

Features

- 1212 package (1.2 x 1.2 x 0.38mm) top-mount SMD LED
- High brightness output
- AlInGaP and InGaN chip technology
- Compact package size
- High reliability performance
- Diffused lens configuration

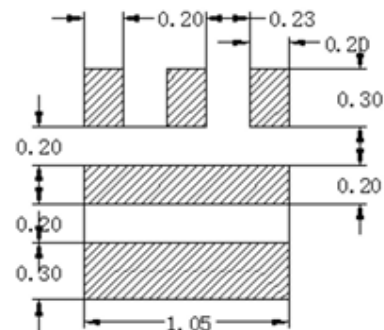
Applications

- Indication
- Information boards
- Amusement equipment
- Full color application
- General use

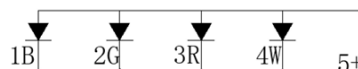
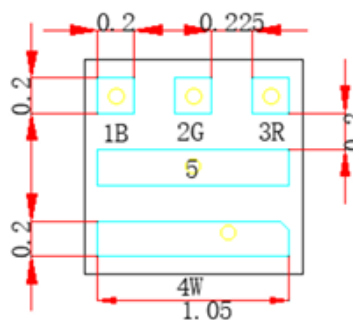
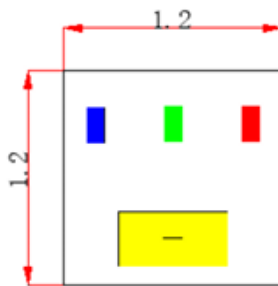
Description

The IN-S22QCT5R5G5B5W.EN is RGBW LED. It is a SMD type LED which can be used in various applications.

Recommended Solder Pattern



Package Dimensions in mm



Notes.

1. All dimensions are in millimeters.
2. Tolerance is ± 0.1 mm unless otherwise noted

Absolute Maximum Rating $T_A = 25^\circ\text{C}$ (Notes)

Parameter	Symbol	Max.				Unit
		Red	Green	Blue	White	
Average Forward Current	I_F	5				mA
Peak Forward Current	I_{FP}	5				mA
Reverse Voltage	V_R	Not designed for reverse operation				-
Power Dissipation	P_D	13	16	16	16	mW
Operating Temperature Range	T_{OPR}	-40 ~ 85				$^\circ\text{C}$
Storage Temperature Range	T_{STO}	-40 ~ 85				$^\circ\text{C}$
Lead Soldering Condition (Reflow)	T_{SOL}	Below 260°C , Max. 5 seconds				

Notes

1. Condition for I_{FP} is pulse of 1/10 duty and 0.1msec width
2. This product should be operated under forward bias conditions. Continuous application of reverse voltage may cause migration, potentially resulting in LED damage.

ESD Precaution

ATTENTION: Electrostatic Discharge (ESD) protection



The symbol above denotes that ESD precaution is needed. ESD protection for GaP and AlGaAs based chips is necessary even though they are relatively safe in the presence of low static-electric discharge. Parts built with AlInGaP, GaN, or/and InGaP based chips are STATIC SENSITIVE devices. ESD precaution must be taken during design and assembly.

If manual work or processing is needed, please ensure the device is adequately protected from ESD during the process.

Please be advised that normal static precautions should be taken in the handling and assembly of this device to prevent damage or degradation which may be induced by electrostatic discharge (ESD).

Electrical Characteristics $T_A = 25^\circ\text{C}$ (Notes)

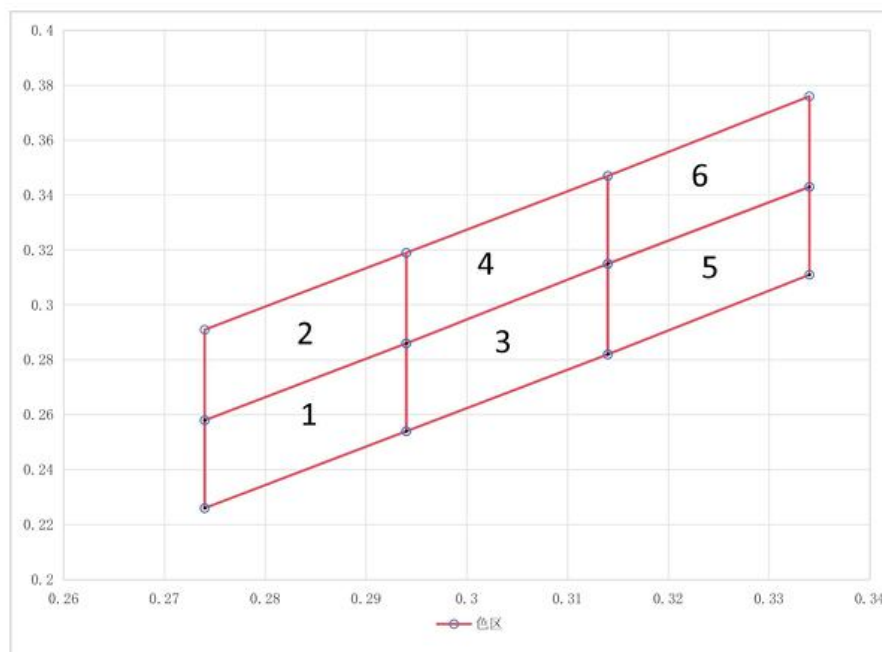
Product	Emission Color	$I_F(\text{mA})$	$V_F(\text{V})$		$\lambda_d(\text{nm})$	Viewing Angle ($^\circ$)	Luminous Intensity I_v (mcd)
			typ.	max	typ.	$2\theta_{1/2}$	typ.
IN-S22QCT5R5G5B5W.EN	Red	5	1.8	2.4	622	130	150
	Green	5	2.7	3.2	525	130	500
	Blue	5	2.8	3.2	465	130	100
	White	5	2.8	3.2	Cx=0.30 / Cy=0.30	130	360

Notes

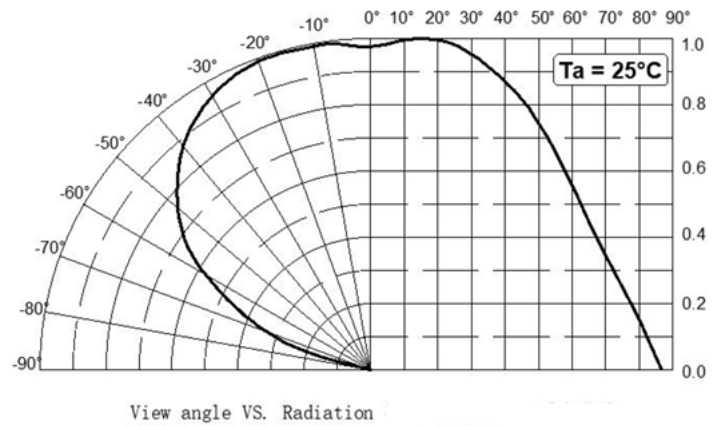
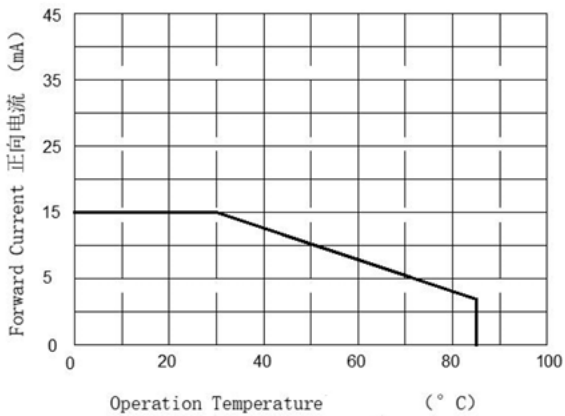
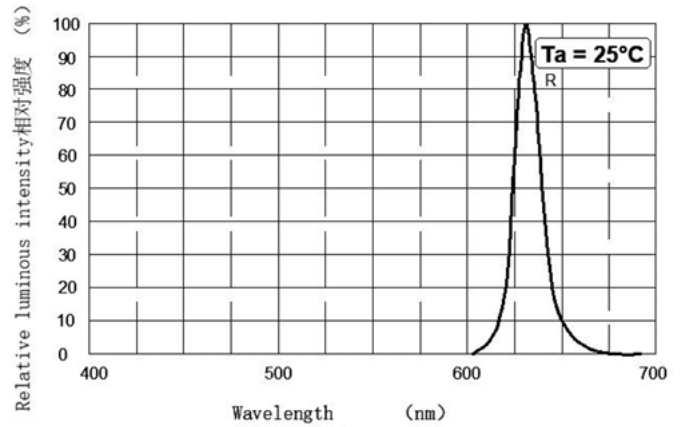
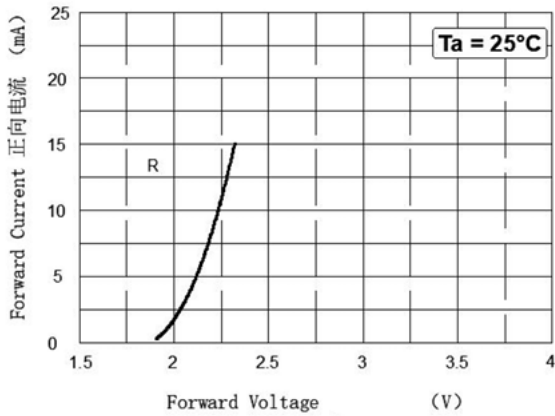
- Performance guaranteed only under conditions listed in above tables.
- Viewing angle($2\theta_{1/2}$) $\pm 10^\circ$

Chromaticity Bin (for White only)

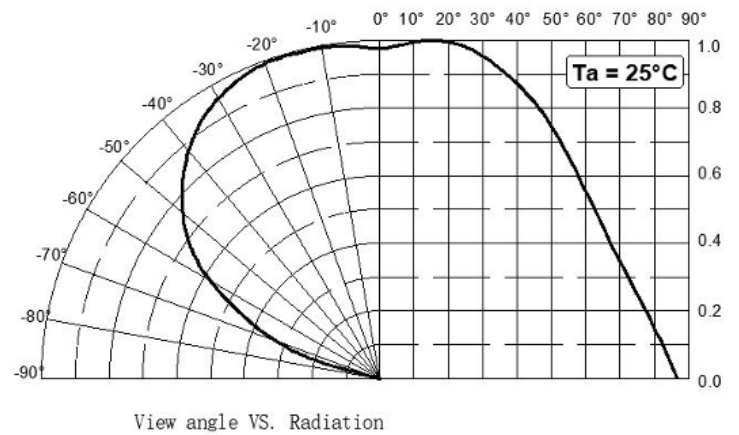
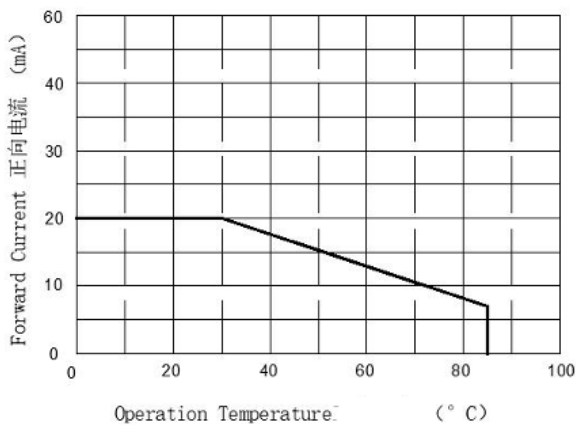
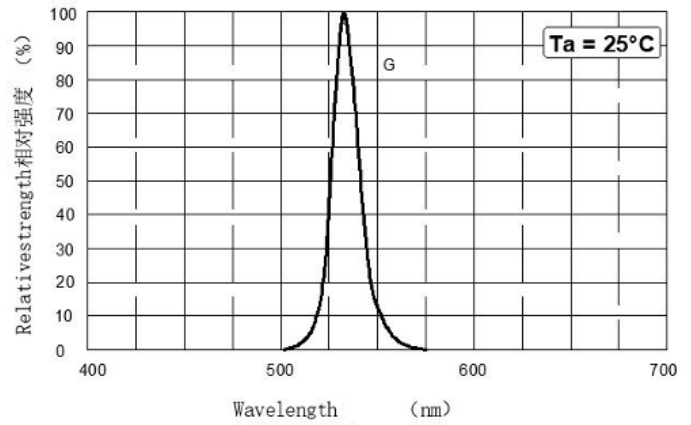
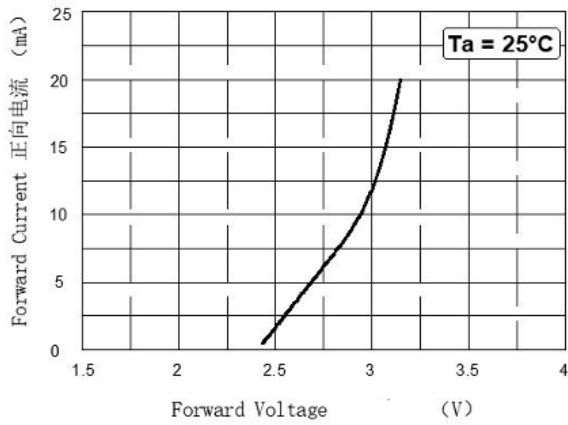
Bin Code	CIE _x	CIE _y	Bin Code	CIE _x	CIE _y
1	0.274	0.226	2	0.274	0.258
	0.274	0.258		0.274	0.291
	0.294	0.286		0.294	0.319
	0.294	0.254		0.294	0.286
	0.274	0.226		0.274	0.258
3	0.294	0.254	4	0.294	0.286
	0.294	0.286		0.294	0.319
	0.314	0.315		0.314	0.347
	0.314	0.282		0.314	0.315
	0.294	0.254		0.294	0.286
5	0.314	0.282	6	0.314	0.315
	0.314	0.315		0.314	0.347
	0.334	0.343		0.334	0.376
	0.334	0.311		0.334	0.343
	0.314	0.282		0.314	0.315



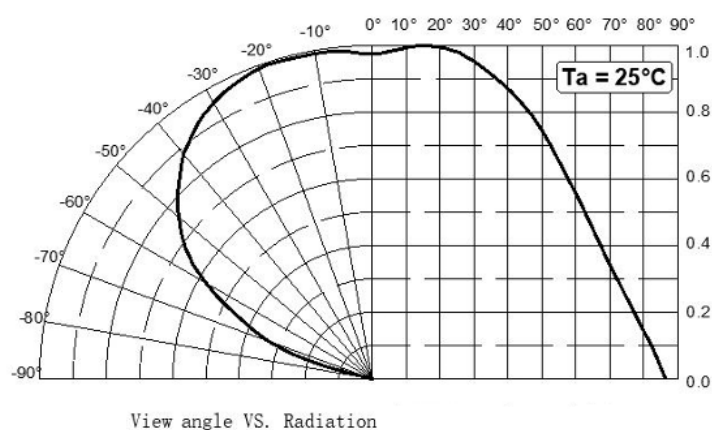
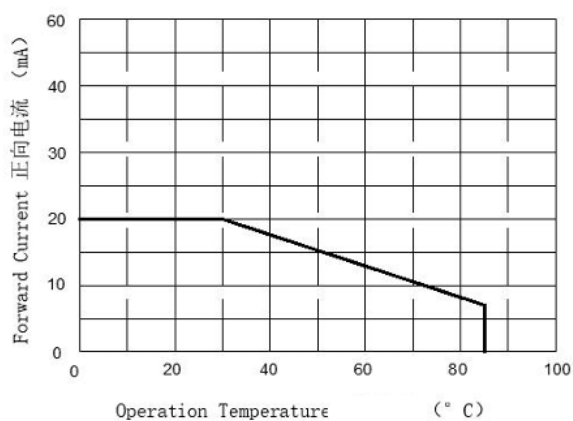
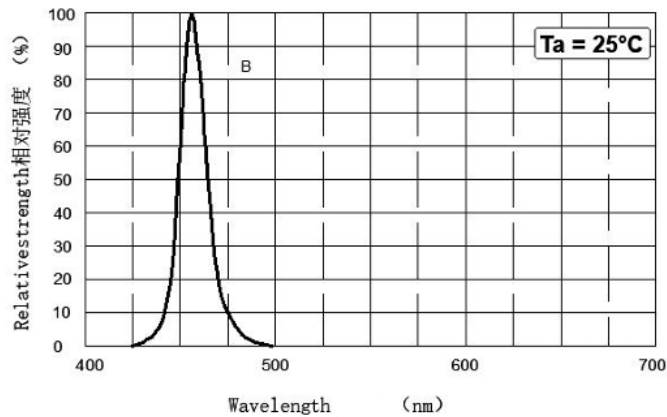
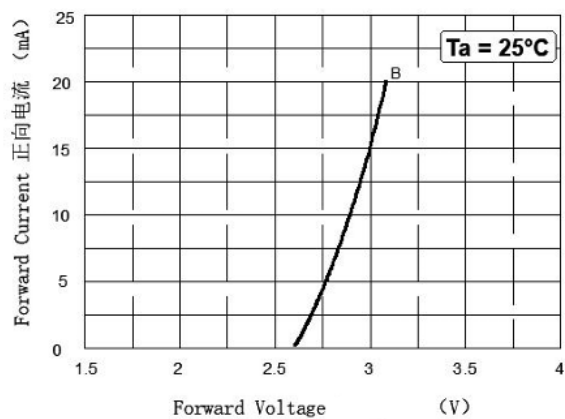
Typical Characteristic Curves -Red



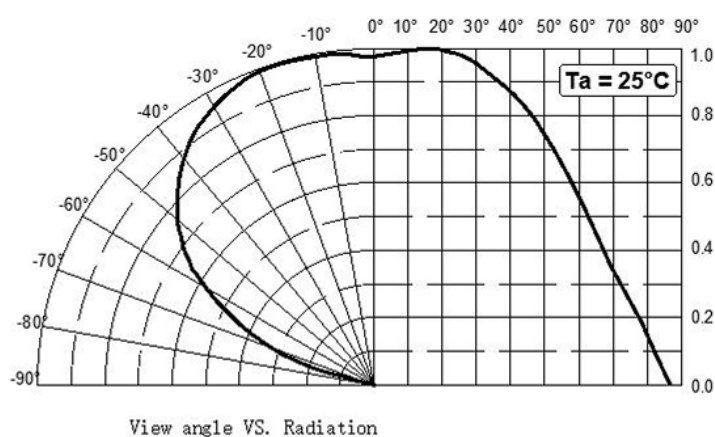
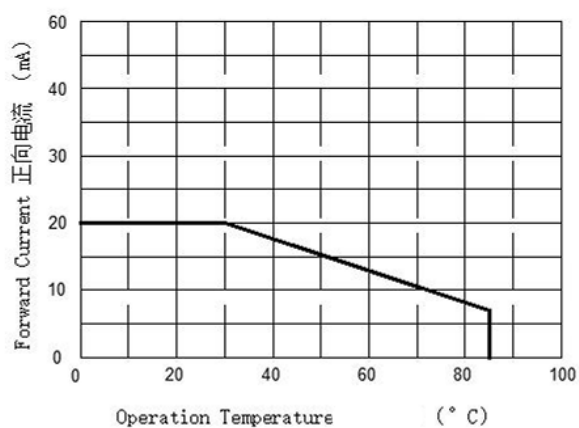
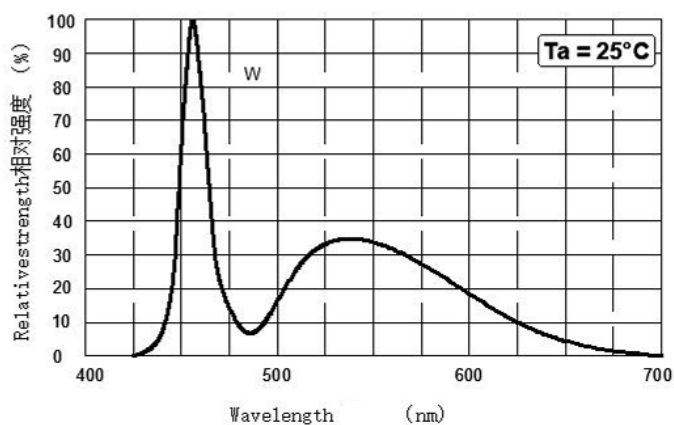
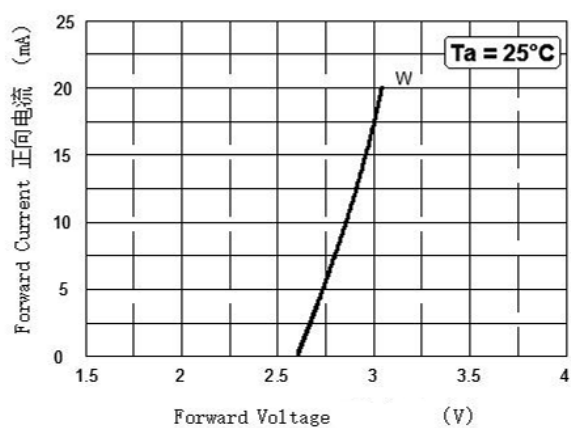
Typical Characteristic Curves -Green



Typical Characteristic Curves -Blue



Typical Characteristic Curves -White



Ordering Information

Orderable Part Number	Emission Color	Test Current I_F (mA)	Luminous Intensity I_V (mcd) (Typ.)	Forward Voltage V_F (V) (Typ.)
IN-S22QCT5R5G5B5W.EN	Red	5	150	1.8
	Green	5	500	2.7
	Blue	5	100	2.7
	White	5	360	2.8

Label Specifications



Date: yyyy/mm/dd
||||| ||| ||| ||| ||| |||

CUSTOMER P/N:
||||| ||| ||| ||| ||| ||| |||

INOLUX P/N:
||||| ||| ||| ||| ||| ||| |||

QTY: PCS
||||| ||| ||| ||| ||| ||| |||

LOT NO:
||||| ||| ||| ||| ||| ||| ||| ||| ||| |||

QC
||||| ||| ||| ||| ||| ||| ||| ||| ||| |||

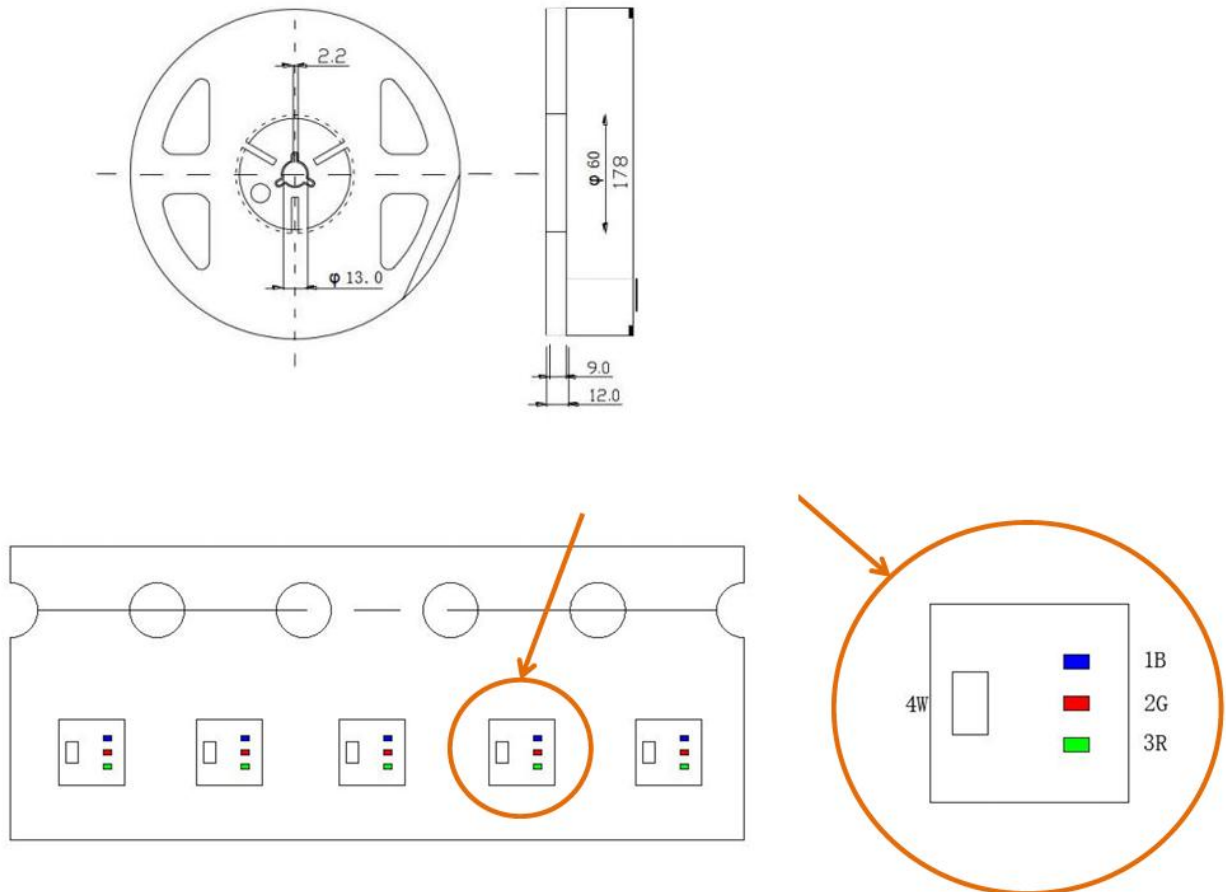
IV BIN: COLOR BIN: VF:

Inolux P/N:

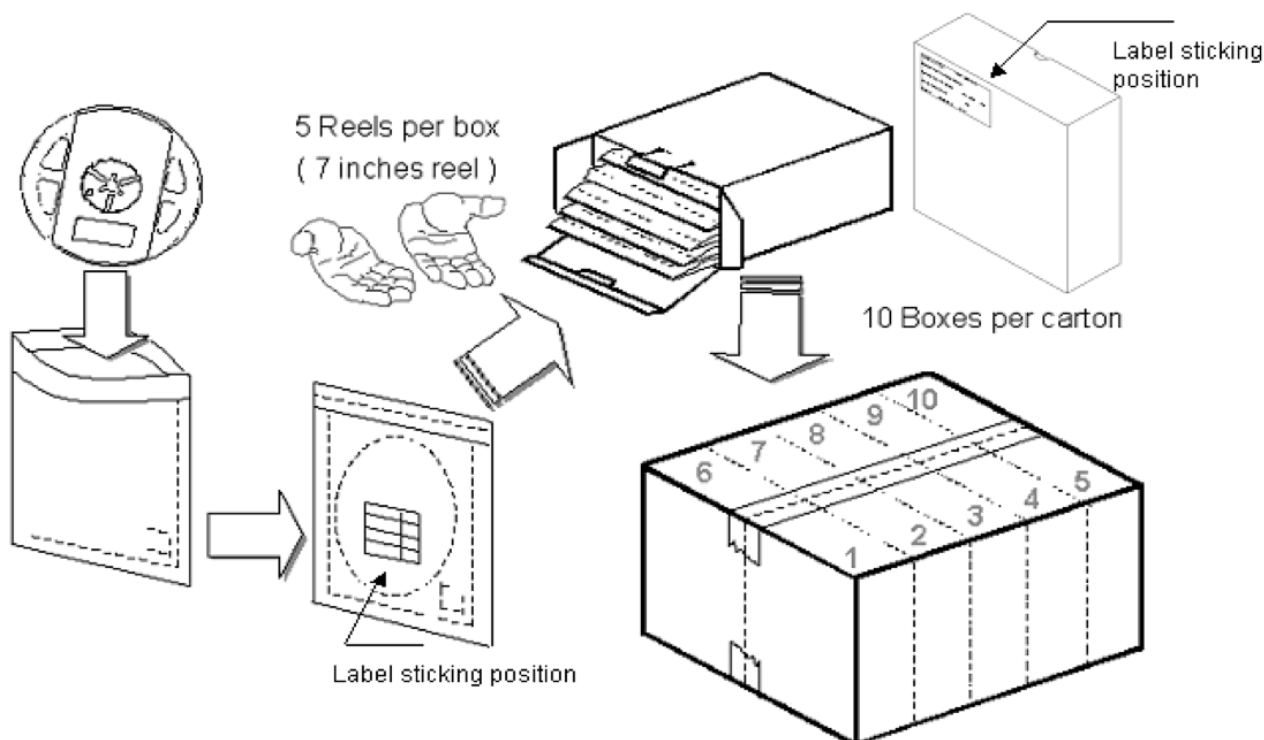
I	N	-	S	2	2	QC	T	5	R	5	G	5-	B	5	W	-	X	X	X	X
Inolux SMD			Material	Package	Variation	Orientation	Current	Color	Current	Color	Current	Color	Current	Color	-	Customized Stamp-off				
			SMD =S	22QC = 1.2x1.2x0.38mm SMD RGBW		T= Top Mount	5 = 5mA	R= Red	5 = 5mA	G= Green	5 = 5mA	B=Blue	5 = 5mA	W= White	-	-				

Lot No.:

Z	2	0	1	7	01	24	001
Internal Tracker	Year (2017, 2018,)				Month	Date	Serial

Packaging Information: 3000pcs Per Reel
Tape Dimension


Packing Dimension



5 boxes per carton are available depending on shipment quantity.

	Specification	Material	Quantity
Carrier tape	Per EIA 481-1A specs	Conductive black tape	3000 pcs
Reel	Per EIA 481-1A specs	Conductive black	
Label	Standard	Paper	
Packing bag	220x240mm	Aluminum laminated bag/ no-zipper	One reel per bag
Carton	Standard	Paper	Non-specified

Others:

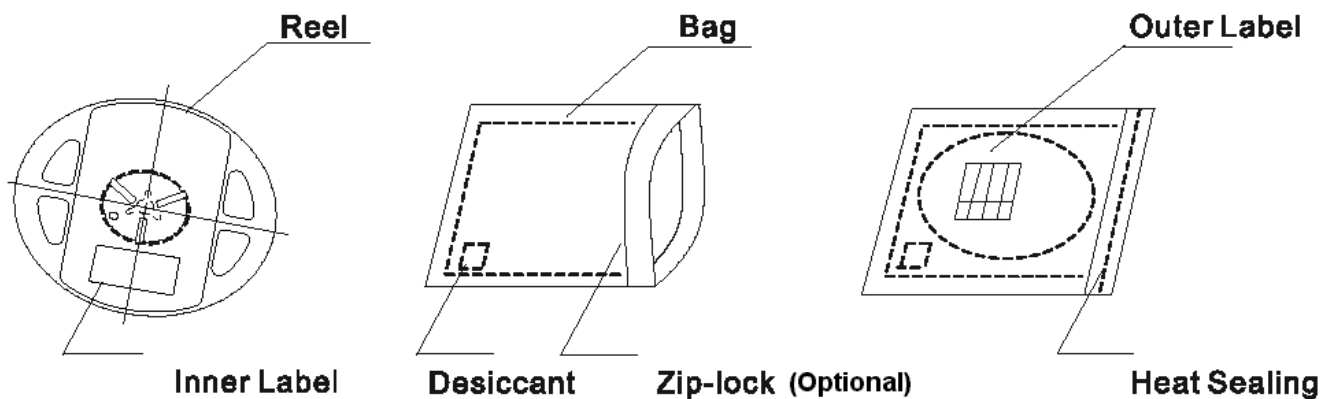
Each immediate box consists of 5 reels. The 5 reels may not necessarily have the same lot number or the same bin combinations of Iv, λ_D and Vf. Each reel has a label identifying its specification; the immediate box consists of a product label as well.

Dry Pack

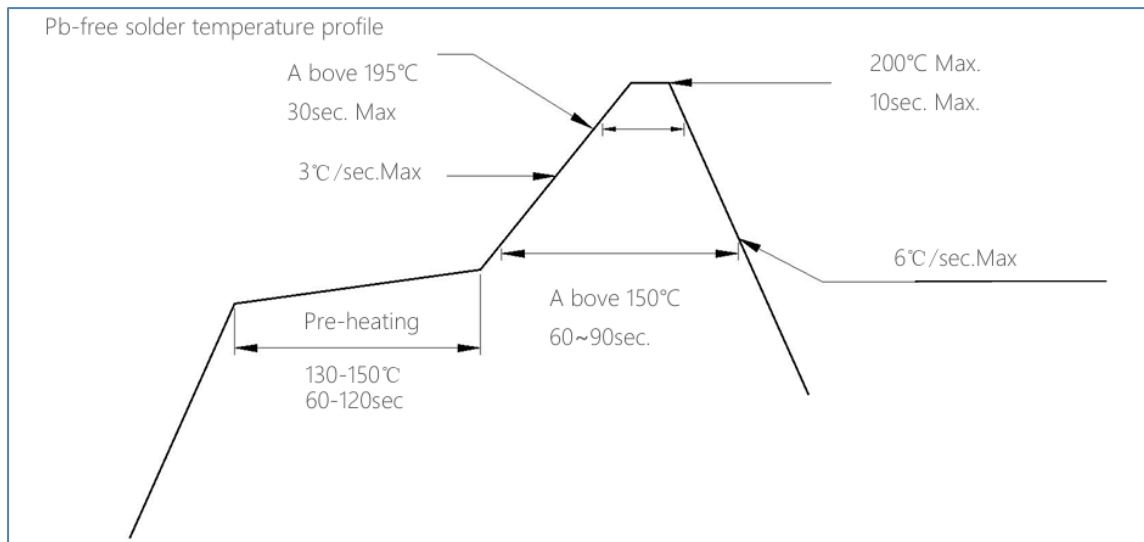
All SMD optical devices are **MOISTURE SENSITIVE**. Avoid exposure to moisture at all times during transportation or storage. Every reel is packaged in a moisture protected anti-static bag. Each bag is properly sealed prior to shipment.

Upon request, a humidity indicator will be included in the moisture protected anti-static bag prior to shipment.

The packaging sequence is as follows:



Reflow Soldering



- Reflow soldering should not be done more than twice.
- In soldering process, stress on the LEDs during heating should be avoided.
- After soldering, do not bend the circuit board.

Precautions

- Avoid exposure to moisture at all times during transportation or storage.
- Anti-Static precaution must be taken when handling GaN, InGaN, and AlInGaP products.
- It is suggested to connect the unit with a current limiting resistor of the proper size. Avoid applying a reverse voltage.
- Avoid operation beyond the limits as specified by the absolute maximum ratings.
- Avoid direct contact with the surface through which the LED emits light.
- If possible, assemble the unit in a clean room or dust-free environment.

Reworking

- Rework should be completed within 5 seconds under 260 °C.
- The iron tip must not come in contact with the copper foil.
- Twin-head type is preferred.

Cleaning

Following are cleaning procedures after soldering:

- An alcohol-based solvent such as isopropyl alcohol (IPA) is recommended.
- Temperature x Time should be 50°C x 30sec. or <30°C x 3min
- Ultra sonic cleaning: < 15W/ bath; bath volume ≤ 1liter
- Curing: 100 °C max, <3min

Cautions of Pick and Place

- Avoid stress on the resin at elevated temperature.
- Avoid rubbing or scraping the resin by any object.
- Electro-static may cause damage to the component. Please ensure that the equipment is properly grounded. Use of an ionizer fan is recommended.

Revision History

Changes since last revision	Page	Version No.	Revision Date
Initial Release		1.0	04-16-2026
			-

DISCLAIMER

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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.