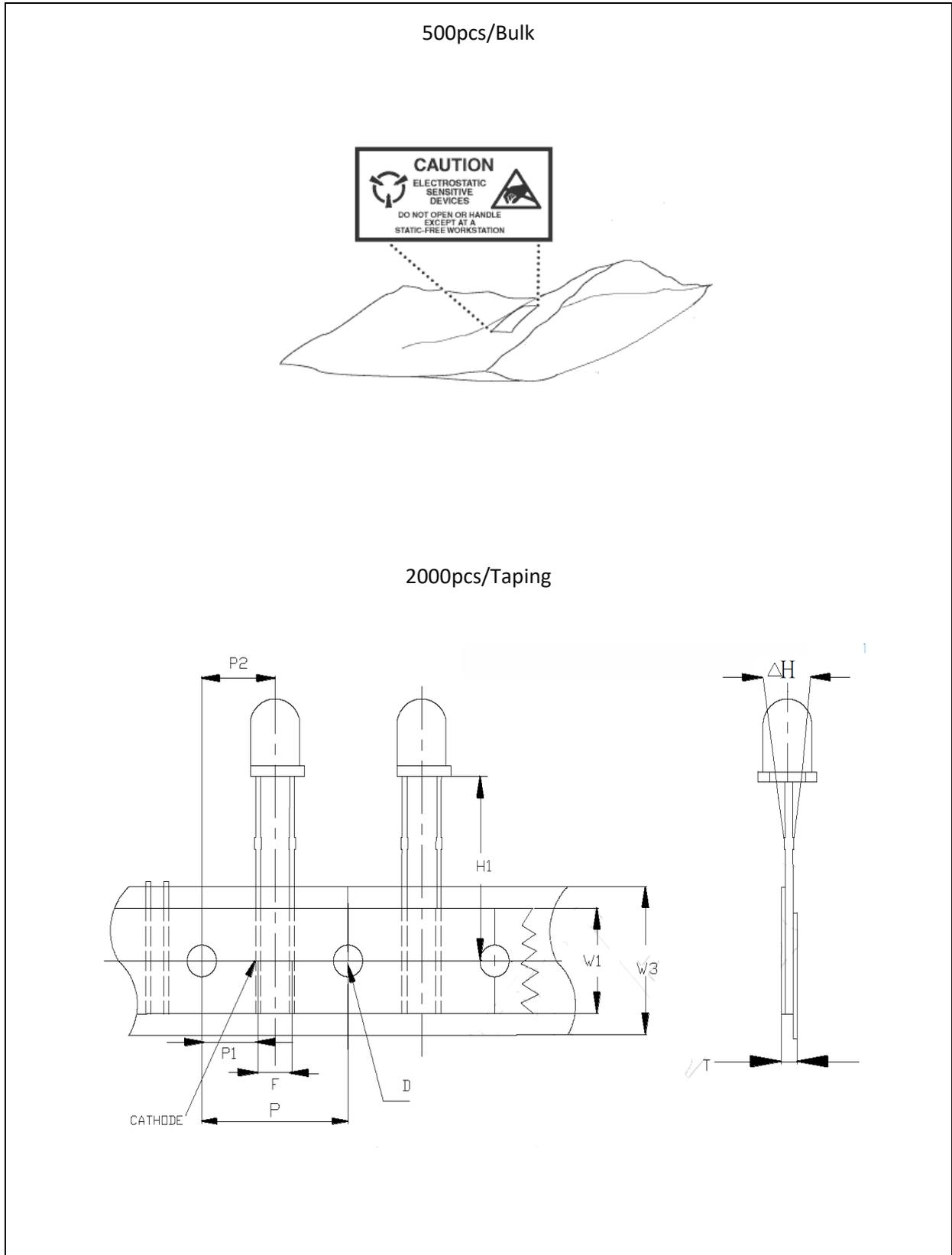


Note:

1. Maximum reflow soldering: 1 time.
2. Before, during, and after soldering, should not apply stress on the components and PCB board.

PACKING SPECIFICATION:

Reel Dimension:



PRECAUTIONS OF USE:

Storage:

It is recommended to store the products in the following conditions:

- Humidity: 60% R.H. Max.
- Temperature: 5°C~30°C (41°F ~86°F).

Shelf life in sealed bag: 12 months at 5°C~30°C and <60% R.H.

Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp-proof box with desiccating agent and apply baking at 60°C±5°C for 15hrs before use.

Baking:

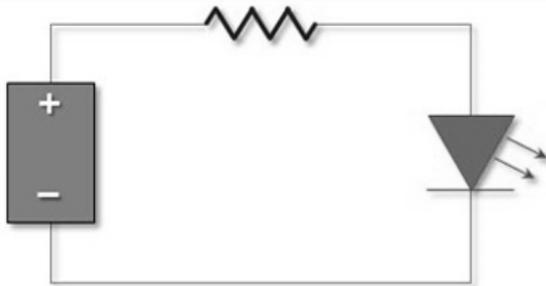
It is recommended to bake the LED before soldering if the pack has been unsealed for longer than 24hrs.

The suggested baking conditions are as followings:

- 60±3°C x 24hrs and <5%RH, taped / reel package.

It's normal to see slight color fading of carrier (light yellow) after baking in process.

Testing Circuit:



Must apply resistor(s) for protection (over current proof).

Cleaning:

Use alcohol-based cleaning solvents such as isopropyl alcohol to clean the LED carrier / package. Avoid putting any stress force directly on to the LED lens.

ESD (Electrostatic Discharge):

Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrostatic glove is recommended when handling the LED all time. All devices, equipment, machinery, work tables, and storage racks must be properly grounded.

In the events of manual working in process, make sure the devices are well protected from ESD at any time.

REVISION RECORD:

Version	Date	Summary of Revision
A1.0	05/07/2017	Datasheet set-up.
A1.1	03/01/2018	Revise intensity level.
A1.2	02/02/2018	New datasheet format.
A1.3	05/02/2018	Revise maximum current.