Inolux Surface Mount High Power Ultraviolet LED
IN-5053PUV

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Label Specifications

INOLUX P/N:

I N - 5 0 5 3 P U V - X X X X

Series Name	Substrate / Emitting Color	Customer Code
IN-5053 **Inolux 5053 package**	**5050 3 chip PLCC** **UV@380-420nm**	**XXXX** **Customer Product Code**

Lot No.:

1	2	3	4	5	6	7	8	9	10
E	1	A	1	A	2	2	L	1	2
Code 1 2		Code 3	Code 4	Code 5	Code 6	Code 7	Code 8	Code 9	Code 10
		Mfg. Year	Mfg. Month	Mfg. Date	Consecutive number		Special code		
Internal Tracing Code		2010-A 2011-B 2012-C 2013-D . .	1:Jan. 2:Feb. .... A:Oct. B:Nov. C:Dec.	1:A 2:B 3:C ... 26:Z 27:7 28:8 29:9 30:3 31:4	01~ZZ		000~ZZZ		

Product Characteristics

Absolute Maximum Ratings

(Tj =25 °C)

Parameter	Rating
DC Forward Current (mA)	150mA
LED Junction Temperature	125°C
LED Operating Temperature	-40°C ~ 110°C
Storage Temperature	-40°C ~ 110°C
Soldering Temperature	Max. 260°C / Max. 10 sec. (JEDEC 020c)
Preconditioning	Acc. to JEDEC Level 3

Electro-Optical Characteristics@150mA

(T_j 25 °C)

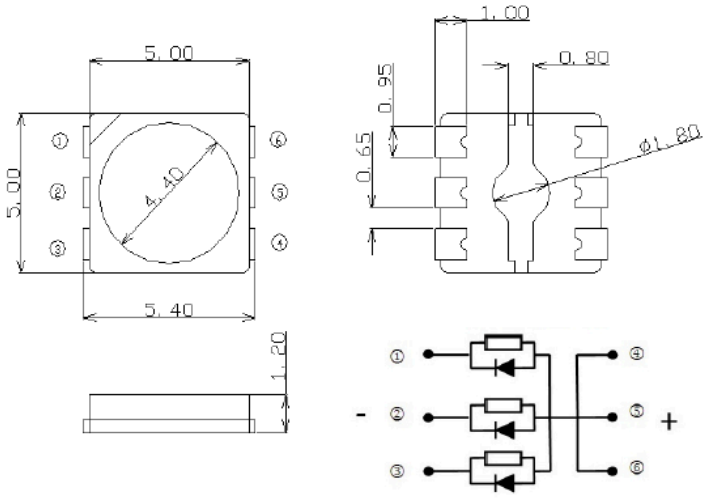
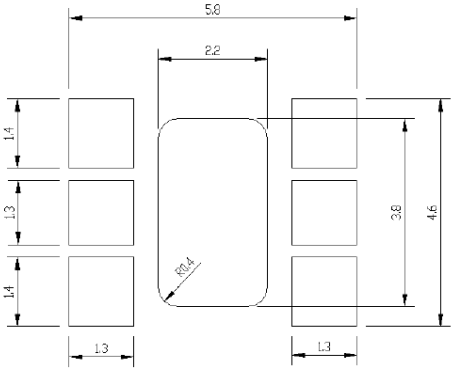
Part Number	Color	Group	Minimum Radiometric Power (mW)		Vf	
					Min	Max
IN-5053PUV	U40 (380~390nm)	PB3	85	100	3.0	4.0
		PC1	100	120	3.0	4.0
		PC2	120	140	3.0	4.0
	U50 (390~400nm)	PB3	85	100	3.0	4.0
		PC1	100	120	3.0	4.0
		PC2	120	140	3.0	4.0
	U60 (400~410nm)	PB3	85	100	3.0	4.0
		PC1	100	120	3.0	4.0
		PC2	120	140	3.0	4.0
	U40 (410~420nm)	PB3	85	100	3.0	4.0
		PC1	100	120	3.0	4.0
		PC2	120	140	3.0	4.0

Notes:

1. Radiometric power is measured with an accuracy of ±10%
2. The forward voltage is measured with an accuracy of ±0.2V

Package Outline Dimension
Recommended Soldering Pattern for Reflow Soldering

Unit: mm Tolerance: +/-0.2

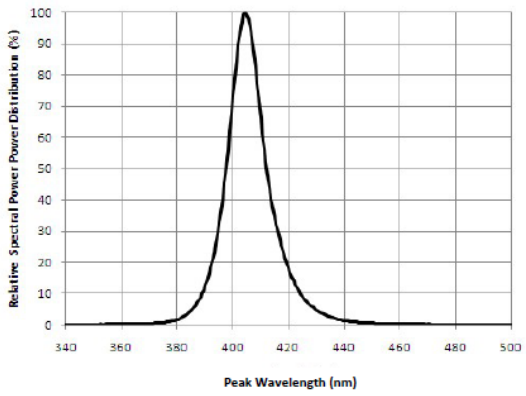
Outline Dimension	Solder Pattern
	
Soldering terminals may shift in the x, y direction.	Unit: mm

Notes:

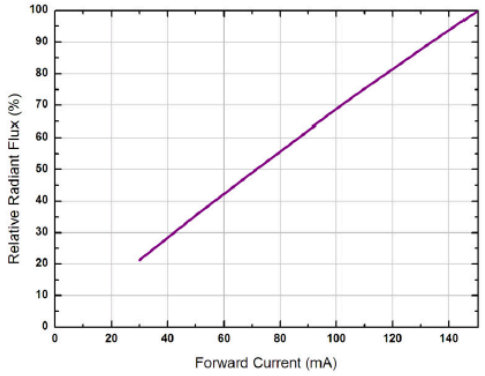
1. Drawings are not to scale
2. All dimensions are in millimeter
3. The polarity of die heat sink at bottom is Anode

Characteristic Curves

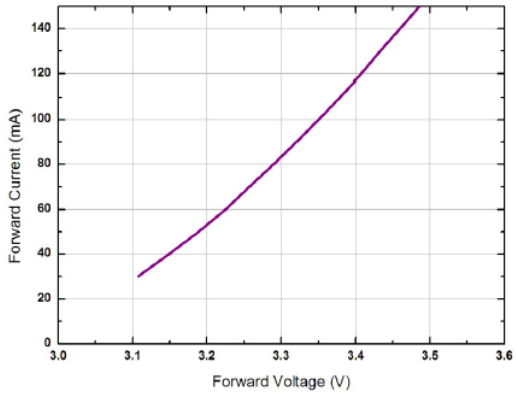
Relative Spectral Power Distribution, Tc=25 °C



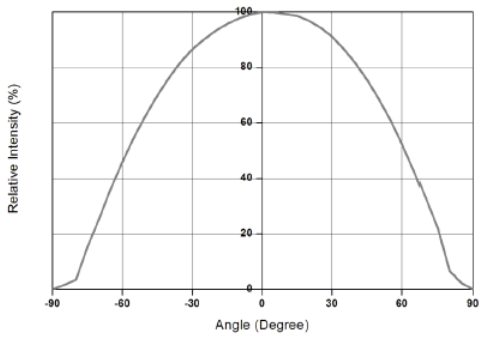
Typical Forward L-I Characteristics, T_j=25°C



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

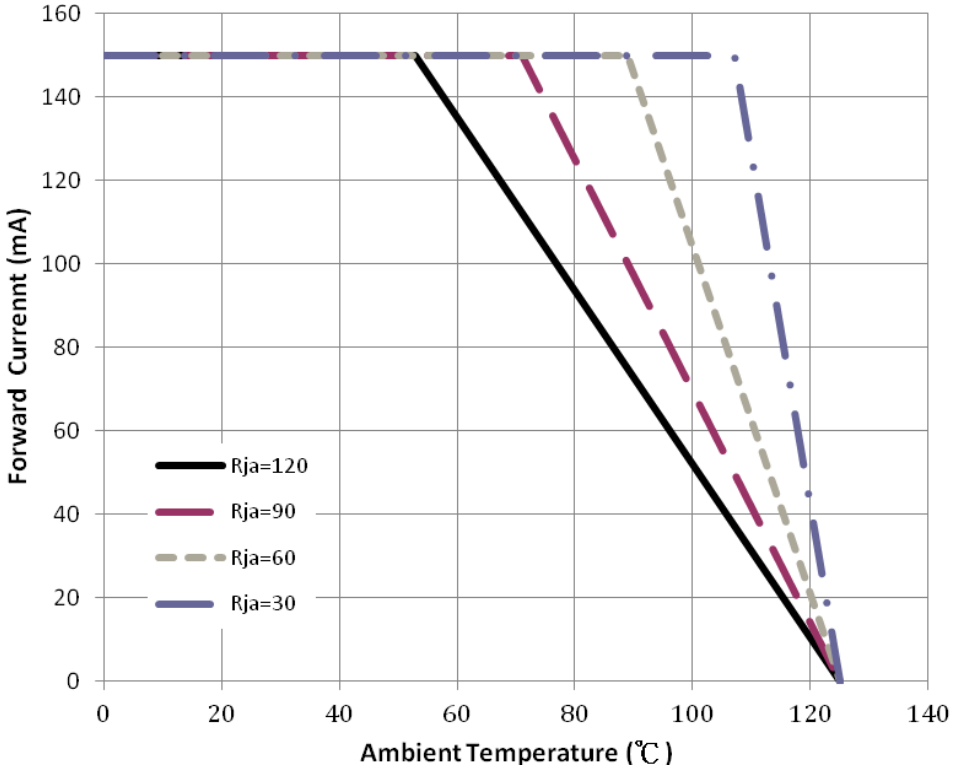


Typical Spatial Radiation Pattern



Thermal Design

Thermal design of the end product is important. The thermal resistance between the junction and the solder point (RΘJ-S) 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 (Rja) by the following equation.

Tj=Ta + Rja*W

Tj: LED junction temperature

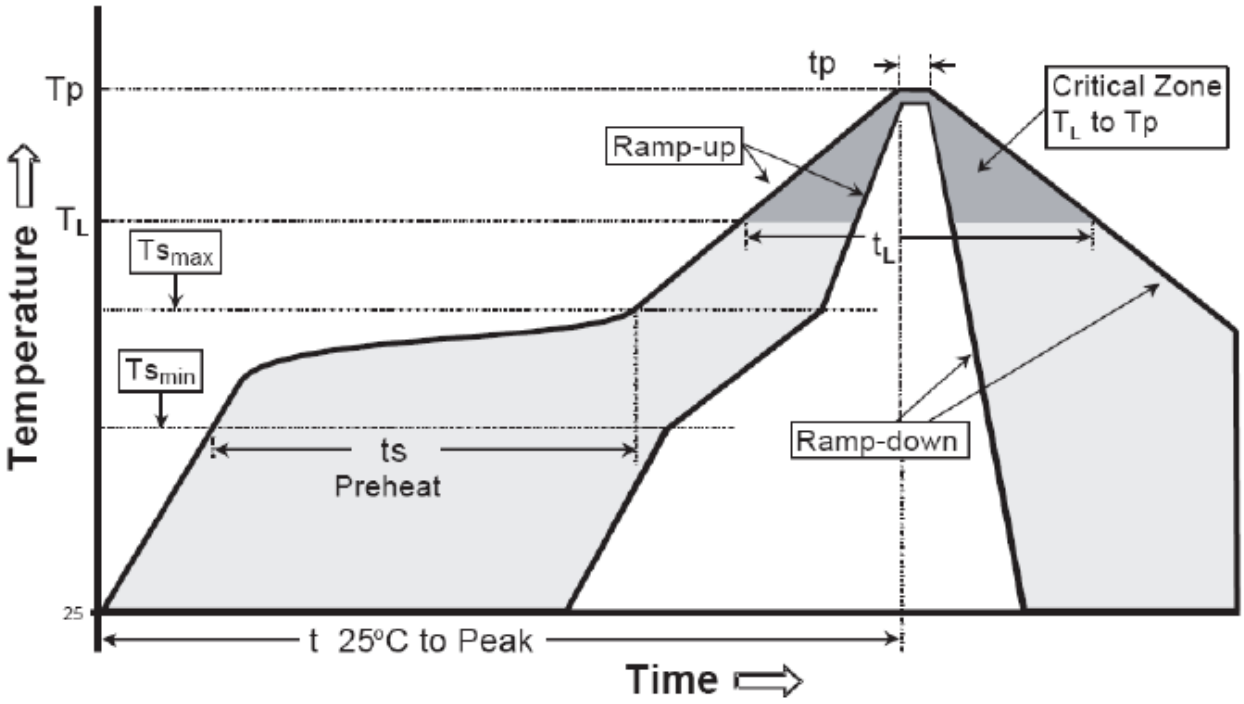
Ta: Ambient temperature

Rja: Thermal resistance between the junction and ambient

W: Input power (I_F*V_F)

Reflow Soldering

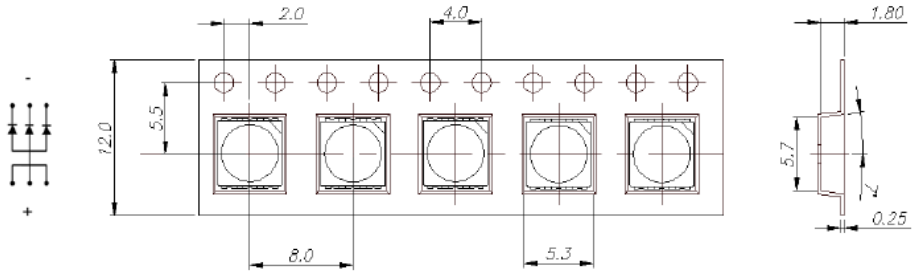
The LEDs can be soldered using the parameter listed below. As a general guideline, the users are suggested to follow the recommended soldering profile provided by the manufacturer of the solder paste. Although the recommended soldering conditions are specified in the list, reflow soldering at the lowest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



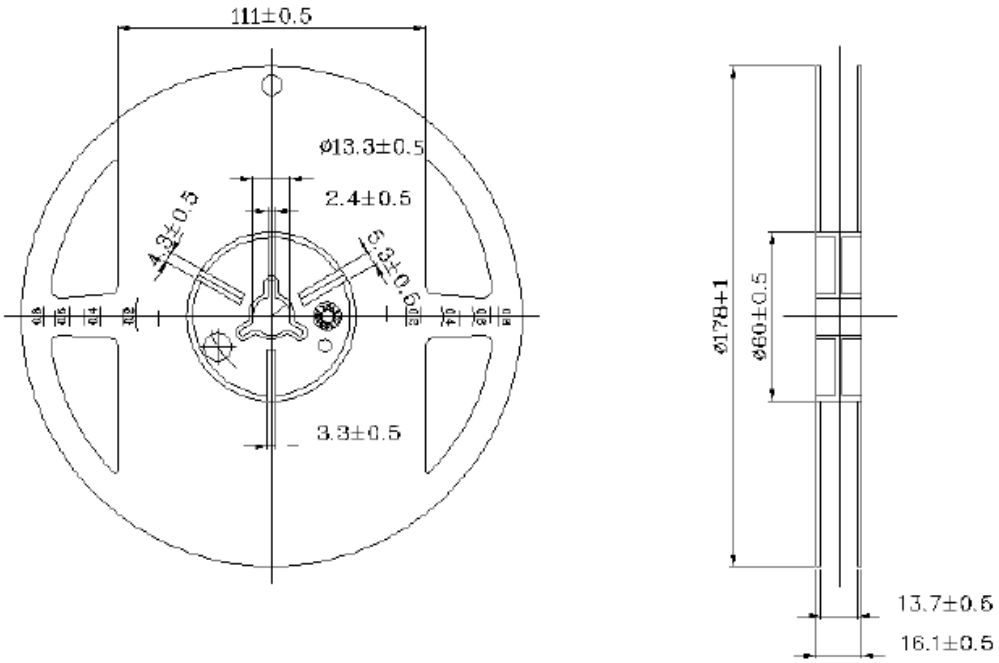
Profile Feature	Sn-Pb Eutecitc Assembly	Pb-Free Assembly
Average Ramp-up Rate (Ts_{max} to Tp)	3℃/second max.	3℃/second max.
Preheat - Temperature Min(Ts_{min}) - Temperature Max(Ts_{max}) - Time(tsmin to ts_{max})	 100℃ 150℃ 60-120 seconds	 150℃ 200℃ 60-180 seconds
Time maintained above: - Temperature(T_L) - Time(t_L)	 183℃ 60-150 seconds	 217℃ 60-150 seconds
Peak/classification Temperature(Tp)	215℃	260℃
Time within 5℃ of actual Peak Temperature(tp)	10-30 seconds	20-40 seconds
Ramp-Down Rate Time 25℃ to Peak Temperature	6℃/second max. 6 minutes max.	6℃/second max. 8 minutes max.

Packing Information

Carrier Tape



Reel Dimension



Note : All Dimensions are in millimeter

Revision History

Changes since last revision	Page	Version No.	Revision Date
Initial release		1.0	04-21-2014
Format Update		2.0	09-09-2015

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