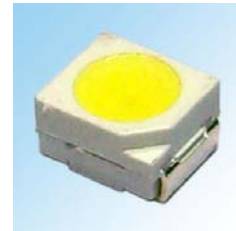




**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

**HL-A-3528H212W-S**
**WHITE**

**Features**

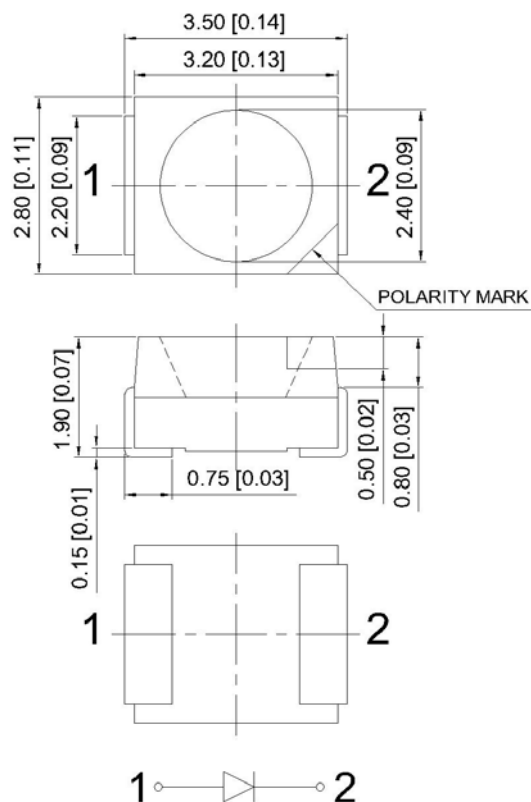
- SINGLE COLOR.
- PLCC-2 Package
- White package
- Suitable for all SMT assembly and solder process
- Available on tape and reel
- Package:2000pcs/reel

**Description**

The White source color devices are made with AlInGaN on sapphire Light Emitting Diode.

**Applications**

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

**Package Dimensions**

**Notes:**

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.

**Selection Guide**

Part No.	Dice	Lens Type	Iv (mcd) @ 20mA		Viewing Angle
			Min.	Typ.	2θ1/2
HL-A-3528H212W-S	WHITE (GaN )	Yellow Diffused	1000	1400	120°

Note:

1. θ1/2 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 ±10%.

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

Symbol	Parameter	Device	Min.	Typ.	Units	Test Conditions
V <sub>F</sub>	Forward Voltage	White	3.0	3.2	V	I <sub>F</sub> =20mA
I <sub>R</sub>	Reverse Current	White		5	μA	V <sub>R</sub> = 5V
X	Chromaticity Coordinates	White		0.31		
Y				0.32		
C	Capacitance	White			pF	V <sub>F</sub> =0V;f=1MHz

**Absolute Maximum Ratings at TA=25°C**

Parameter	White	Units
Power dissipation	114	mW
DC Forward Current	30	mA
Peak Forward Current [1]	150	mA
Reverse Voltage	5	V
Operating Temperature	-40°C To +85°C	
Storage Temperature	-40°C To +100°C	

Note:

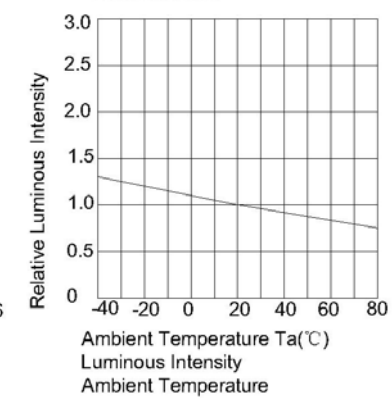
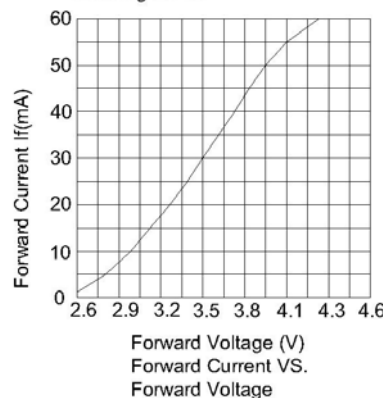
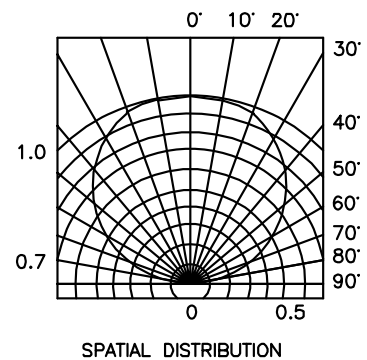
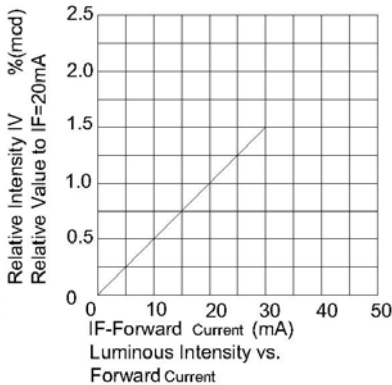
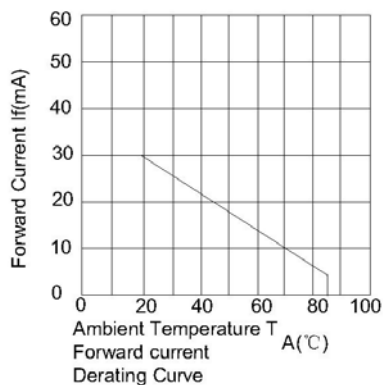
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

**WHITE HL-A-3528H212W-S**
**Reliability Test Items And Conditions**

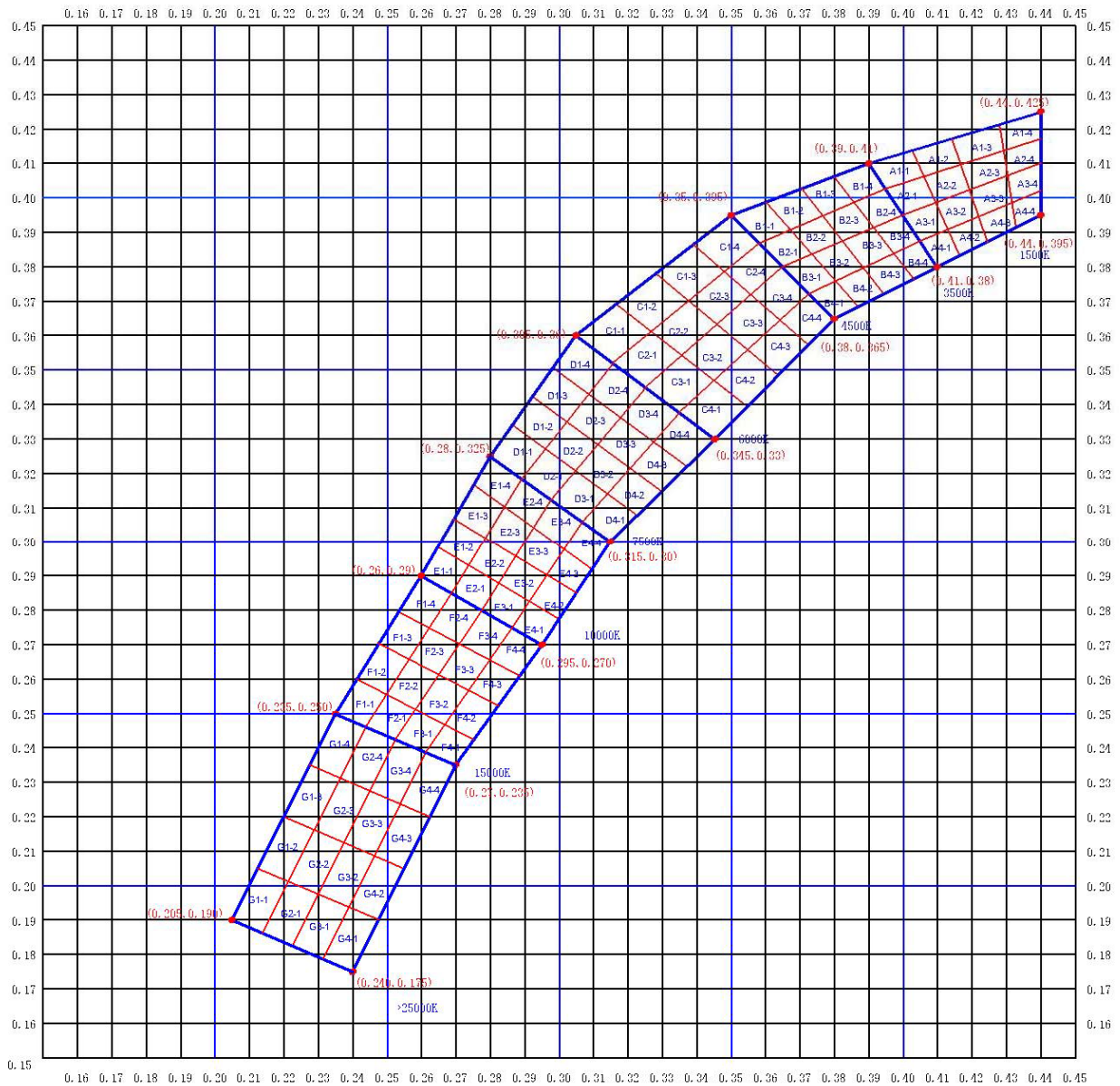
The reliability of products shall be satisfied with items listed below.  
 Confidence level :90% LTPD :10%

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.



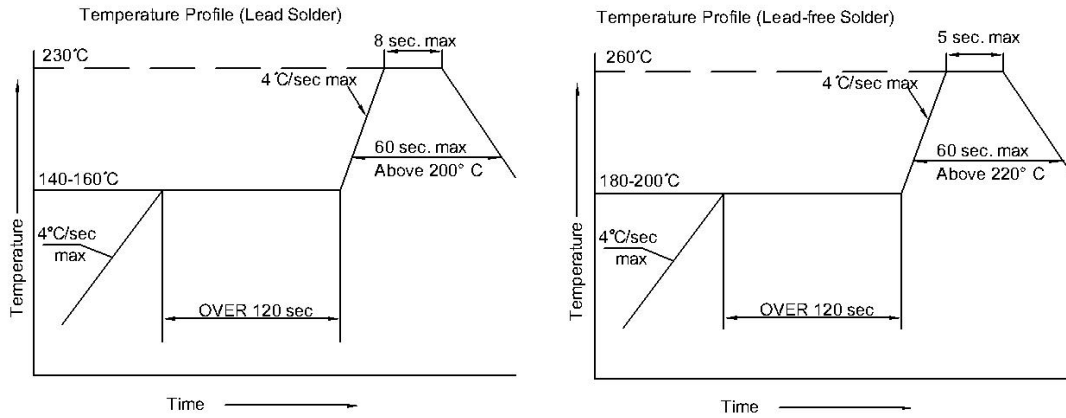
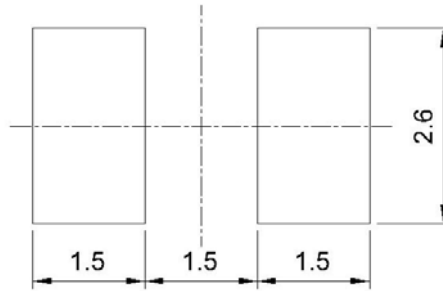
### CIE CHROMATICITY DIAGRAM



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 $\pm 0.15$ .					
	Y	0.325	0.360	0.330	0.300						

**HL-A-3528H212W-S**
**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)**
