Surface Mounted Chip LED

Model No. : CL-SP170UDR

■Features :

- ●Compatible with automatic placement equipment
- ●Compatible with reflow solder process

■Applications :

- ●Automotive_Telecommunication
- ●Indicators
- ●LCD Back-lights
- ●Illuminations

Dice Material	Light Color	Lens Color
AlGaInP	Ultra High Red	Water Clear

Absolute Maximum Ratings (Ta=25℃)

Item	Symbol	Maximum	Unit
Power Dissipation	P_D	78	mW
Continuous Forward Current	I_F	30	mA
Peak Forward Current (1/10 Duty Cycle 0.1ms Pulse Width)	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Derating Linear From 25℃		0.4	mA/℃
Operating Temperature Range	Topr	-30 to +80	℃
Storage Temperature Range	Tstg	-40 to +85	℃

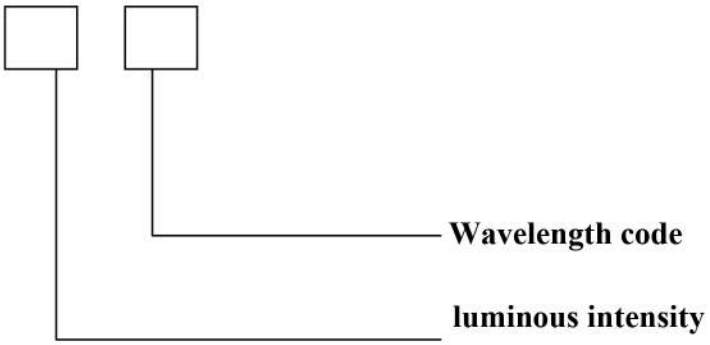
Electrical / Optical Characteristics (Ta=25℃)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	IF=20mA		2.10	2.60	V
Reverse Current	I_R	VR=5V			10	uA
Peak Emission Wavelength	λ_P	IF=20mA		655		nm
Dominant Wavelength	λ_D	IF=20mA		640		nm
Viewing Angle	$2\theta_{1/2}$	IF=20mA		130		Deg
Luminous Intensity	I_V	IF=20mA	20.0	55.0		mcd

ISSUE	DIMENSION NO :	VERSION :	DATE :
		C	2007/02/01
	APPROVAL :	CHECK :	EDIT :

◆ **Packing coding principle**

Notice: Bin code： luminous intensity / wavelength



◆ **The Luminous Intensity Grade of Ultra High Red Chip-LED Products**

● **Test Condition：@ 20mA**

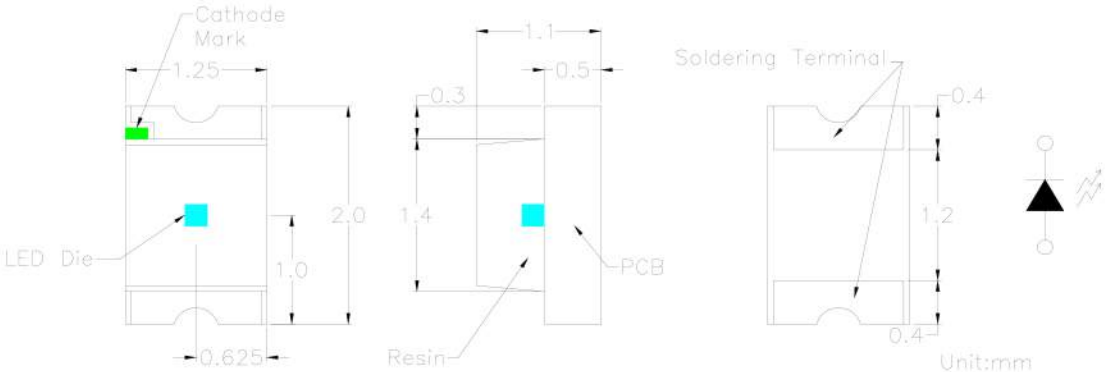
Range,mcd	Bin code
18/28.5	G
28.5/45	H
45/72	J
72/115	K
115/180	L

◆ **Dominant Wavelength Grade of Ultra High Red Chip-LED Products**

● I type @ **20mA**

BIN	Range
1	624/632
2	632/640

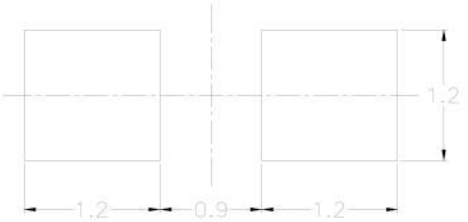
◆ Package Dimensions of Device



Unit:mm
Tolerance:±0.1

1. Soldering terminal may shift in x, y direction.
2. Polarity referring onto the cathode mark is reversed on the HR/UR/SR

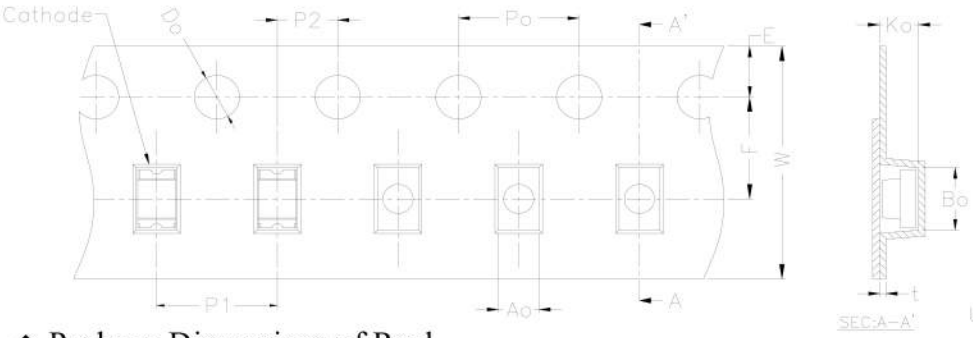
◆ Recommended Soldering Pad Dimensions



Unit:mm

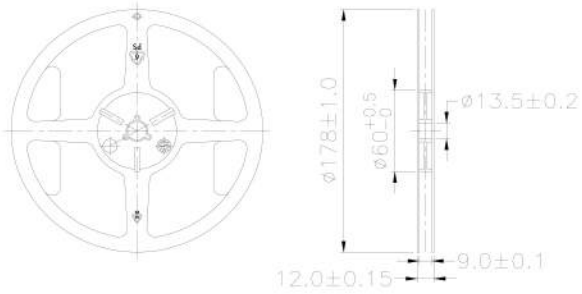
◆ Tape Specification : 3000pcs Per Reel

Packing Size													
Item	W	P1	E	F	Do	D1	Po	10Po	P2	Ao	Bo	Ko	t
Spec.	8.00	4.00	1.75	3.50	1.50	1.00	4.00	40.00	2.00	1.40	2.25	1.35	0.23
Tolerance	±0.20	±0.10	±0.10	±0.05	$^{+0.10}_{-0.00}$	±0.05	±0.05	±0.20	±0.05	±0.10	±0.10	±0.10	±0.05



Unit:mm

◆ Package Dimensions of Reel

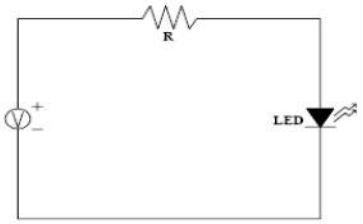


Unit:mm

◆ Precautions For Use：

- Over－current－proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change （Burn out will happen）



- Storage

1. The operation of temperature and R.H. are：5℃～30℃, R.H.60% Max..
2. Once the package is opened, the products should be used within 72 hrs. Otherwise, they should be kept in a dampproof box with desiccating regent. Considering the tape life, we suggest our customers to use our products within 1 year（from production date）.
3. It's recommended to bake before soldering when the package is unsealed after 72 hrs. The condition is : 80℃±5℃ for 24hrs.

◆ Soldering Iron：

- Temperature at tip of iron：300℃ Max.（25W Max.）
- Soldering time：5 ±1sec.

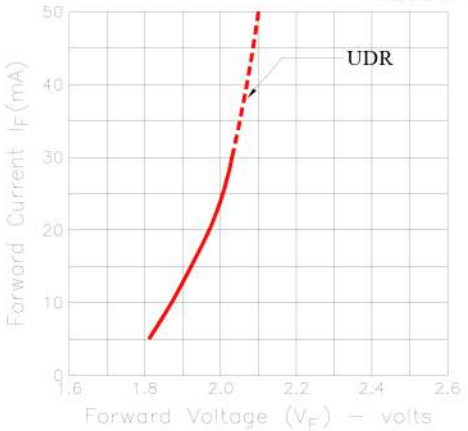
◆ Wave Soldering Temp. / Time：

Temp.(℃)		Time(Sec)	
a	25	T1~T2	60±20
b	130±10	T2~T3	
c	185	T3~T6	
d	250±3	T4~T5	3±2

◆Typical Electro-Optical Characteristic Curves:

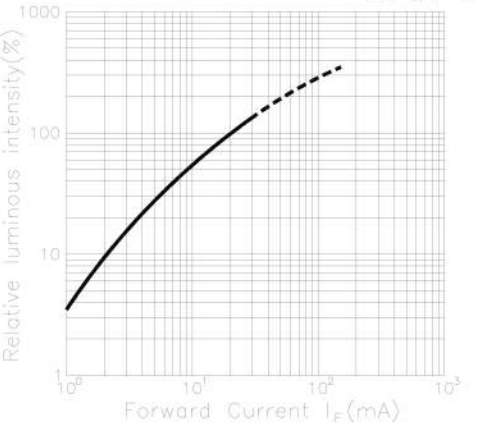
Forward Current Vs. Forward Voltage

Ta=25° C

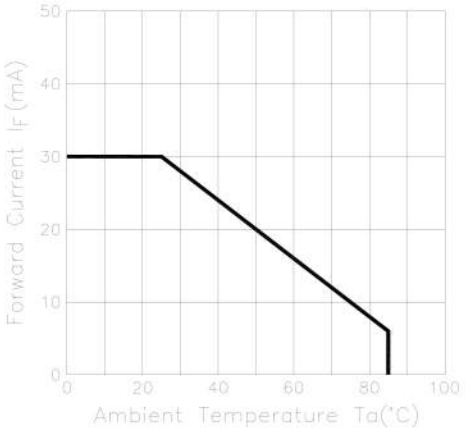


Luminous Intensity Vs. Forward Current

Ta=25° C

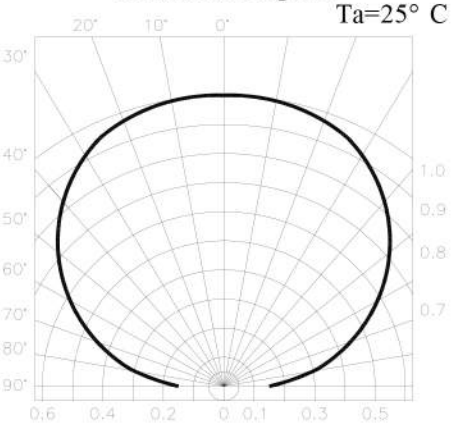


Forward Current Derating Curve

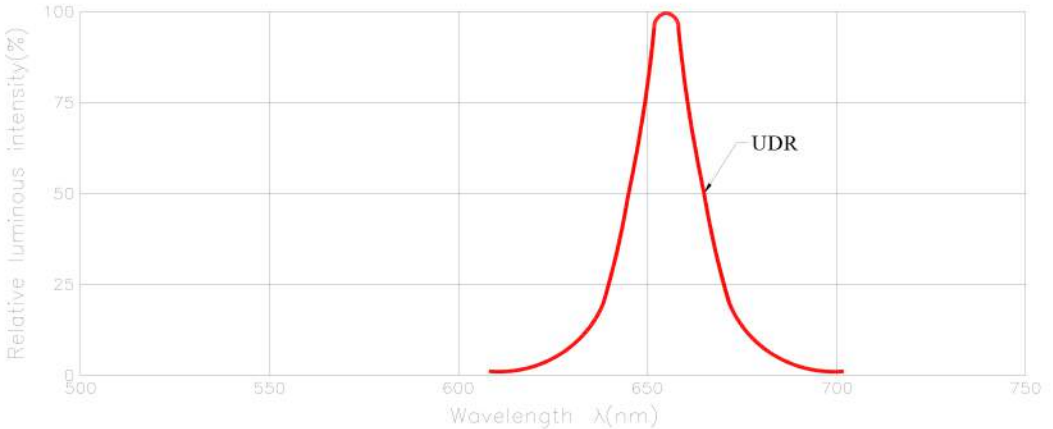


Radiation Diagram

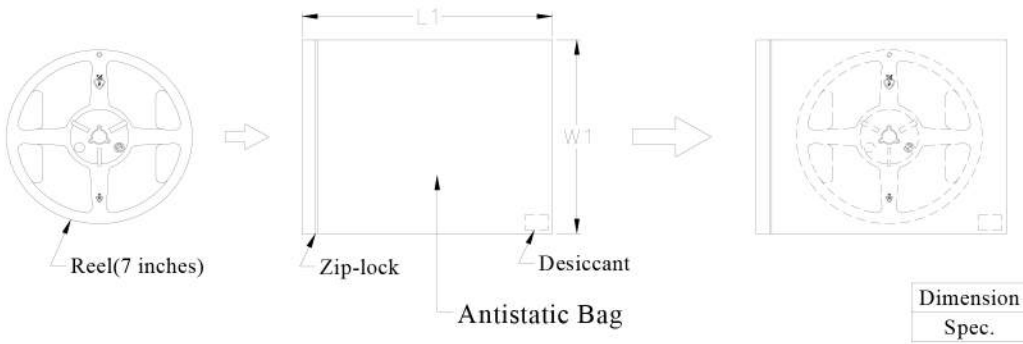
Ta=25° C



Spectrum Distribution

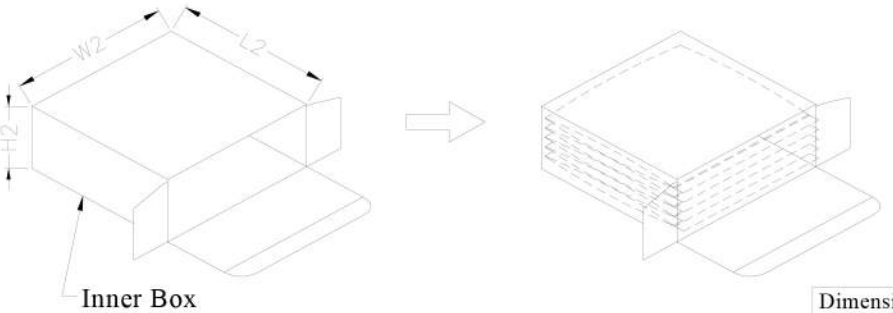


◆Packing and Shipping Spec.



Dimension	L1	W1
Spec.	203.0	198.0

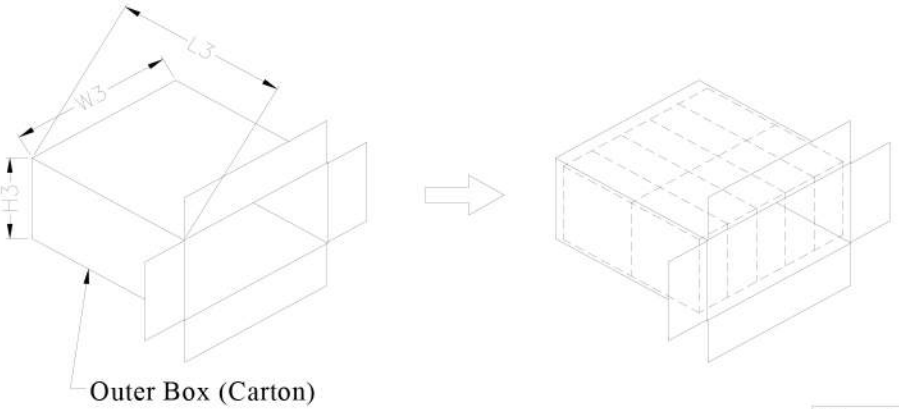
Unit : mm



5 Reels per Box

Dimension	L2	W2	H2
Outside	200.0	205.0	85.0
Inside	193.7	198.7	78.7

Unit : mm



10 Boxes per Carton

Dimension	L3	W3	H3
Outside	448.0	424.0	220.0
Inside	433.4	409.4	205.4

Unit : mm