

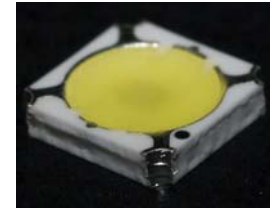
## Series of Chip on Ceramic LED Light Source



### INTRODUCTION OF CHIP ON CERAMIC TYPE SMD LED

**Model: A5050-02024-CW/NW/WS/WT**

**APUS** provides the leading Chip on Ceramic type of LED technology for high efficiency solid-state lighting solutions. It offers excellent uniformity, flexibility and cost efficiency along with compact size and wide range of color selections. All components are produced by packing high-performance LED chips and silicon resin with proprietary Intematix phosphors.



#### Features and Benefits

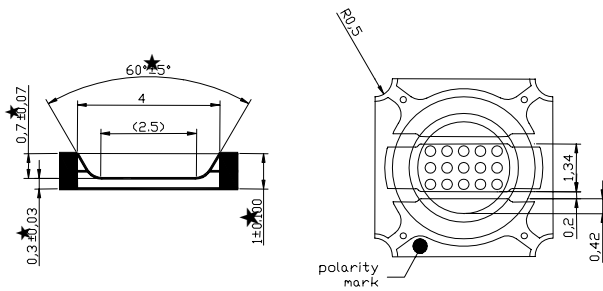
- Deliver high brightness and flux density
- Higher heat conductivity for better thermal management
- Provide variable and innovative array LED layout designs and combinations
- Reduce the initial development cost and time
- High lumen-performance per dollar cost
- Lead free reflow solder compatible
- RoHS compliant

#### 1. Dimensions and Materials

Dimensions: 5 mm x 5 mm x 1 mm  
 Packages: Ceramics  
 Capsulated Resin: Silicone Resin with Silicate Phosphor  
 Electrodes: Ag Plating  
 Chips: 2 chips packed in single cavity

#### 2. Applications

Solid State Lighting  
 Indoor/Outdoor/Decoration  
 Signal Light Engine  
 Commercial Display  
 Industrial Light Engine  
 Camera Flash Light

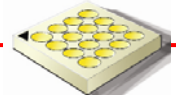


#### 3. Initial Electrical/Optical Characteristics

(Thermal Pad Temperature @25°C)

ITEM	SYMBOL	TEST CONDITIONS	UNIT	MIN.	TYP.	MAX.
Forward Voltage	V <sub>f</sub>	700mA	V	3	3.5	3.8
Reverse Current	I <sub>r</sub>	5V	μA	0		5
Luminous Flux for CW	φ <sub>v</sub>	700mA	lm	90	125	160
Luminous Flux for NW	φ <sub>v</sub>	700mA	lm	81	112.5	144
Luminous Flux for WS	φ <sub>v</sub>	700mA	lm	72	100	128
Luminous Flux for WT	φ <sub>v</sub>	700mA	lm	63	87.5	112

- Luminous flux performance measured upon published operating conditions or test methods.
- According to the luminous flux and/or specific radiometric power levels products. Please consult Intematix Technology Center for more information.
- Measurement uncertainty of the luminous intensity and power: ±8%
- Reference for typical thermal resistance junction to thermal pad (R<sub>θj-c</sub>) ≤ 9 °C/W
- Typical viewing angle 2θ 1/2: 120 degree



## 4. Absolute Maximum Ratings

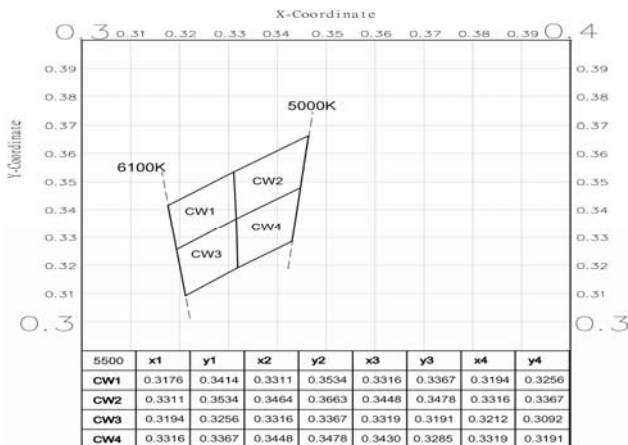
(Thermal Pad Temperature @25°C)

ITEM	SYMBOL	ABSOLUTE MAXIMUM RATING	UNIT
Forward current	I <sub>f</sub>	700	mA
Reverse Voltage	V <sub>r</sub>	5	V
Power Dissipation	P <sub>d</sub>	2	W
Operating Temperature	T <sub>opr</sub>	-25~+85	°C
Storage Temperature	T <sub>stg</sub>	- 40~+100	°C
Junction Temperature	T <sub>j</sub>	125	°C
Soldering Temperature (Reflow)	T <sub>sld</sub>	max.240 < 5sec	°C
Soldering Temperature (Hand)	T <sub>sld</sub>	max.350 < 3sec	°C

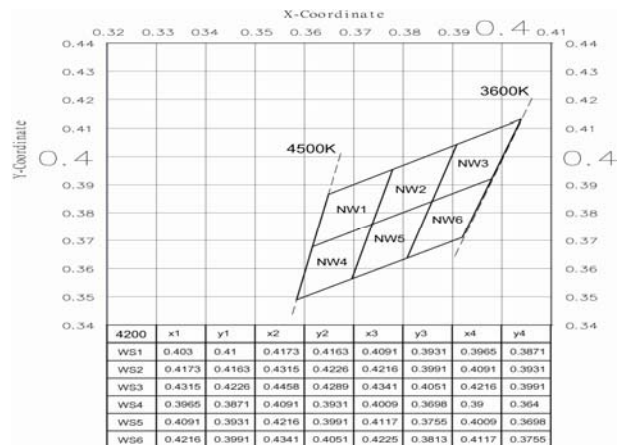
- I<sub>f</sub> conditions: /10 Duty Cycle & 0.1ms for pulse width.
- Reflow method: 1.6mm from body for 5 seconds without over the published maximum temperature.
- maximum driving current depends on junction temperature, die attach methods/materials, and lifetime requirements of the customer's application.

## 5. White Color Temperature Ranks (Refer to CIE 1931 chromaticity diagram)

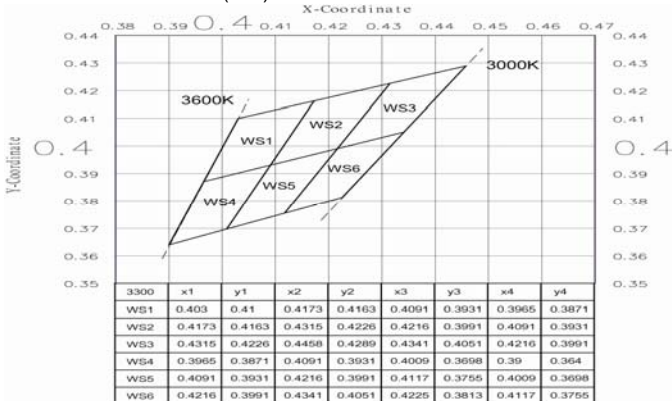
Cool White (CW) bin structures and coordinates



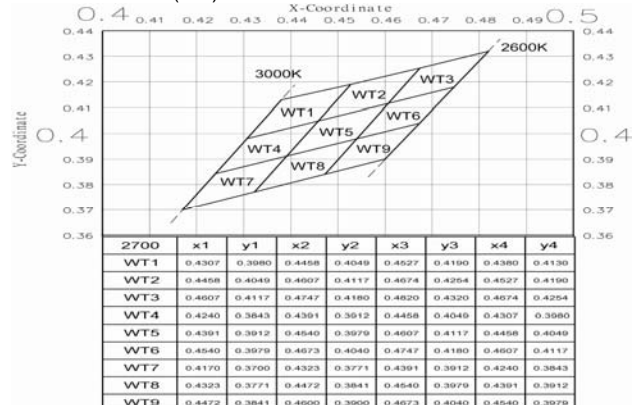
Neutral White (NW) bin structures and coordinates



Warm White (WS) bin structures and coordinates



Warm White (WT) bin structures and coordinates



- Color coordinates measurement allowance is  $\pm 0.01$
- According to higher/lower color temperature ranks, please contact Intematix Technology Center for further information.
- Thermal Pad Temperature @25°C @400mA