

Inolux Right Angle Surface Mount LED Data Sheet IN-V108TW

Official Product	Part No. IN-V108TW	Customer Part No.		Data Sheet No.
Preliminary Product	*****	*****		IN-V108TW
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Nov. 24, 2014	Version of 1.0	Page 1/17

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DISCLAIMER

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LIFE SUPPORT POLICY

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 Corporation. 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.

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Product Specifications

	Specification	Material	Quantity
Iv	1440~1900 mcd @20mA/ Ta= 25° C Tolerance: ±7%		
Chromaticity Coordinates	See Page 8 @20mA/ Ta= 25° C Tolerance: ± 0.005		
Vf	2.9-3.7 (0.1V/Bin) @20mA/ Ta= 25° C Tolerance: ±0.05V		
Ir	< 100 µA @ V _R = 5 V		
Resin	Yellow	Epoxy resin	
Carrier tape	Per EIA 481-1A specs	Conductive black tape	2000pcs per reel
Reel	Per EIA 481-1A specs	Conductive black	
Label	IN standard	Paper	
Packing bag	220x240mm	Aluminum laminated bag/ no-zipper	One reel per bag
Carton	IN standard	Paper	

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.

ATTENTION: Electrostatic Discharge (ESD) protection


The symbol to the left 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 InGaN 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.

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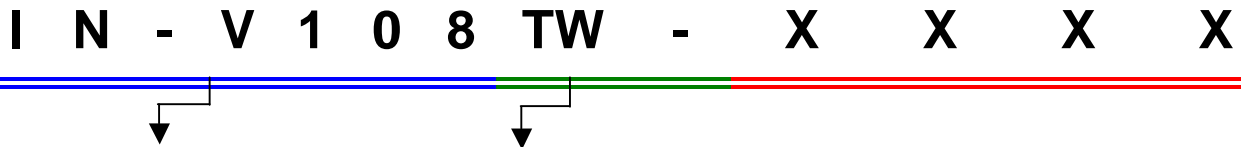
Label Specifications



■ Customer P/N: To Be Defined

■ Inolux P/N:

I N - V 1 0 8 T W - X X X X



Series Name	Emitting Color	Customer Code
IN-V108: 2.8(L) x1.2 (W)x0.8(H) mm	TW: White@20mA	XXXX Customer Product Code

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 Trading 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		

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■ Luminous Intensity (Iv) Bin:

Color	Bin Code	Spec. Range
White	Z31	1440 – 1520 mcd
	Z32	1520 – 1610 mcd
	Z41	1610 – 1700 mcd
	Z42	1700 – 1800 mcd
	Z51	1800 – 1900 mcd

@20mA

■ Forward Voltage (Vf) Bin:

Color	Bin Code	Spec. Range
White	H2	2.9-3.0V
	H3	3.0-3.1V
	H4	3.1-3.2V
	J1	3.2-3.3V
	J2	3.3-3.4V
	J3	3.4-3.5V
	J4	3.5-3.6V
	K1	3.6-3.7V

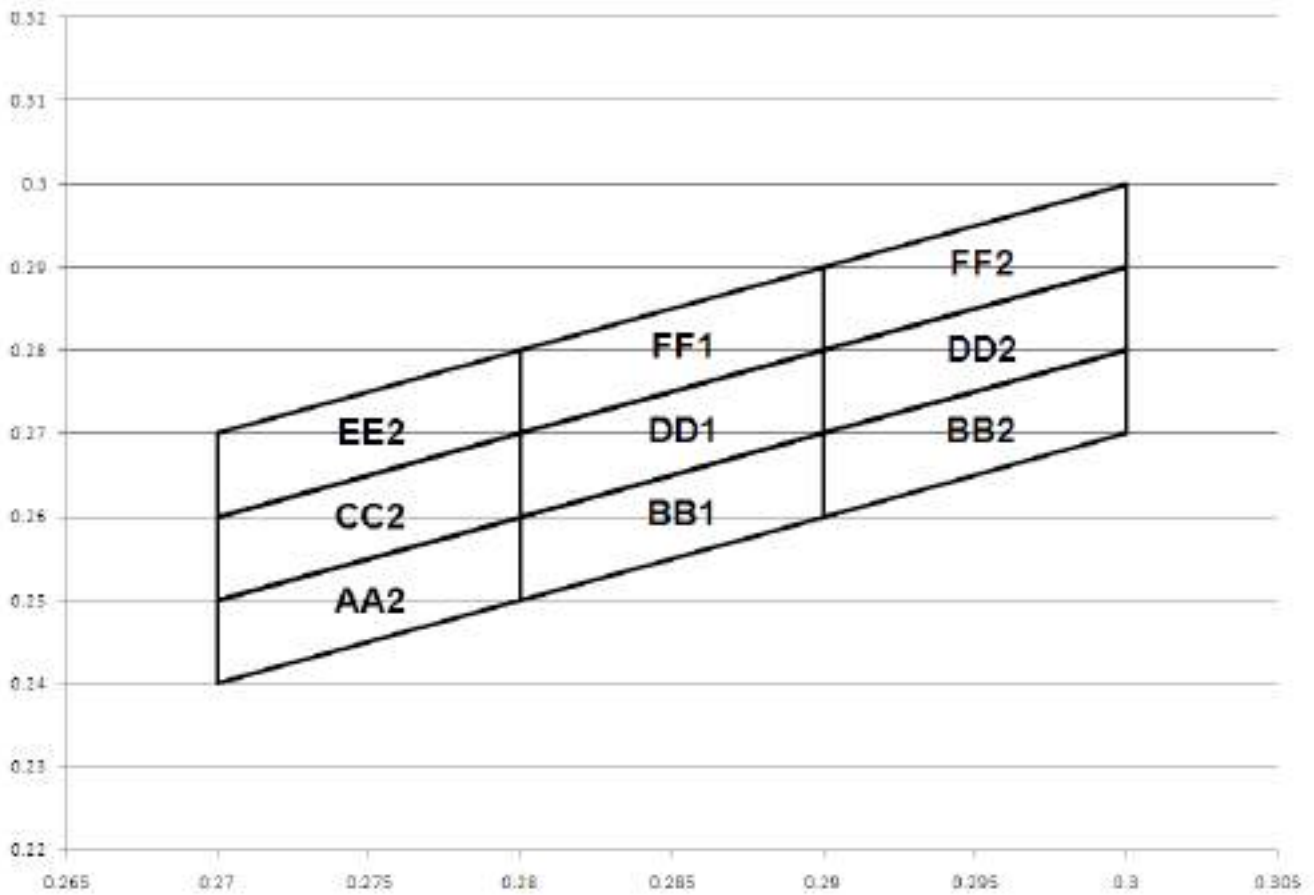
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■ Chromaticity (Color) Bin:

AA2		BB1		BB2		CC2		DD1	
X	Y	X	Y	X	Y	X	Y	X	Y
0.27	0.24	0.28	0.25	0.29	0.26	0.27	0.25	0.28	0.26
0.27	0.25	0.28	0.26	0.29	0.27	0.27	0.26	0.29	0.27
0.28	0.26	0.29	0.27	0.3	0.28	0.28	0.27	0.29	0.28
0.28	0.25	0.29	0.26	0.3	0.27	0.28	0.26	0.28	0.27
0.27	0.24	0.28	0.25	0.29	0.26	0.27	0.25	0.28	0.26

DD2		EE2		FF1		FF2	
X	Y	X	Y	X	Y	X	Y
0.29	0.27	0.27	0.26	0.28	0.27	0.29	0.28
0.29	0.28	0.28	0.27	0.29	0.28	0.29	0.29
0.3	0.29	0.28	0.28	0.29	0.29	0.3	0.3
0.3	0.28	0.27	0.27	0.28	0.28	0.3	0.29
0.29	0.27	0.27	0.26	0.28	0.27	0.29	0.28

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Product Features

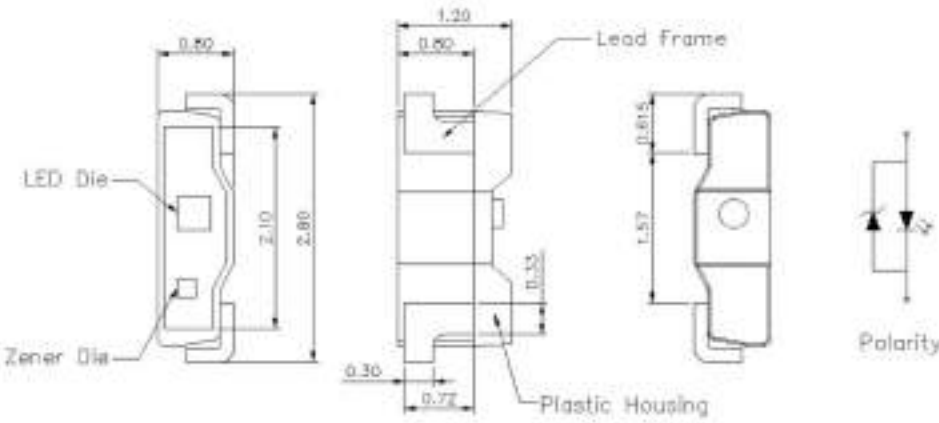
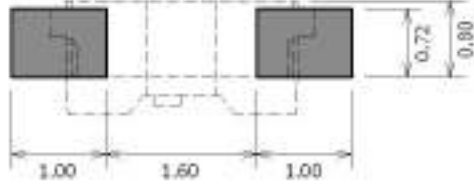
Electro-Optical Characteristics

(I_F @ 20mA, T_a 25 °C)

Code for parts	Lighting Color	Material	V_F (V)		λ (nm)			I_V (mcd)
			typ	max	λ_D	λ_P	$\Delta\lambda$	Typ
IN-V108TW	White	InGaN	2.9	3.5	---	---	-----	1600

Package Outline Dimension and Recommended Soldering Pattern for Reflow Soldering

Unit: mm Tolerance: +/-0.1

Outline Dim.	Soldering Pattern
	
Soldering terminals may shift in the x, y direction.	

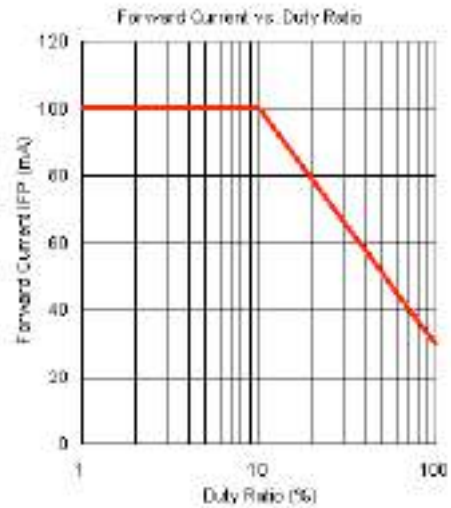
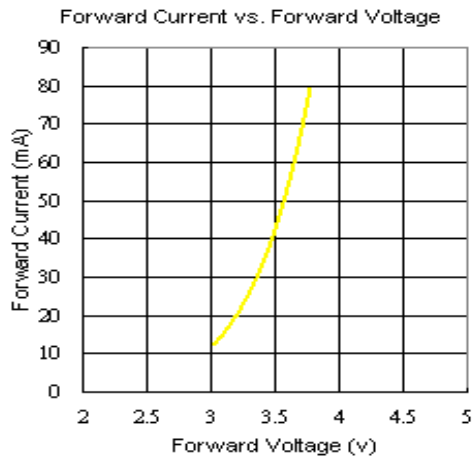
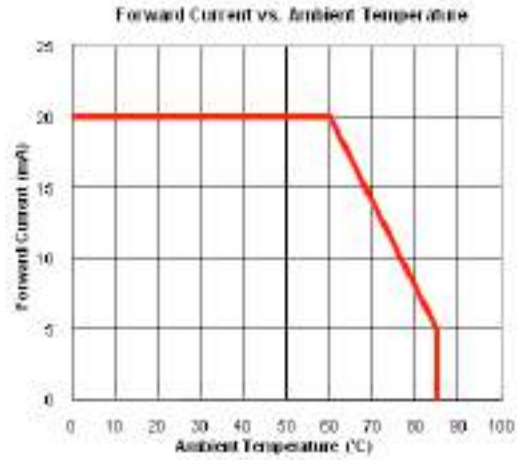
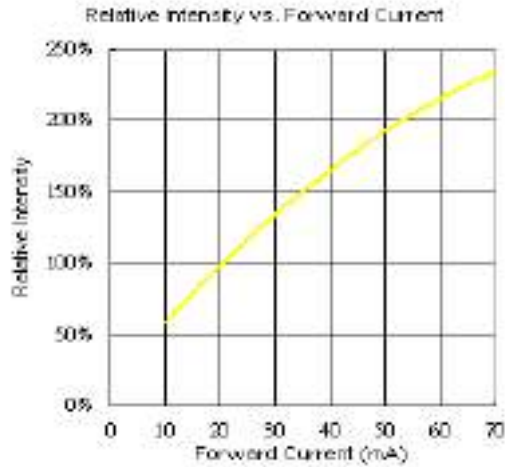
Absolute Maximum Ratings

(T_a 25 °C)

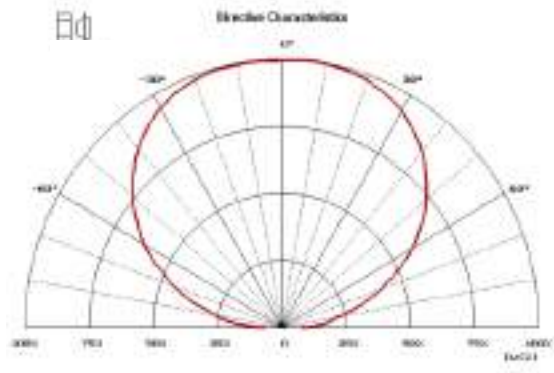
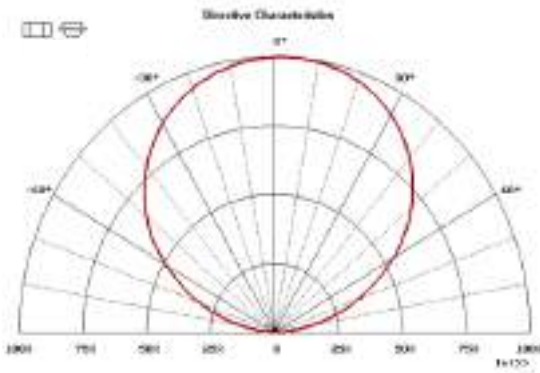
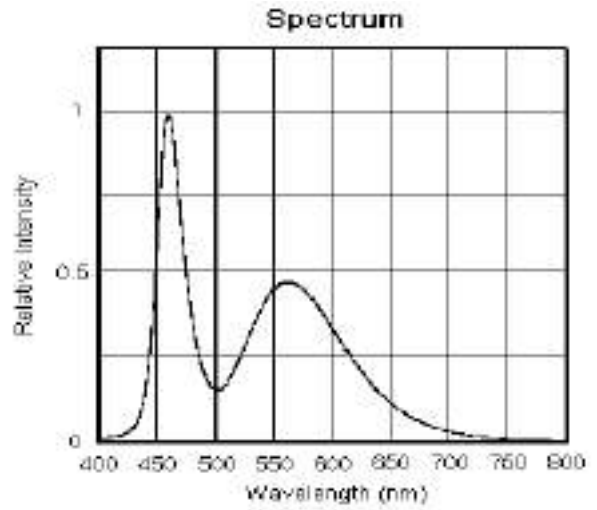
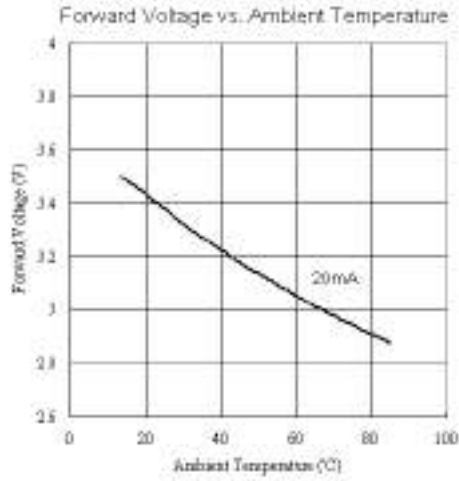
Series	P_d (mW)	I_F (mA)	I_{FP} (mA)	V_R (V)	I_R (uA)	T_{OP} (°C)	T_{ST} (°C)
IN-V108TW	68	20	80**	5	<100@ $V_R = 5$	-40~+85	-40~+100

** Condition for I_{FP} is pulse of 1/10 duty and 0.1msec width

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Characteristics of IN-V108TW


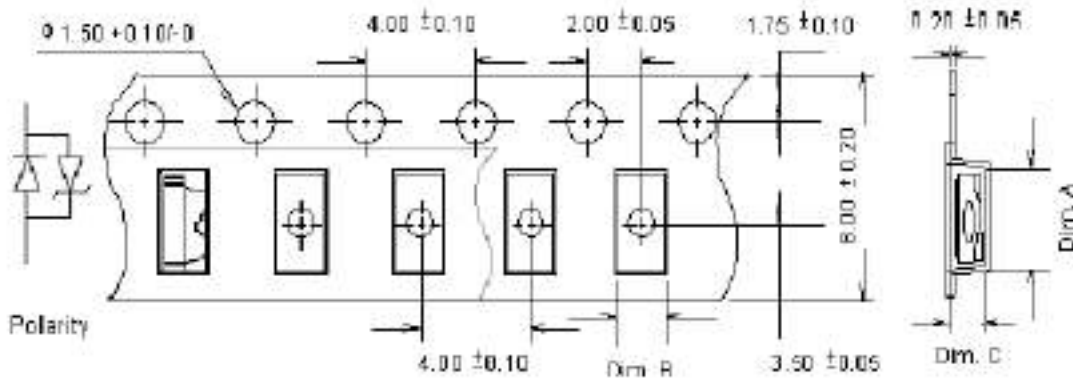
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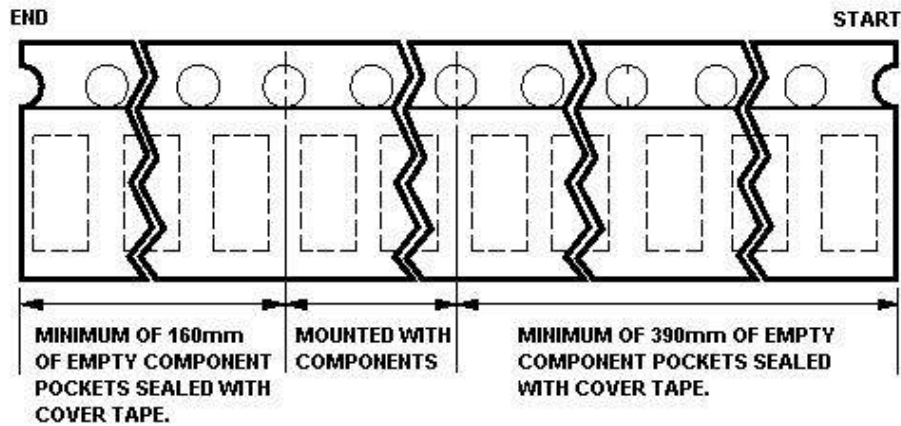
Packaging

Tape Dimension



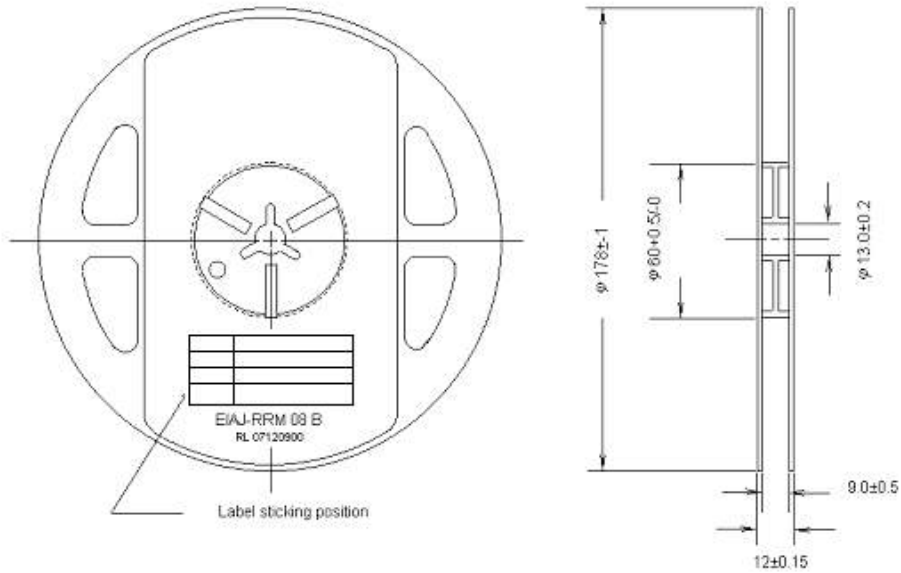
Part No.	Dim. A	Dim. B	Dim. C	Q'ty/Reel
IN-V108TW	3.05±0.05	1.35±0.05	0.95±0.05	2K

2,000 units per reel

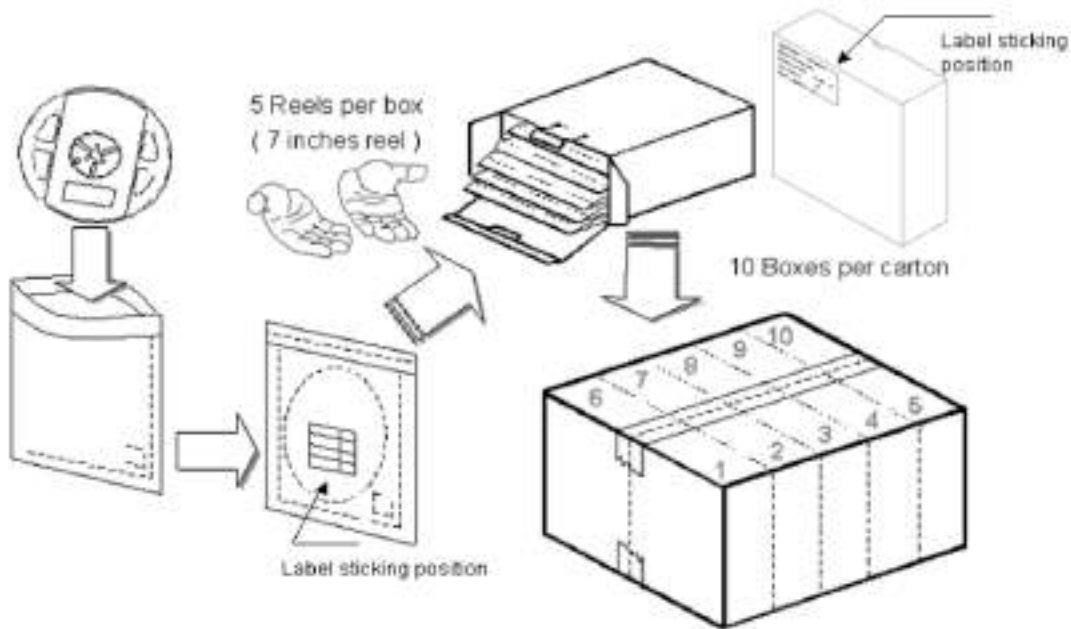


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Reel Dimension



Packing



5 boxes per carton is available depending on shipment quantity.

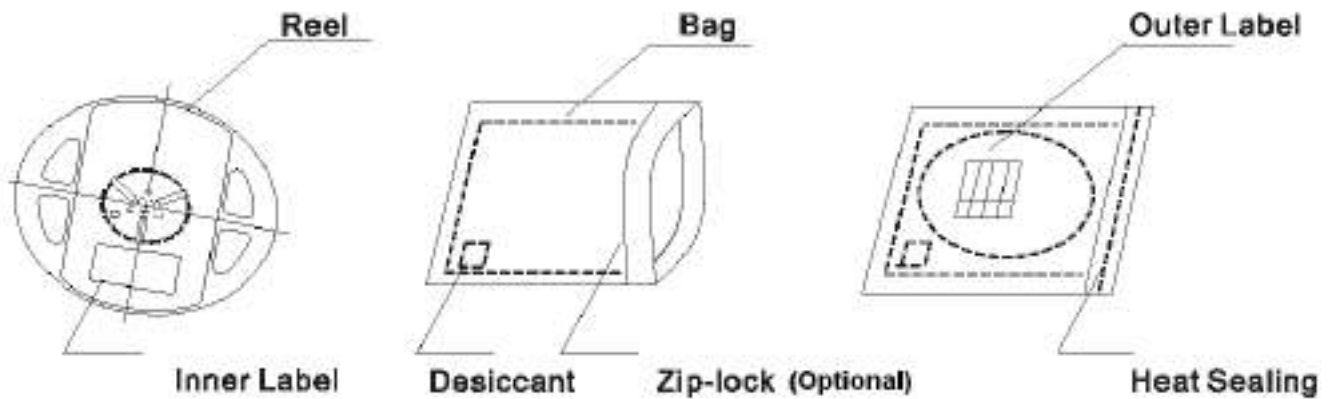
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Dry Pack

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:



PRECAUTIONS

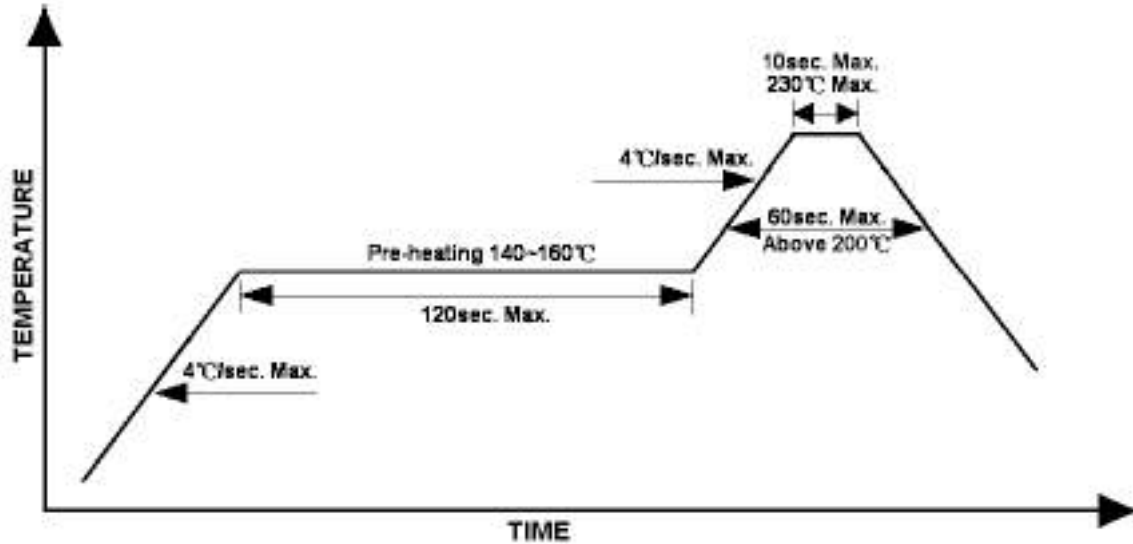
1. Avoid exposure to moisture at all times during transportation or storage.
2. Anti-Static precaution must be taken when handling GaN, InGaN, and AlInGaP products.
3. It is suggested to connect the unit with a current limiting resistor of the proper size. Avoid applying a reverse voltage beyond the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

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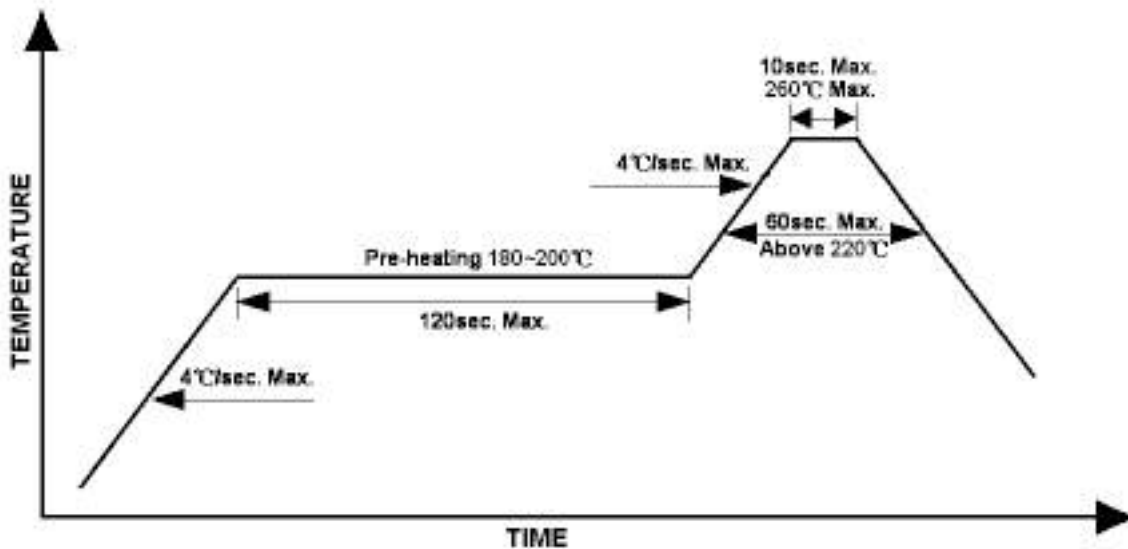
Reflow Soldering

- Recommended tin glue specifications: melting temperature in the range of 178~192 °C
- The recommended reflow soldering profile is as follows (temperatures indicated are as measured on the surface of the LED resin):

Lead Solder Profile



Lead-free Solder Profile



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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 50oC x 30sec. or <30oC x 3min
- Ultra sonic cleaning: < 15W/ bath; bath volume ≤ 1liter
- Curing: 100 OC max, <3min

Cautions of Pick and Place

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

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Revision History

Changes since last revision	Page	Version No.	Revision Date
New format		1.0	011-24-2014

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