

## ARL-1210UWC (HL-A-3528H233W-S)

### Features

- SINGLE COLOR.
- PLCC-2 Package
- White package
- Suitable for all SMT assembly and solder process
- Available on tape and reel
- Package: 2000pcs/reel

### Description

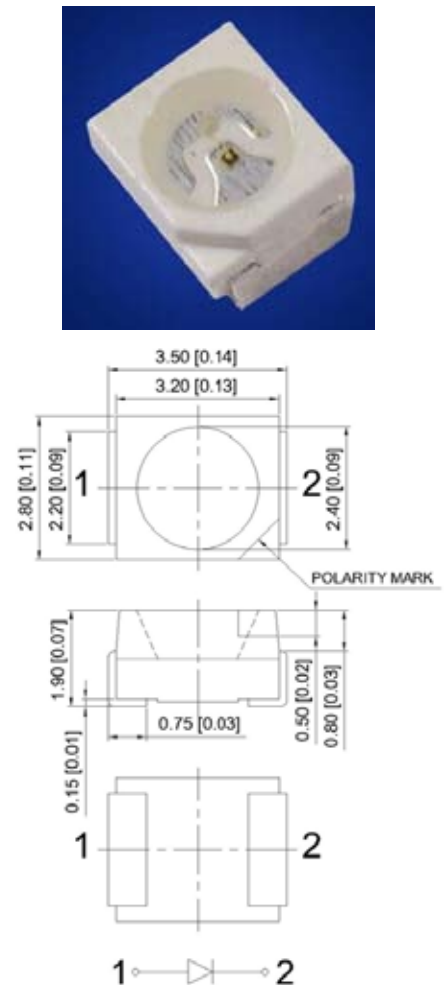
- The Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Red Light Emitting Diode.

### Applications

- Optical indicator
- Indicator and backlighting in telephone and fax
- Flat backlighting for LCD, switch and Symbol
- Light pipe application
- General use

### Package Dimensions

1. All dimension units are millimeters.
2. All dimension tolerance is  $\pm 0.2\text{mm}$  unless otherwise noted.
3. An epoxy meniscus may extend about 1.5mm down the leads.



Part No.	Dice	Lens Type	Iv (mcd) @ 20mA		Viewing Angle
			Min.	Typ.	2θ1/2
HL-A-3528U36FC	RED (AlInGaP)	WATER CLEAR	355	520	120°

#### Notes

1.  $\theta_{1/2}$  is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. The above luminous intensity measurement allowance tolerance  $\pm 10\%$ .

### Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Min.	Typ.	Units	Test Conditions
$\lambda_D$	Dominant Wavelength	Red	618	621	nm	IF=20mA
C	Capacitance	Red		35	pF	VF=0V; f=1MHz
VF	Forward Voltage	Red	1.6	1.9	V	IF=20mA
IR	Reverse Current	Red		5	uA	VR = 5V

### Absolute Maximum Rating

Parameter	White	Units
Power dissipation	65	mW
DC Forward Current	30	mA
Peak Forward Current [1]	185	mA
Reverse Voltage	5	V
Operating/Storage Temperature	-40°C TO +85°C	

#### Note:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.

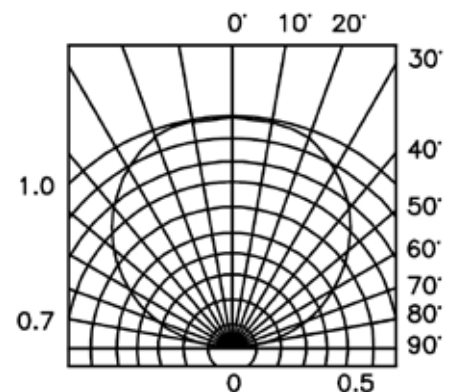
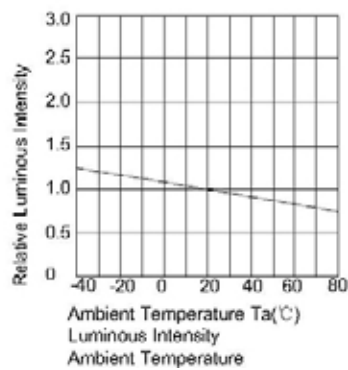
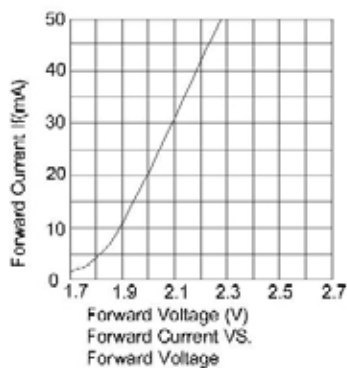
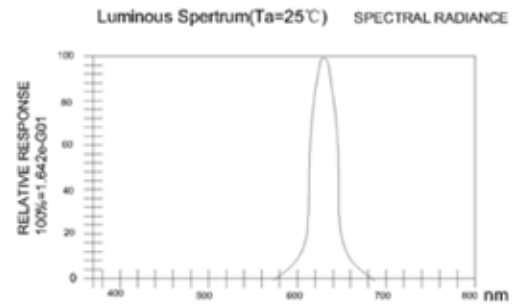
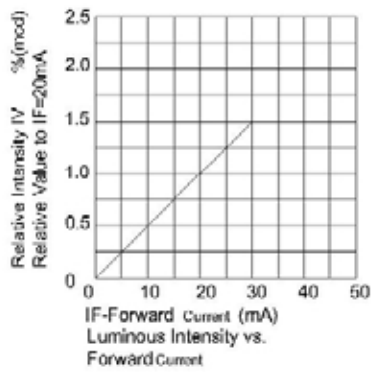
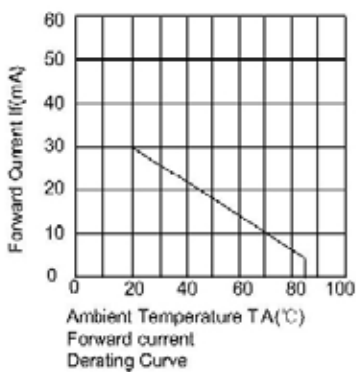
## Reliability Test Items And Conditions

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/Rc
1	Reflow	Temp: 260°C max T=5 sec max.	1times.	22Pcs.	0/1
2	Temperature Cycle	100°C±5°C 30 min. 5 min -40°C±5°C 30 min.	100 Cycles	22Pcs.	0/1
3	Thermal Shock	100°C±5°C 5 min. -40°C±5°C 5 min.	100 Cycles	22Pcs.	0/1
4	High Temperature Storage	Temp.: 100°C±5°C	1000Hrs.	22Pcs.	0/1
5	Low Temperature Storage	Temp.: -40°C±5°C	1000Hrs.	22Pcs.	0/1
6	DC Operating Life	Ta=25°C±5°C IF=20mA	1000Hrs.	22Pcs.	0/1
7	High Temperature/High Humidity	85°C±5°C / 85%RH IF=5mA	1000Hrs.	22Pcs.	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.

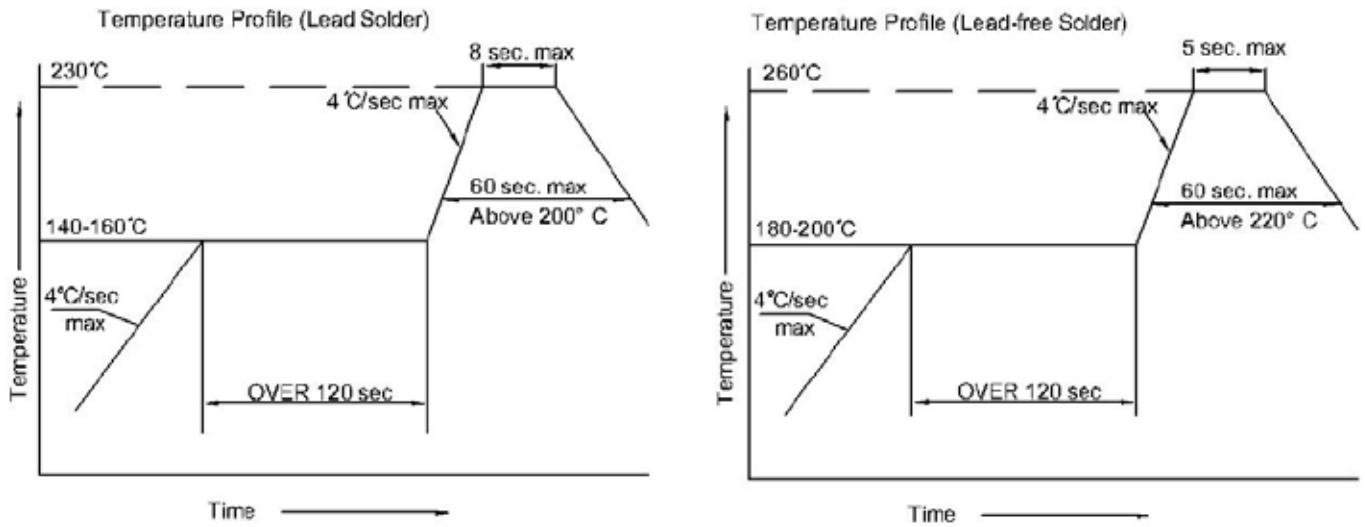


## Cie chromaticity diagram

G X: 0.24 Y: 0.22	X	0.205	0.235	0.270	0.240	C X: 0.35 Y: 0.36	X	0.305	0.350	0.380	0.345
	Y	0.190	0.250	0.235	0.175		Y	0.360	0.395	0.365	0.330
F X: 0.265 Y: 0.26	X	0.235	0.260	0.295	0.270	B X: 0.38 Y: 0.38	X	0.350	0.390	0.410	0.380
	Y	0.250	0.290	0.270	0.235		Y	0.395	0.410	0.380	0.365
E X: 0.285 Y: 0.30	X	0.260	0.280	0.315	0.295	A X: 0.41 Y: 0.40	X	0.390	0.440	0.440	0.410
	Y	0.290	0.325	0.300	0.270		Y	0.410	0.425	0.395	0.380
D X: 0.31 Y: 0.33	X	0.280	0.305	0.345	0.315	Tolerance for each Bin limit is ±0.15 .					
	Y	0.325	0.360	0.330	0.300						

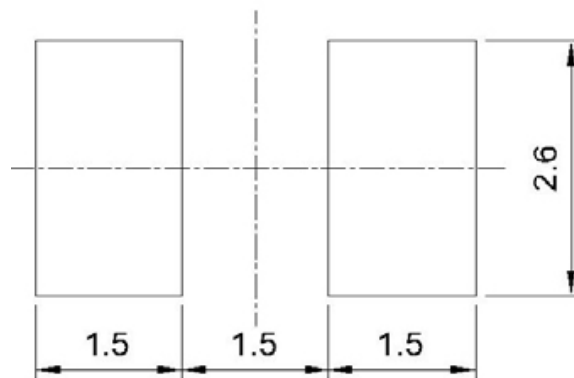
### SMT Reflow Soldering Instructions

Number of reflow process shall be less than 2 times and cooling process to normal temperature is required between first and second soldering process.



### Recommended Soldering Pattern

(Units : mm)



### Tape Specifications

(Units : mm)

