

Chip	RGBA	RGBW
A	Red	Red
B	Green	Green
C	Blue	Blue
D	Amber	White

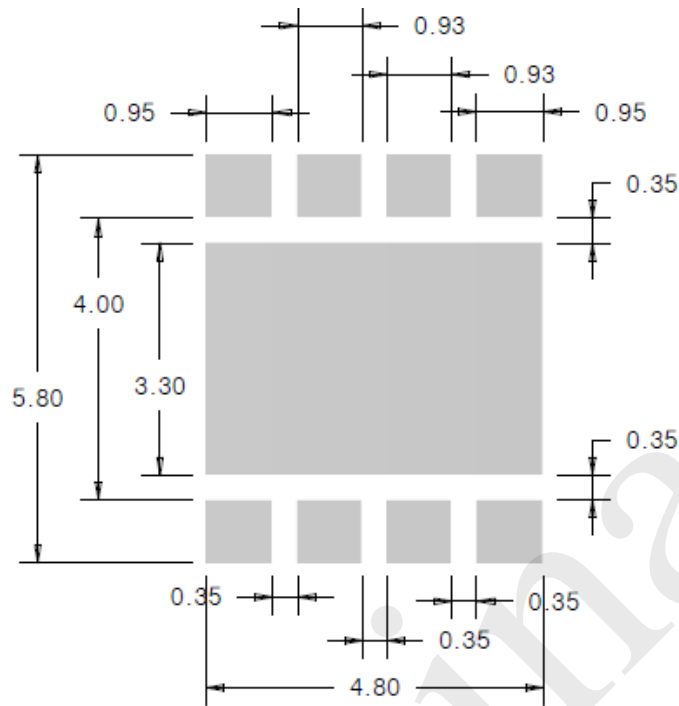
Notes :

1. Drawing is not to scale
2. All dimensions are in millimeter
3. Dimensions are $\pm 0.13\text{mm}$ unless otherwise indicated

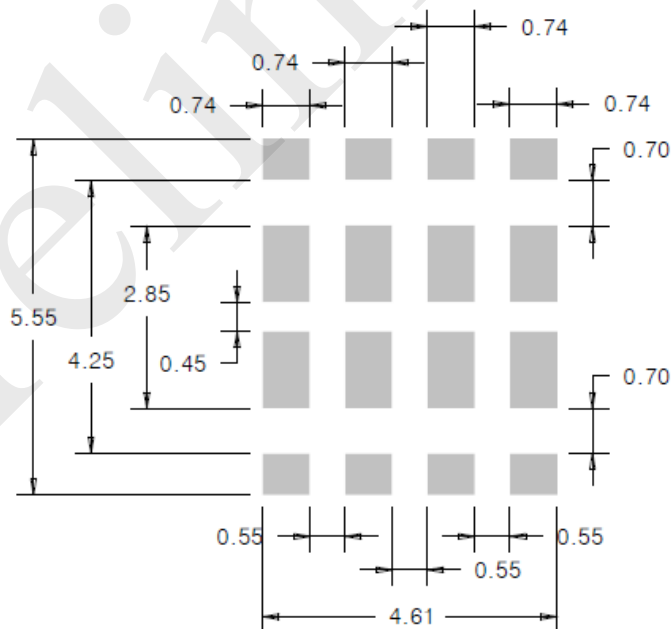
Preliminary

Recommended Solder Pad Design

PCB Soldering Pad Design



Stencil pattern Design

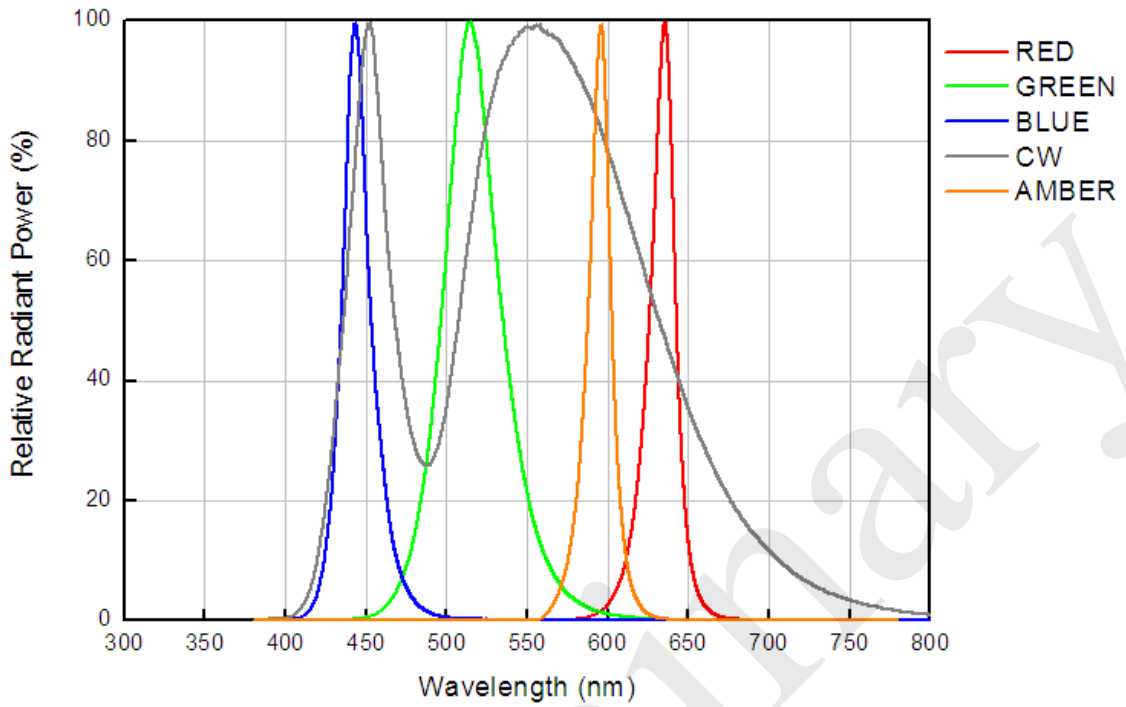


Notes :

1. Drawing is not to scale
2. All dimensions are in millimeter

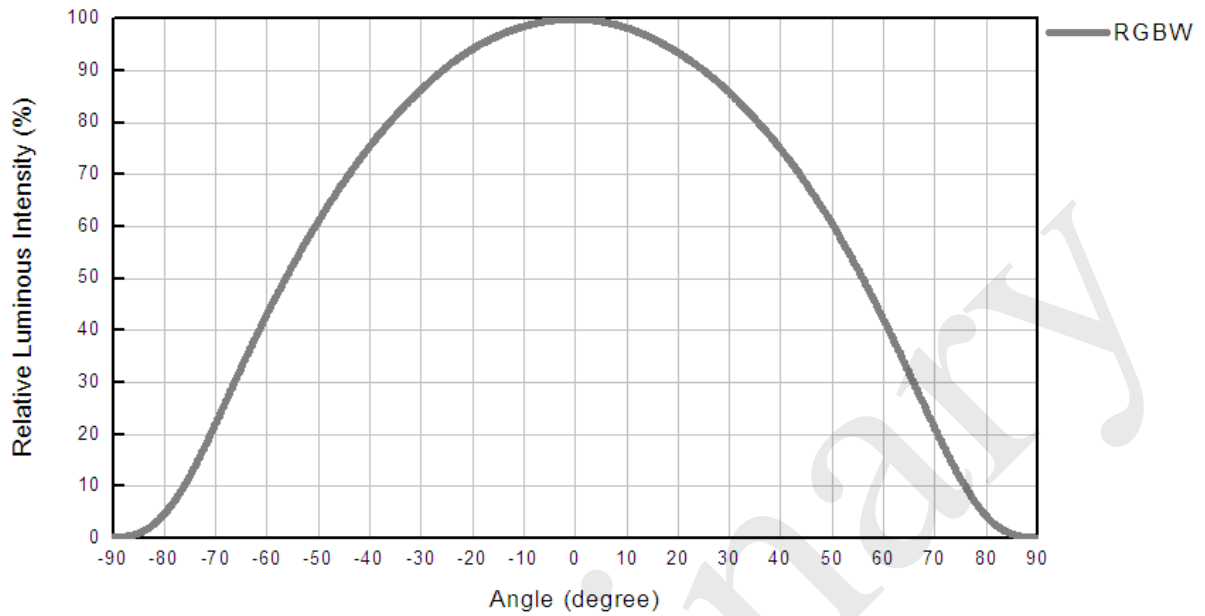
Relative Spectral Power Distribution, T_j=25°C

Red / Green / Blue / CW / Amber

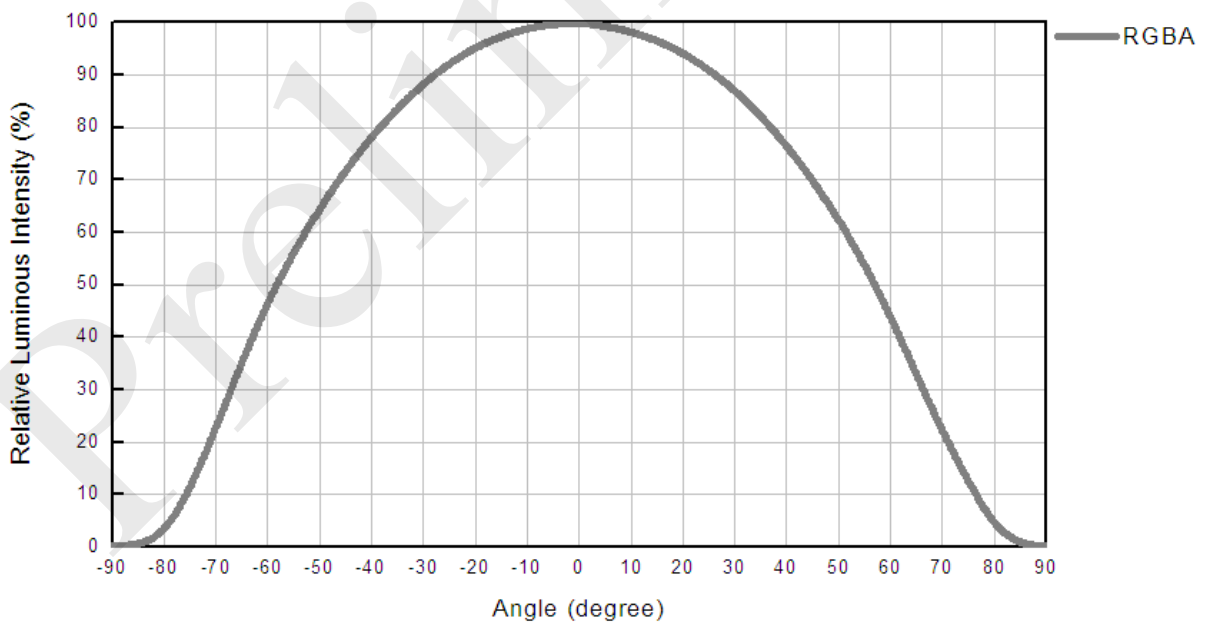


Typical Spatial Radiation Pattern

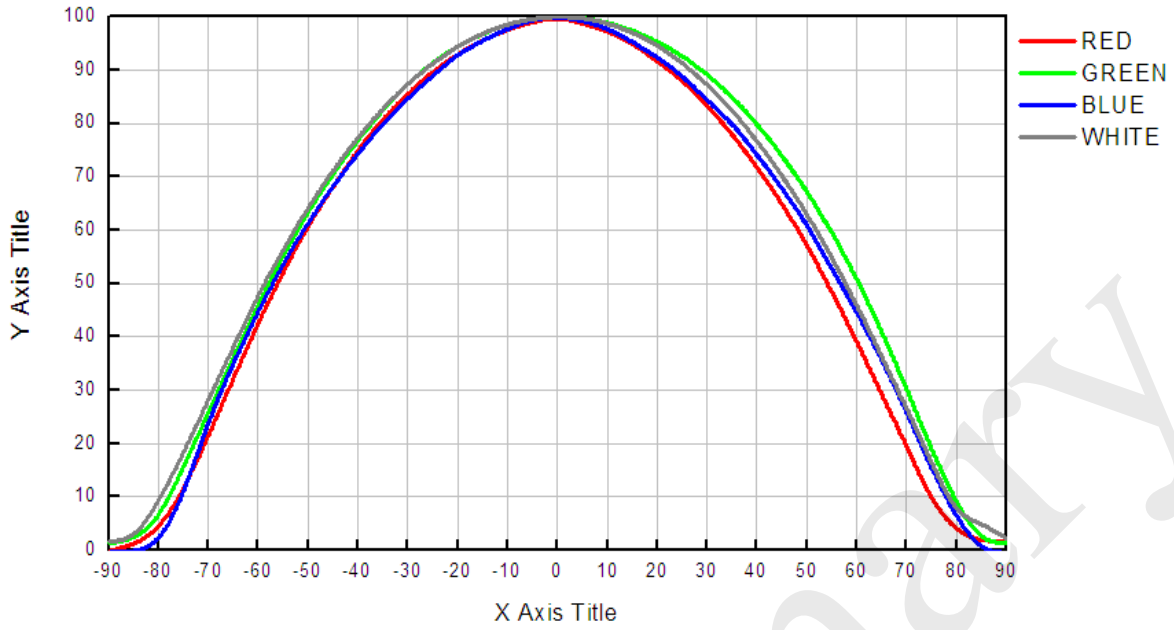
T5060M-MCB1-TM841H (RGBW)



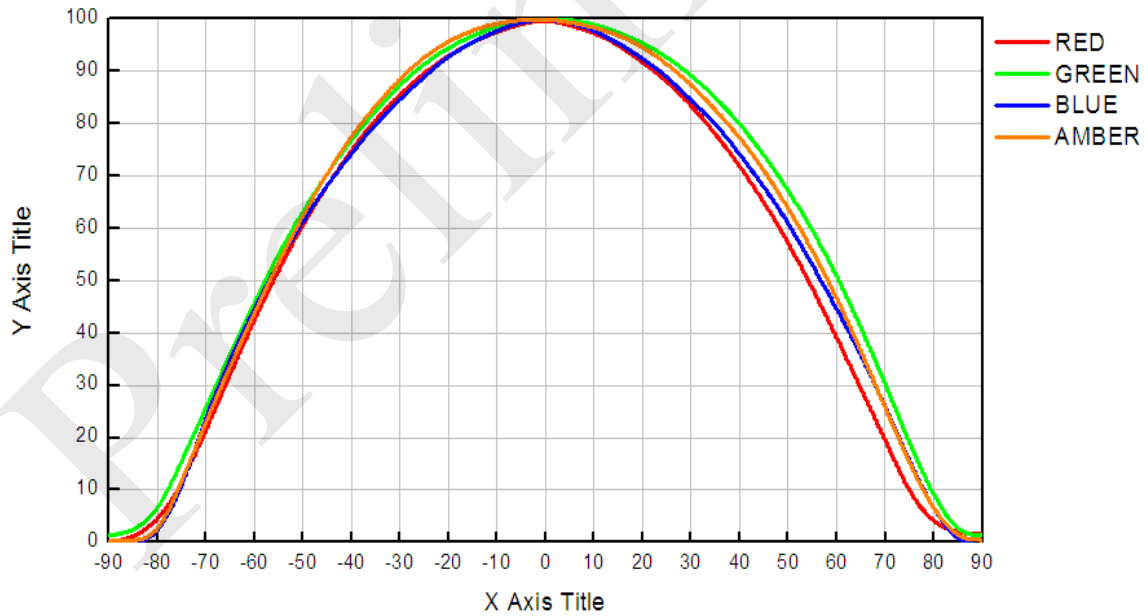
T5060M-MCB1-TM941H (RGBA)



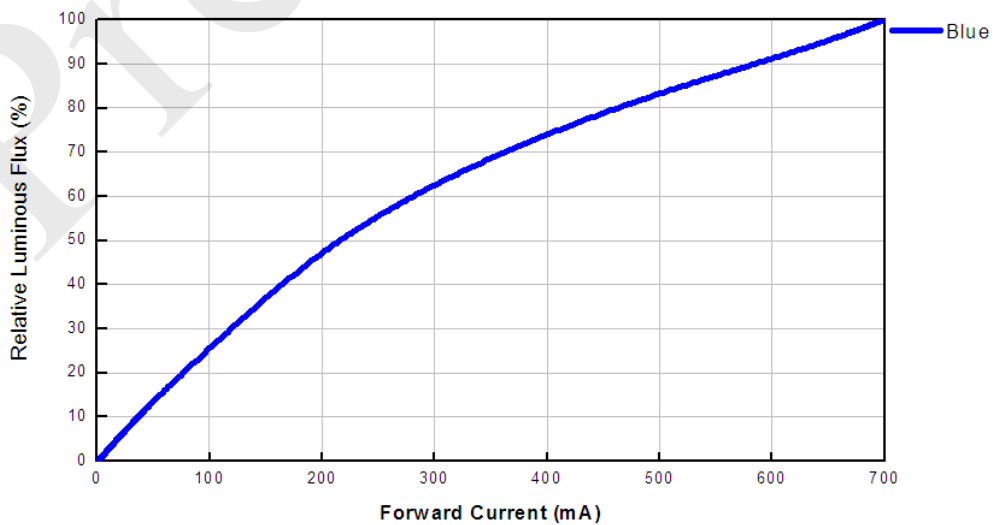
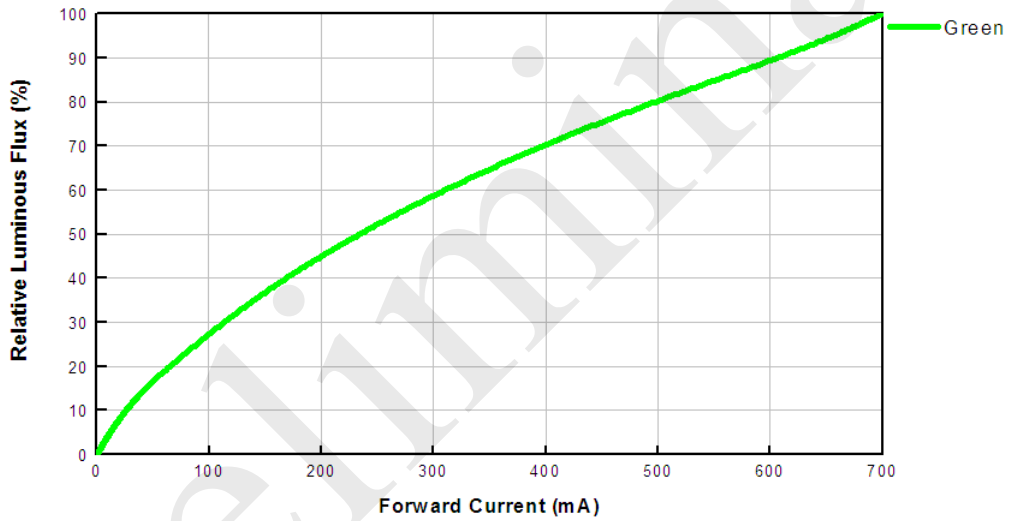
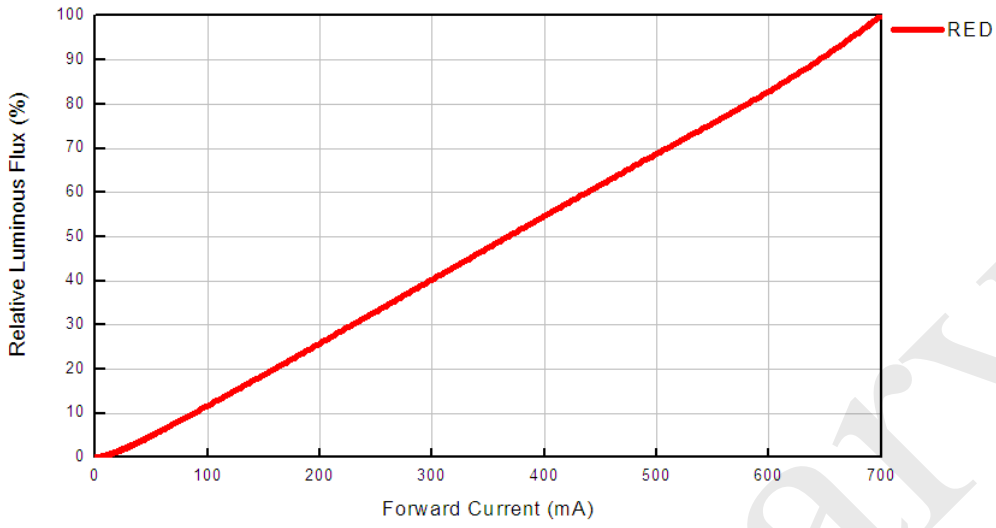
T5060M-MCB1-TM841H(RGBW)



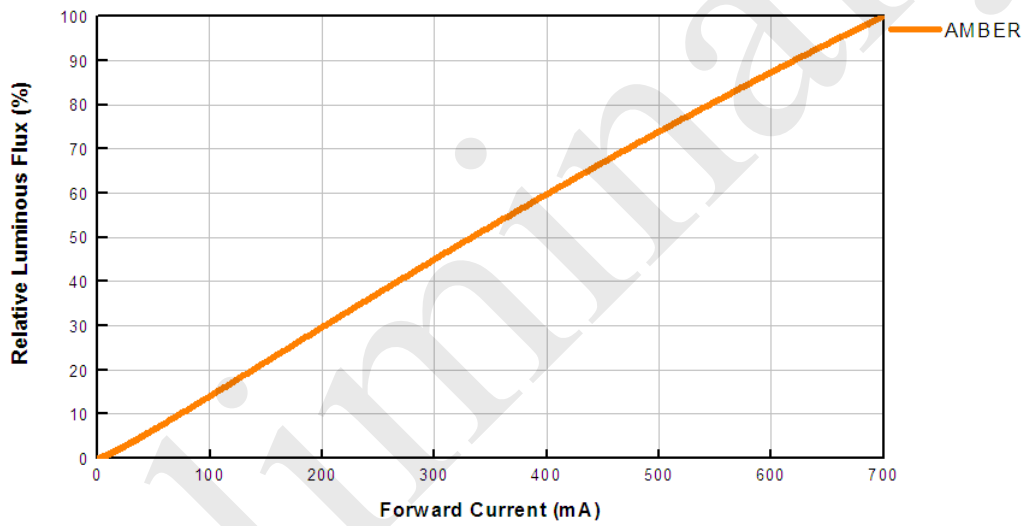
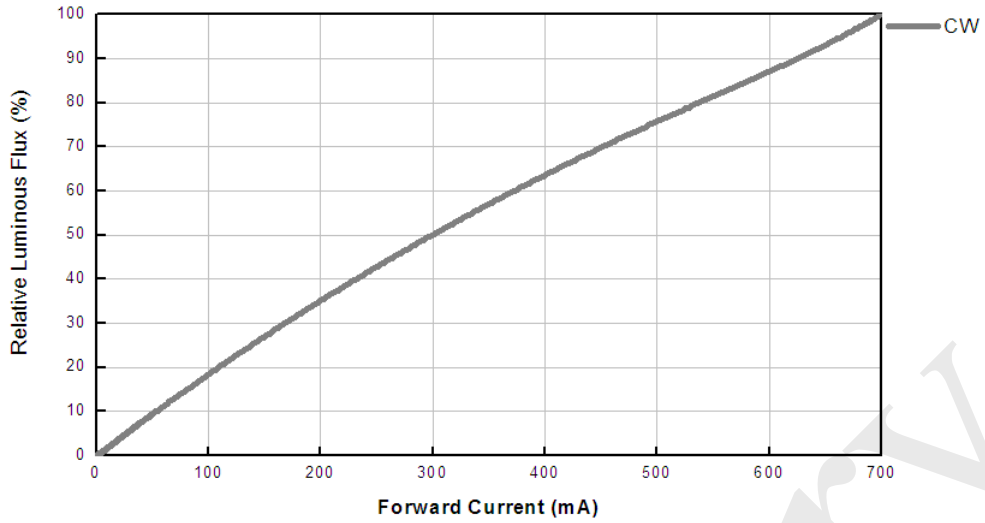
T5060M-MCB1-TM941H (RGBA)



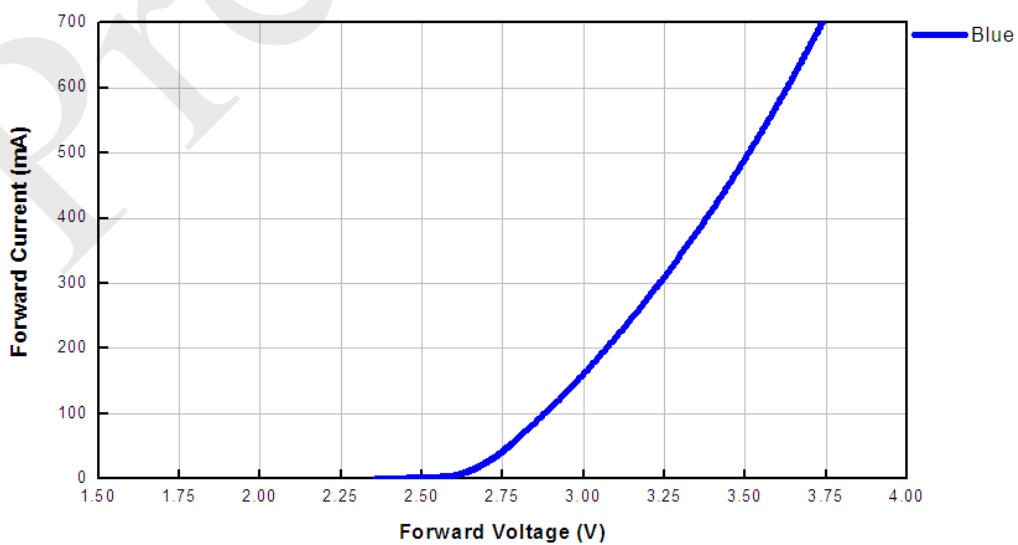
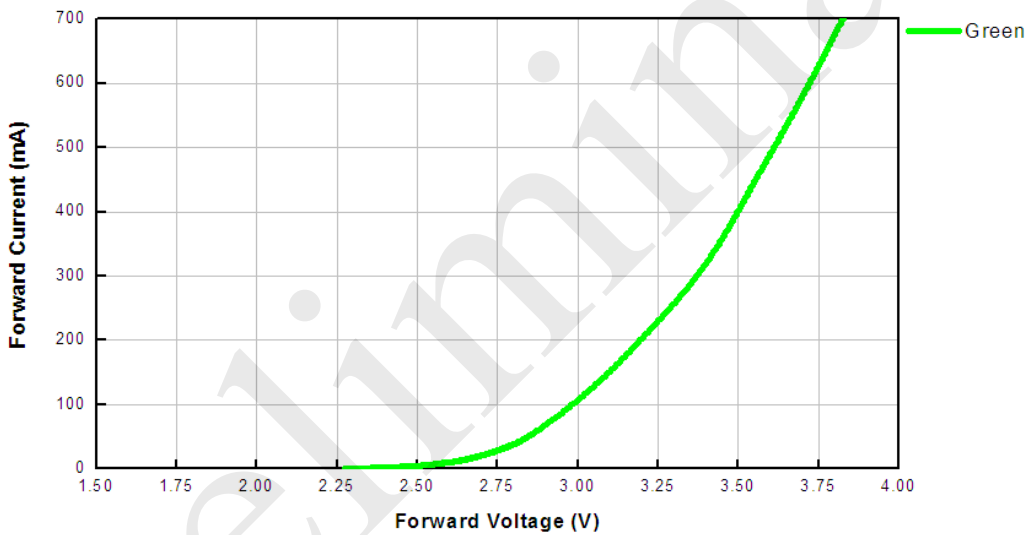
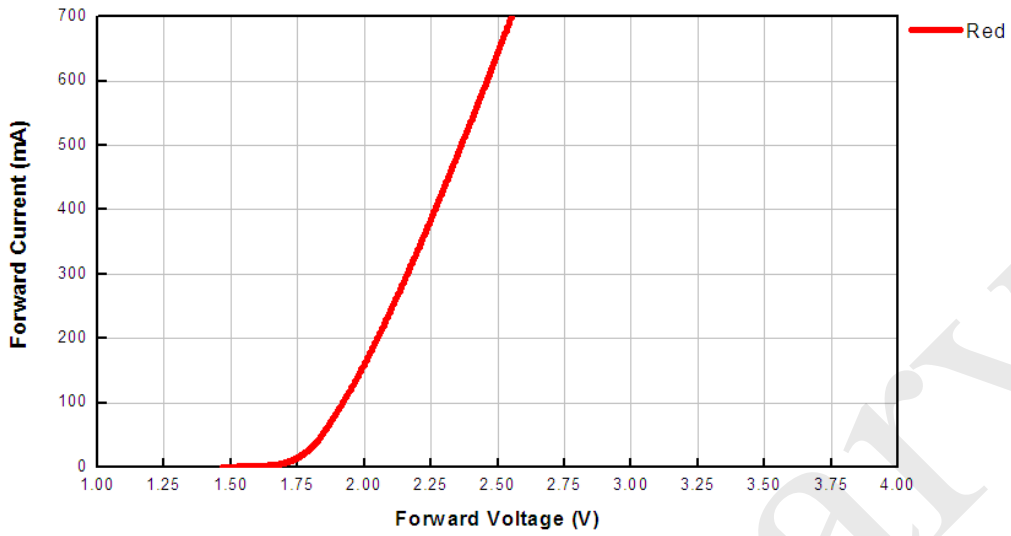
Typical Forward L-I Characteristics, T_j=25°C



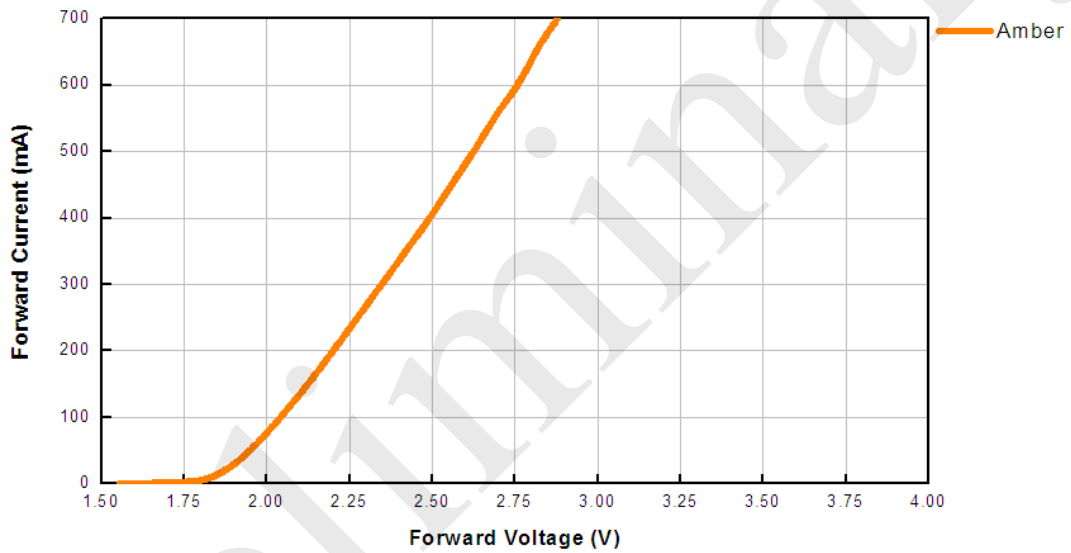
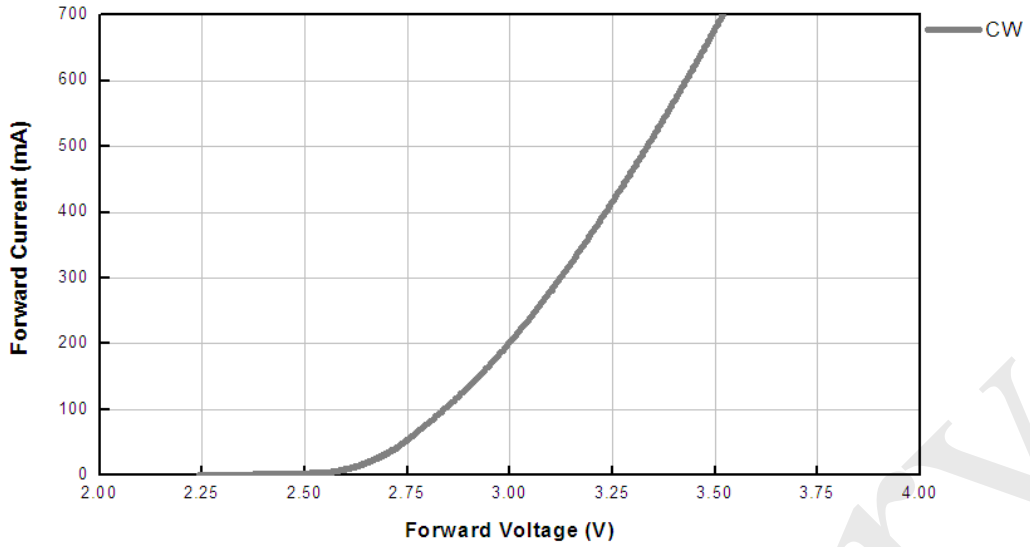
T5060M-MCB1 PRELIMINARY PRODUCT DATASHEET



Typical Forward I-V Characteristics, T_j=25°C

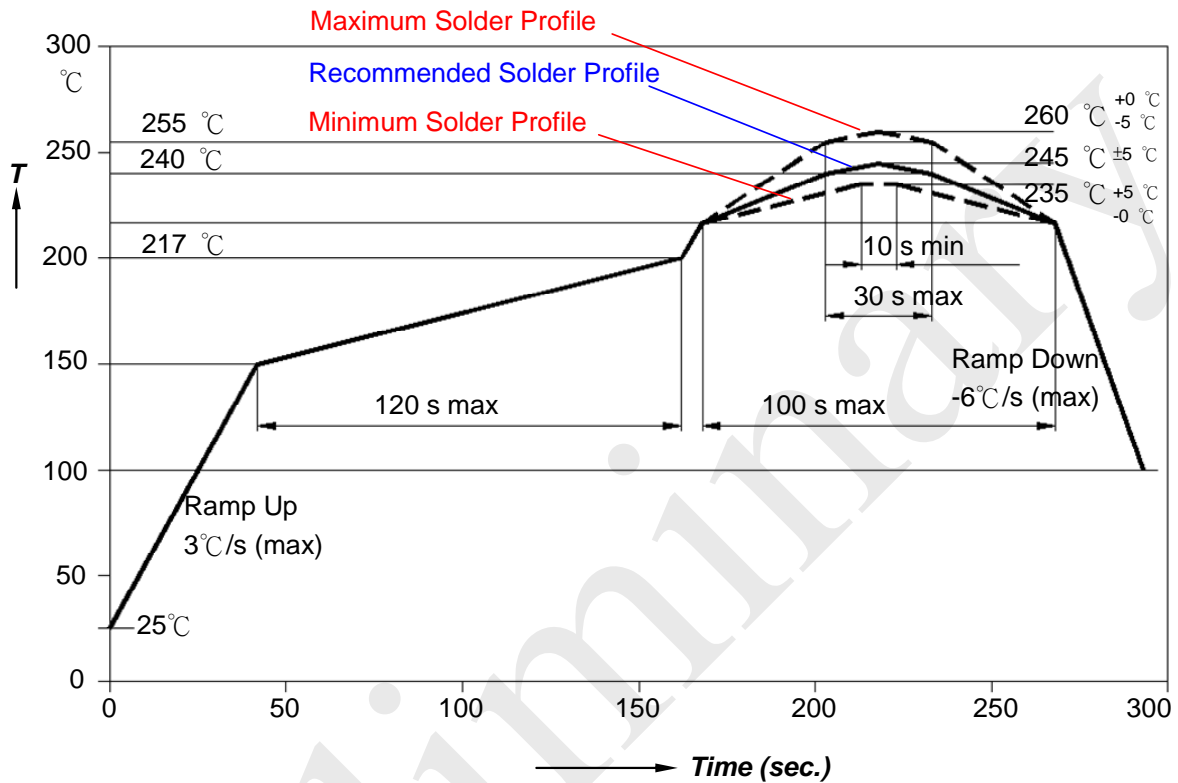


T5060M-MCB1 PRELIMINARY PRODUCT DATASHEET



Recommended Soldering Profile

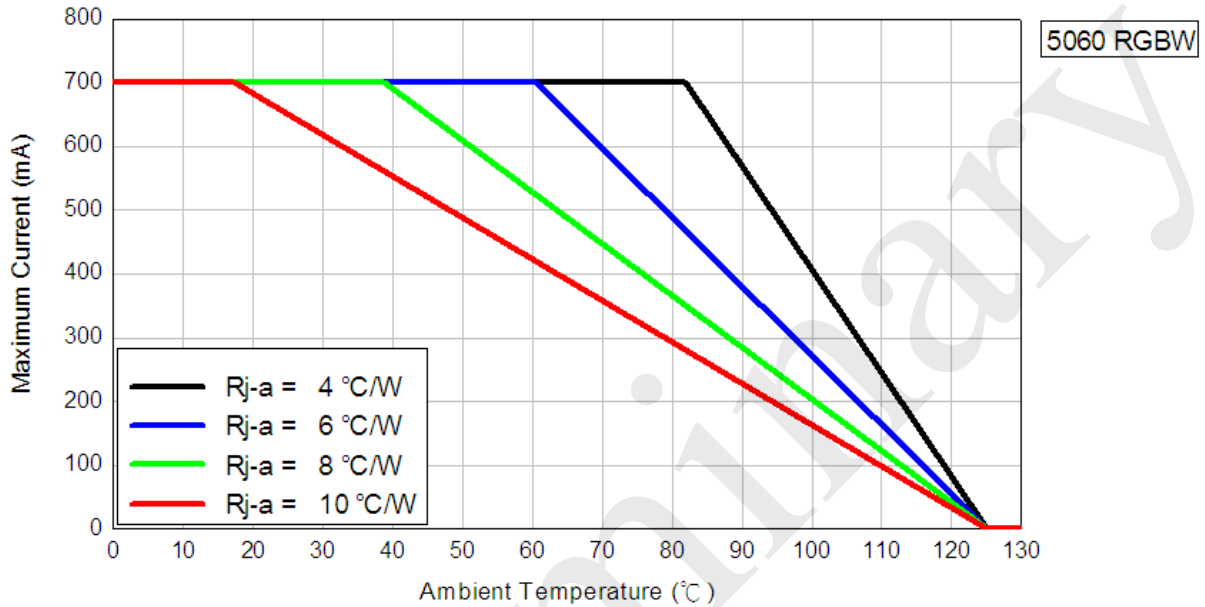
The LEDs can be soldered using the parameters listed below. As a general guideline, the users are suggested to follow the recommended soldering profile provided by the manufacturer of the solder paste. Although the recommended soldering conditions are specified in the list, reflow soldering at the lowest possible temperature is advised for the LEDs.



Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Average ramp-up rate (T _{smax} to T _p)	3°C / second max.	3°C / second max.
Preheat		
• Temperature Min (T _{smin})	100 °C	150 °C
• Temperature Max (T _{smax})	150 °C	200 °C
• Time (T _{smin} to T _{smax}) (ts)	60-120 seconds	60-180 seconds
Time maintained above:		
• Temperature (T _L)	183 °C	217 °C
• Time (T _L)	60-150 seconds	60-150 seconds
Peak Temperature (T _p)	215 °C	260 °C
Time within 5°C of actual Peak Temperature (tp) ²	10-30 seconds	20-40 seconds
Ramp-down Rate	6 °C / second max.	6 °C / second max.
Time 25°C to Peak Temperature	6 minutes max.	8 minutes max.

Thermal Design

Thermal design of the end product is important. The thermal resistance between the junction and the solder point ($R_{\theta_{j-p}}$) and the end product should be designed to minimize the thermal resistance from the solder point to ambient in order to optimize the emitter life and optical characteristics. The maximum operation current is determined by the plot of Allowable Forward Current vs. Ambient Temperature.



The junction temperature can be correlated to the thermal resistance between the junction and ambient (R_{ja}) by the following equation.

$$T_j = T_a + R_{ja} \cdot W$$

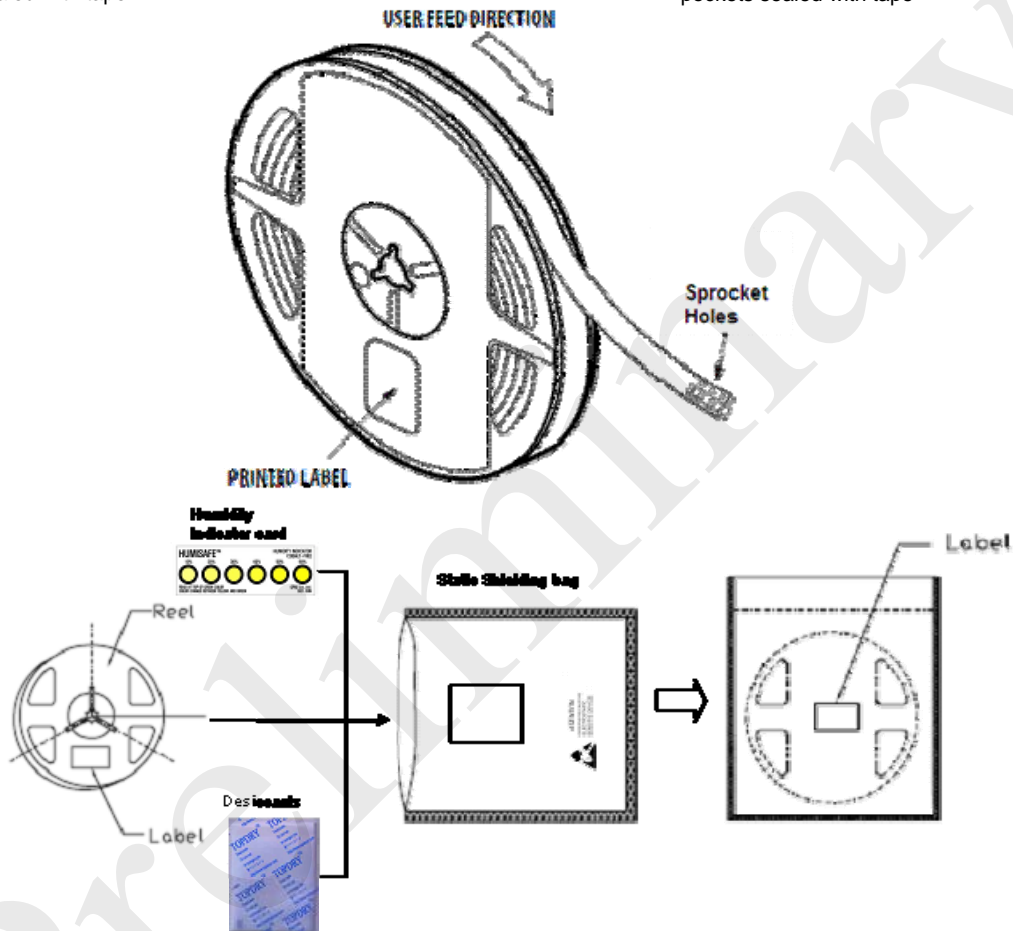
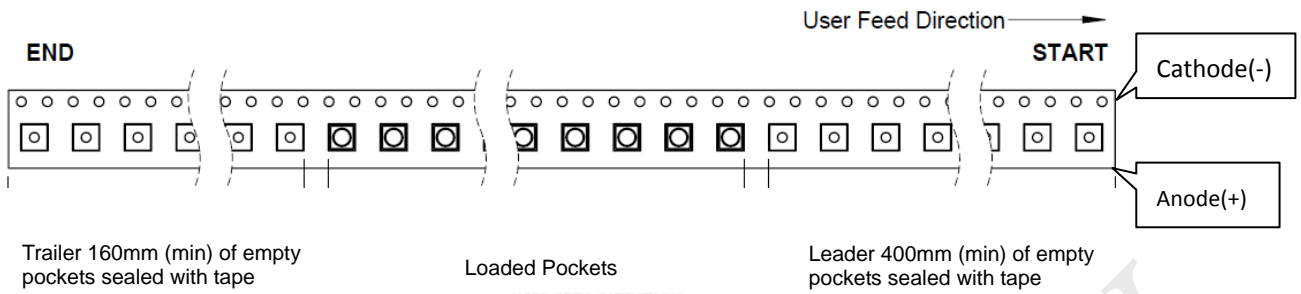
T_j : LED junction temperature

T_a : Ambient temperature

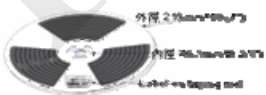
R_{ja} : Thermal resistance between the junction and ambient

W : Input power ($I_F \cdot V_F$)

Packing Information



MFG Packing

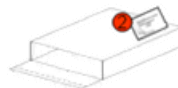


FG In after OQC Packing



1 reel in a bag = 400pcs

Ship out packing Step



1 bag in an inner box = 400pcs



Small size: 5 inner box in an outer box = 2000pcs

About Us

SemiLEDs Corporation is a US based manufacturer of ultra-high brightness LED chips with state of the art fabrication facilities in Hsinchu Science Park, Taiwan. SemiLEDs specializes in the development and manufacturing of vertical LED chips in blue (white), green, and UV using a patented copper alloy base. This unique design allows for higher performance and longer lumen maintenance. In December 2008, The World Economic Forum recognized SemiLEDs innovations with the 2009 Technology Pioneer Award. SemiLEDs is fully ISO 9001:2008 Certified

SemiLEDs is a publicly traded company on NASDAQ Global Select Market (stock symbol "LEDS"). For investor information, please contact us at investors@semileds.com.

For further company or product information, please visit us at www.semileds.com or please contact sales@semileds.com.



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