Inolux Surface Mount High Power LED
IN-505FCHWV

DISCLAIMER 3
LABEL SPECIFICATIONS 4
PRODUCT CHARACTERISTICS 5
ABSOLUTE MAXIMUM RATINGS 5
ELECTRO-OPTICAL CHARACTERISTICS 6
PACKAGE OUTLINE DIMENSION 7
RECOMMENDED SOLDERING PATTERN FOR REFLOW SOLDERING 7
CHARACTERISTIC CURVES 8
REFLOW SOLDERING 10
PACKING INFORMATION 11
REVISION HISTORY 12

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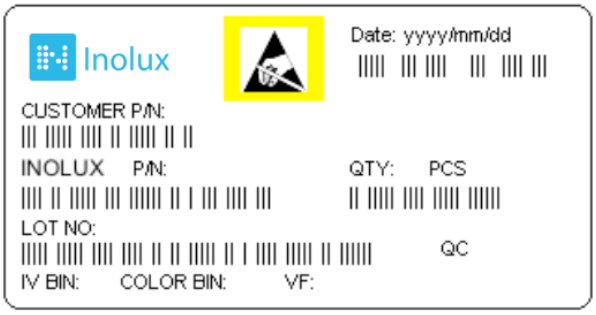
INOLUX's products are not authorized for use as critical components in life support devices or systems without the express written approval of the President of INOLUX or INOLUX Technologies. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.

2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

Label Specifications



INOLUX P/N:

I N - 5 0 5 F C H W V - X X X X

Series Name	Substrate / Emitting Color	Customer Code
IN-505 **Inolux 5050 package**	**FCHW -** **RGB White** **V –** **700mA**	**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	Symbol	Rating	Unit
DC Forward Current (mA)	I_f	700mA	mA
Peak Pulsing Current	I_{Peak}	1000mA	mA
Reverse Voltage	V_R	5	V
LED Junction Temperature	T_J	125°C	°C
LED Operating Temperature	T_{Opr}	-40°C ~ 85°C	°C
Storage Temperature	T_{Stg}	-40°C ~ 110°C	°C
Soldering Temperature at Tp (JEDEC-020-D)	T_{sol}	20~40 sec.	s
ESD Sensitivity	HBM	8,000V (MIL-STD-883G Class 3B)	V
	MM	400V (JESD22-A115-B Class C)	V

Electro-Optical Characteristics

(T_j 25 °C)

Part Number	Color	CCT / Dominate Wavelength		Luminous Flux (lm) @ 350mA	Luminous Flux (lm) @ 700mA	Forward Voltage @ 700mA	
		Min	Max			Min	Max
IN-505FCHWV	Red	620nm	630nm	>45	80-120	2.1	3.2
	Green	515nm	535nm	>100	150-200	3.2	4.2
	Blue	455nm	470nm	>18	25-40	3.2	4.0
	White	5000k	8300k	>100	180-220	3.2	4.0

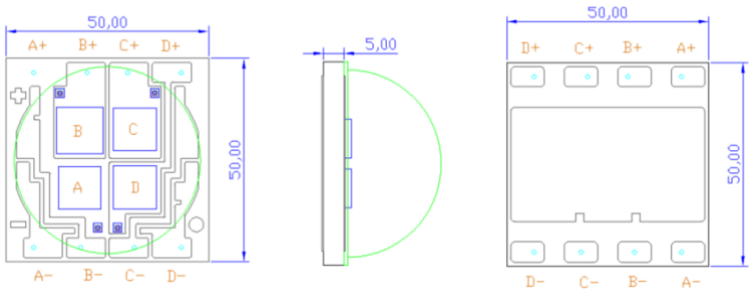
Notes:

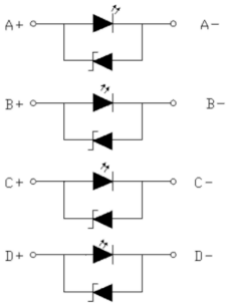
1. The peak/dominant wavelength is measured with an accuracy of ±1nm.
2. Luminous Flux is measured with an accuracy of ±10%
3. The forward voltage is measured with an accuracy of ±0.2V
4. Never operate the LEDs in reverse bias.
5. Do not drive at rated current for more than 5 seconds without proper thermal management.
6. When the LEDs are illuminating, operating current should be decided after considering the packages maximum temperature.
7. Caution: These devices emit high intensity light. Necessary precautions must be taken during operation. Do not look directly into the light or look through the optical system when in operation. Protective eyewear should be worn at all times during operation.

Package Outline Dimension
Recommended Soldering Pattern for Reflow Soldering

Unit: mm Tolerance: +/-0.13

Outline Dimension



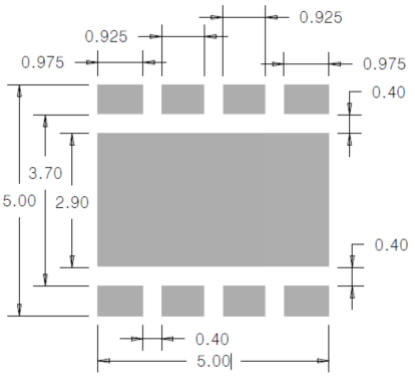


Chip	Color
A	Red
B	Green
C	White
D	Blue
-	-

Soldering terminals may shift in the x, y direction.

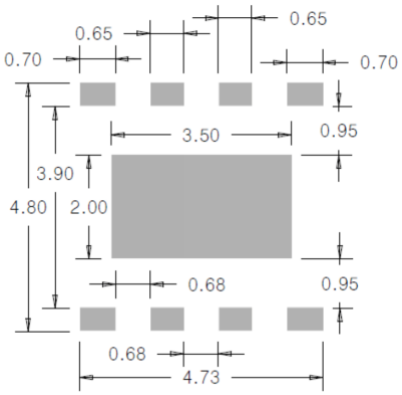
Solder Pattern

Recommended Soldering Pad Design



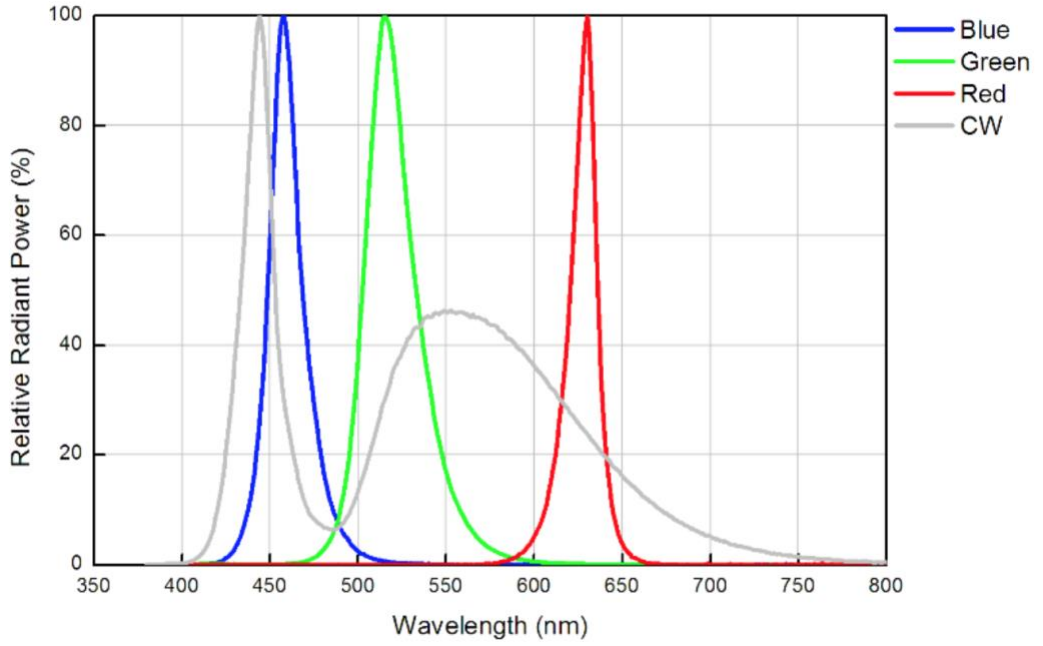
Recommended Stencil Pattern Design

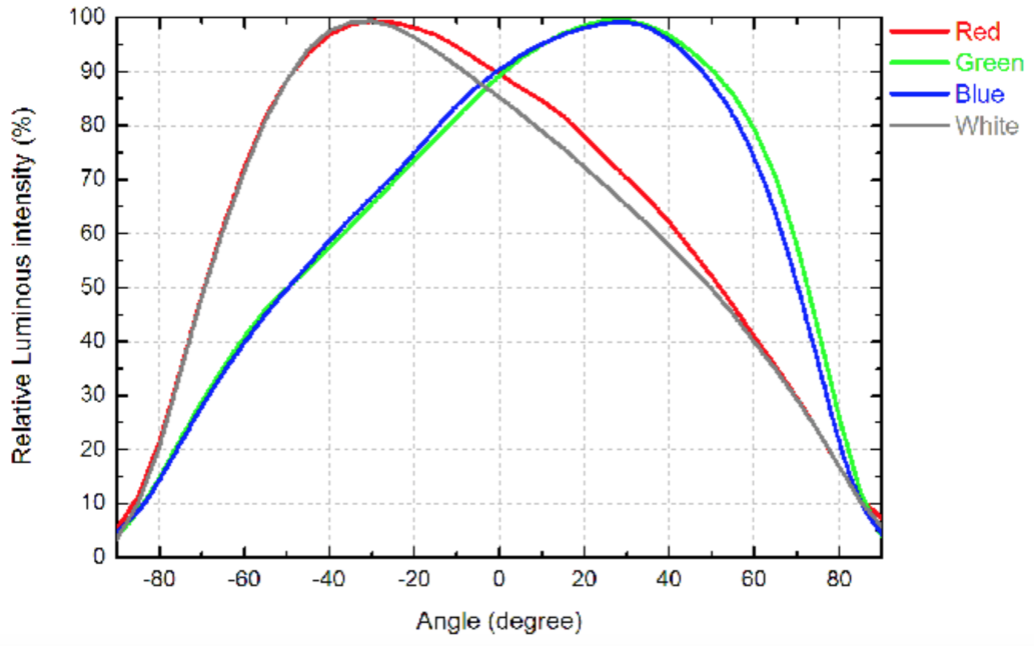
(Marked Area is Opening)

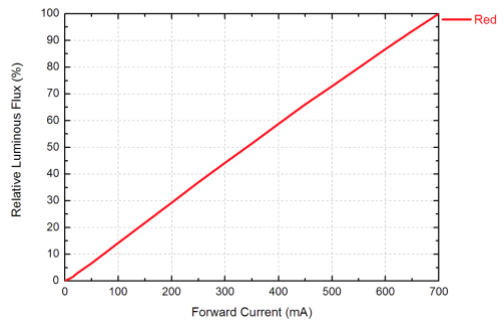


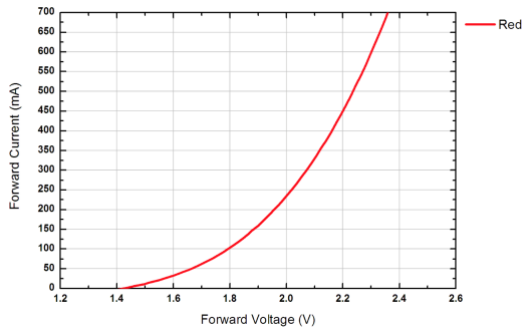
Unit: mm

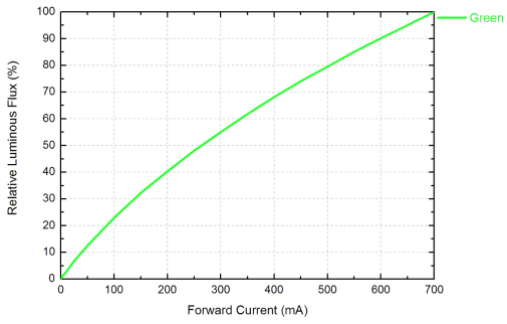
Characteristic Curves

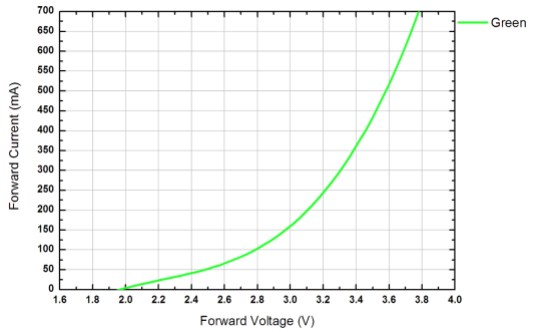


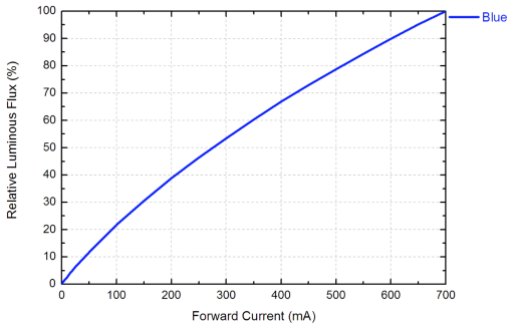


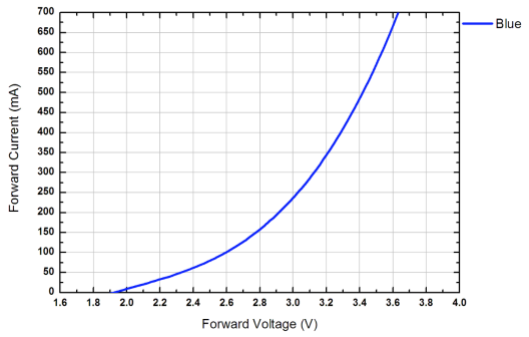

Red
Relative Luminous Flux (%)
Forward Current (mA)

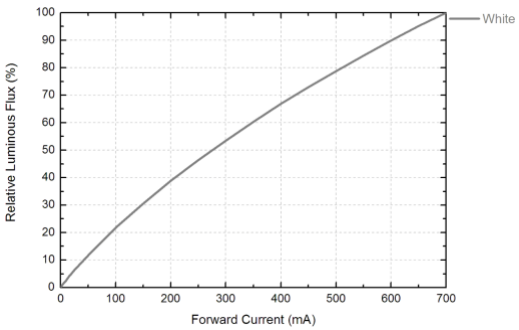

Red
Forward Current (mA)
Forward Voltage (V)

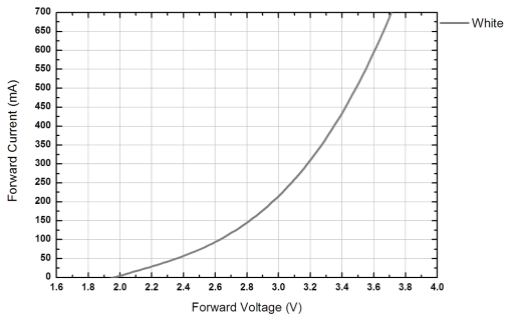

Green
Relative Luminous Flux (%)
Forward Current (mA)


Green
Forward Current (mA)
Forward Voltage (V)


Blue
Relative Luminous Flux (%)
Forward Current (mA)

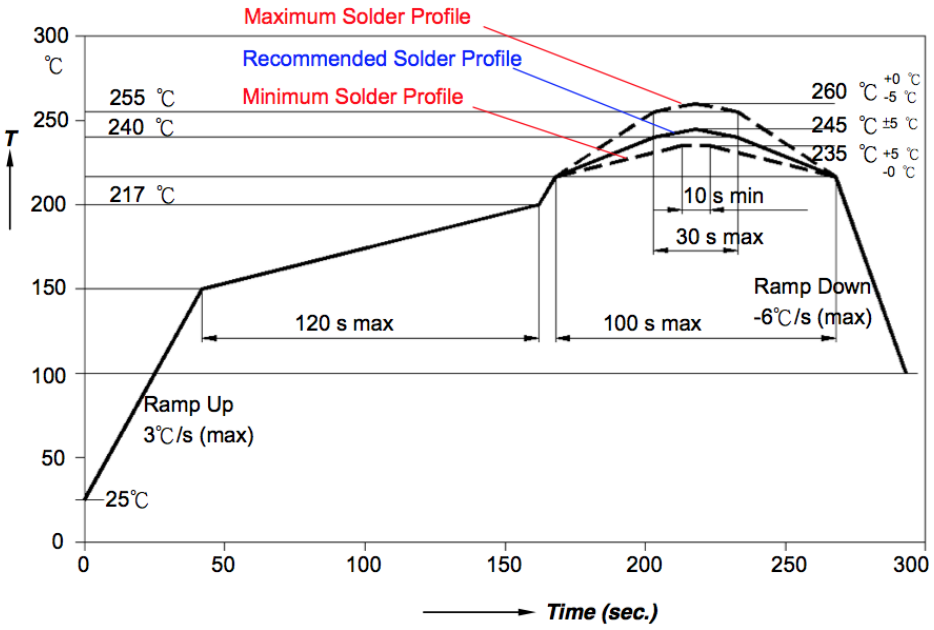

Blue
Forward Current (mA)
Forward Voltage (V)


White
Relative Luminous Flux (%)
Forward Current (mA)


White
Forward Current (mA)
Forward Voltage (V)

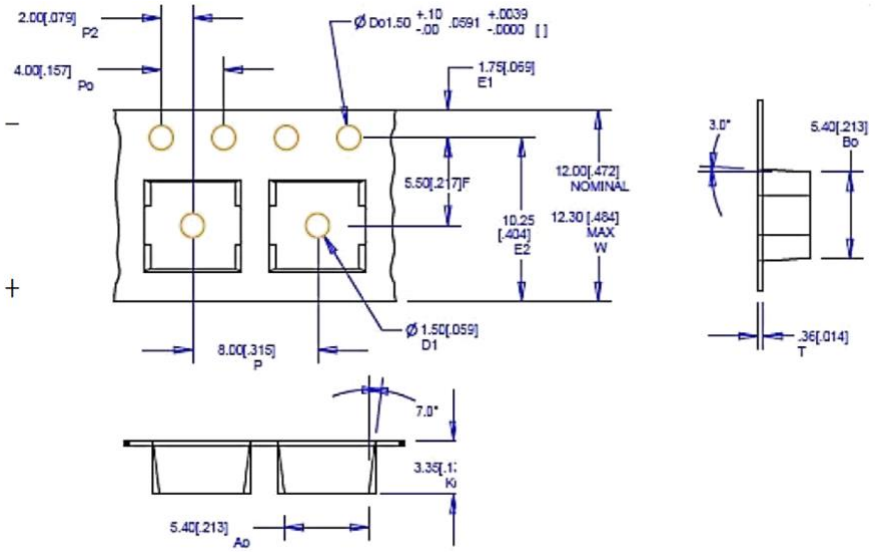
Reflow Soldering

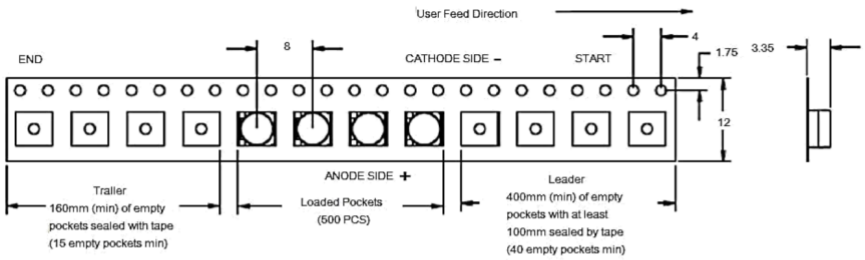
The LEDs can be soldered using the parameter listed below. As a general guideline, the users are suggested to follow the recommended soldering profile provided by the manufacturer of the solder paste. Although the recommended soldering conditions are specified in the list, reflow soldering at the lowest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

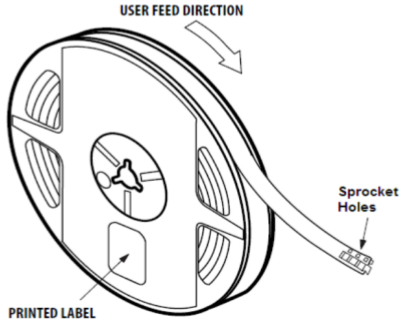


Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Average Ramp-up Rate (Ts_{max} to Tp)	3℃/second max.	3℃/second max.
Preheat - Temperature Min(Ts_{min}) - Temperature Max(Ts_{max}) - Time(ts_{min} to ts_{max})	 100℃ 150℃ 60-120 seconds	 150℃ 200℃ 60-180 seconds
Time maintained above: - Temperature(T_L) - Time(t_L)	 183℃ 60-150 seconds	 217℃ 60-150 seconds
Peak/classification Temperature(Tp)	215℃	240℃
Time within 5℃ of actual Peak Temperature(tp)	10-30 seconds	20-40 seconds
Ramp-Down Rate	6℃/second max.	6℃/second max.
Time 25℃ to Peak Temperature	6 minutes max.	8 minutes max.

Packing Information







Note :

a. All Dimensions are in millimeter.

b. The SPQ of Each Reel is 500pcs, and Each Reel is packed in a moisture-proof bag.

Revision History

Changes since last revision	Page	Version No.	Revision Date
Initial release		1.0	10-03-2014
Update Electro-Optical Characteristics	6	1.1	03-13-2020
Datasheet Revision		1.2	01-27-2022
Revise The Drawing	11	1.3	01-29-2022
Revise The Drawing	7	1.4	09-08-2022
Upgrate Electro-Optical Characteristics	6	1.5	01-06-2026