

**Harvatek Surface Mount LED Data Sheet
B2632USNB20C-000213**

Official Product	HT Part No. B2632USNB20C-000213		Customer Part No.
Tentative Product	*****		*****
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DISCLAIMER

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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	USD: 28.5-112.5 mcd NB: 28.5-112.5 mcd @20mA/ Ta= 25° C Tolerance±10%		
λ _D	USD: 615-630 nm NB: 464.0-480.0 nm @20mA / Ta=25° C, ± 0.5nm		
Vf	USD: 1.6-2.4 V NB: 2.7-3.9V/0.2V @20mA / Ta=25° C, ± 0.05 V		
Ir	< 100 μA @ V _R = 5 V		
Resin	clear	Epoxy resin	
Carrier tape	Per EIA 481-1A specs	Conductive black tape	3000pcs per reel
Reel	Per EIA 481-1A specs	Conductive black	
Label	HT standard	Paper	
Packing bag	220x240mm	Aluminum laminated bag/ no-zipper	One reel per bag
Carton	HT standard	Paper	

Others:

Every mid-box will be loaded 5 reels. These 5 reels can be different in lot, Iv, lambda, or Vf. Every reel will have an independent label to identify its specification and the mid-box there will have a corresponding label post on it.

ATTENTION: Electricstatic Discharge (ESD) protection



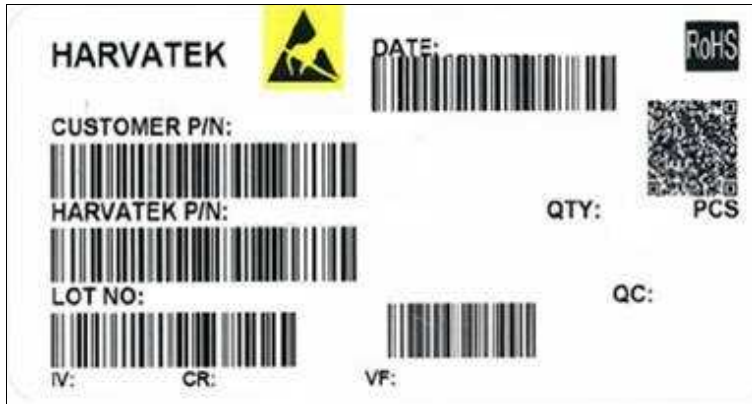
The symbol shown on the page herein to introduce 'Electro-Optical Characteristics'. ESD protection for GaP and AlGaAs based chips is still necessary even though they are safe in low static-electric discharge. Parts built with AlInGaP, GaN, or/and InGaN based chips are **STATIC**

SENSITIVE devices. ESD protection has to considered and taken in the initial design stage.

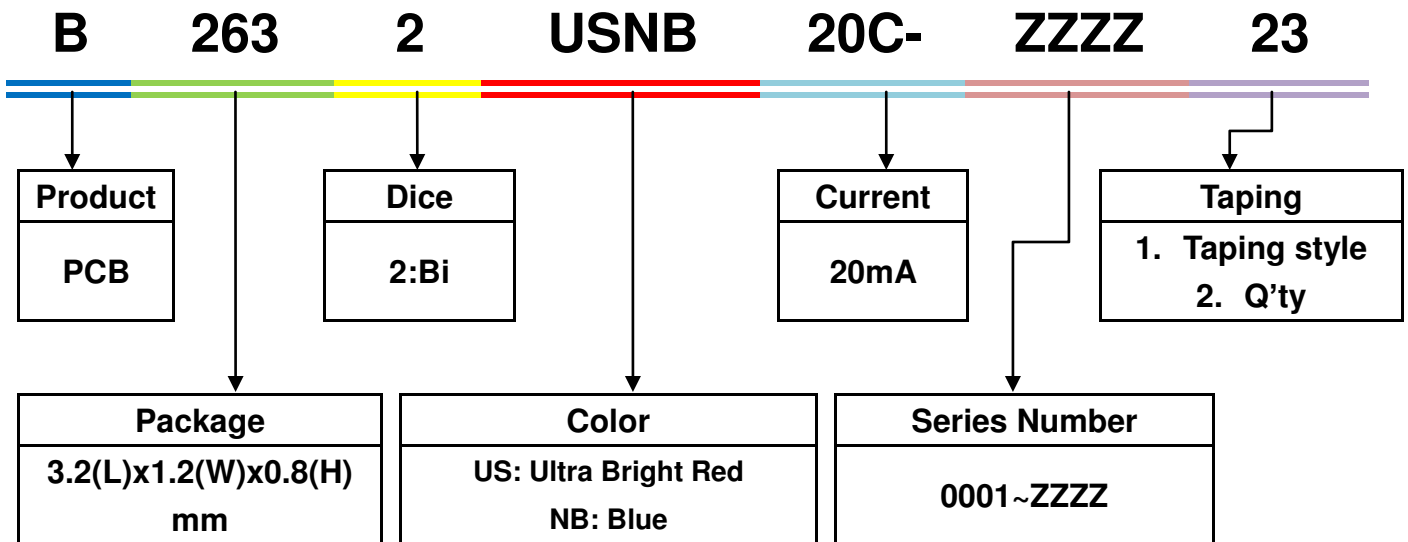
If manual work/process is needed, please ensure the device is well protected from ESD during all the process..

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Label Spec.:



Customer P/N: To Be Defined:



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 2:8 3:C ... 26:Z 27:7 28:8 29:9 30:3 31:4	01~ZZ		000~ZZZ		

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Product specifications

■ Luminous Intensity (I_v) Bin:

Color	Bin Code	Spec. Range
Ultra Bright Red	N	28.5-45.0 mcd
	P	45.0-71.5 mcd
	Q	71.5-112.5 mcd
Blue	N	28.5-45.0 mcd
	P	45.0-71.5 mcd
	Q	71.5-112.5 mcd

■ Dominant Wavelength (λ_D) Bin:

Color	Bin Code	Spec. Range
Ultra Bright Red	-	615.0-630.0 nm
Blue	B	464.0-468.0 nm
	C	468.0-472.0 nm
	D	472.0-476.0 nm
	E	476.0-480.0 nm

■ Forward Voltage (V_F) Bin:

Color	Bin Code	Spec. Range
Ultra Bright Red	--	1.6-2.4V
Blue	--	1.6-2.4V

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Product Features

Electro-Optical Characteristics

($I_F @ 20\text{mA}, T_a 25^\circ\text{C}$)

Code for parts	Lighting Color		$V_F(\text{V})$		$\lambda(\text{nm})$			$I_V(\text{mcd})$
			typ	max	λ_D	λ_P	$\Delta \lambda$	Typical
B2632USNB20	Ultra Bright Red	AllnGaP	2.0	2.4	624	632	20	45.0
	Blue	AllnGaP	3.3	3.9	470	468	40	71.5

Package Outline Dimension Recommended Soldering Pattern for Reflow Soldering

Unit: mm Tolerance: +/-0.1

Outline Dimension	Solder Pattern
<ol style="list-style-type: none"> Soldering terminal may shift in x, y direction. LED die 1 and LED die 2 can be the same chips. Both dices in the package need to be either P side-up or N side-up. 	Unit: mm

Absolute Maximum Ratings

Series	$I_F(\text{mA})$	$I_{FP}(\text{mA})$	$V_R(\text{V})$	$I_R(\mu\text{A})$	$T_{OP}(\text{°C})$	$T_{ST}(\text{°C})$
Ultra Bright Red	20	80	5	<100@ $V_R = 5$	-30~+80	-40~+85
Blue	20	80				

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

Remarks: This product should be operated in forward bias. If a reverse voltage is continuously applied to the product, such operation can cause migration resulting in LED damage.

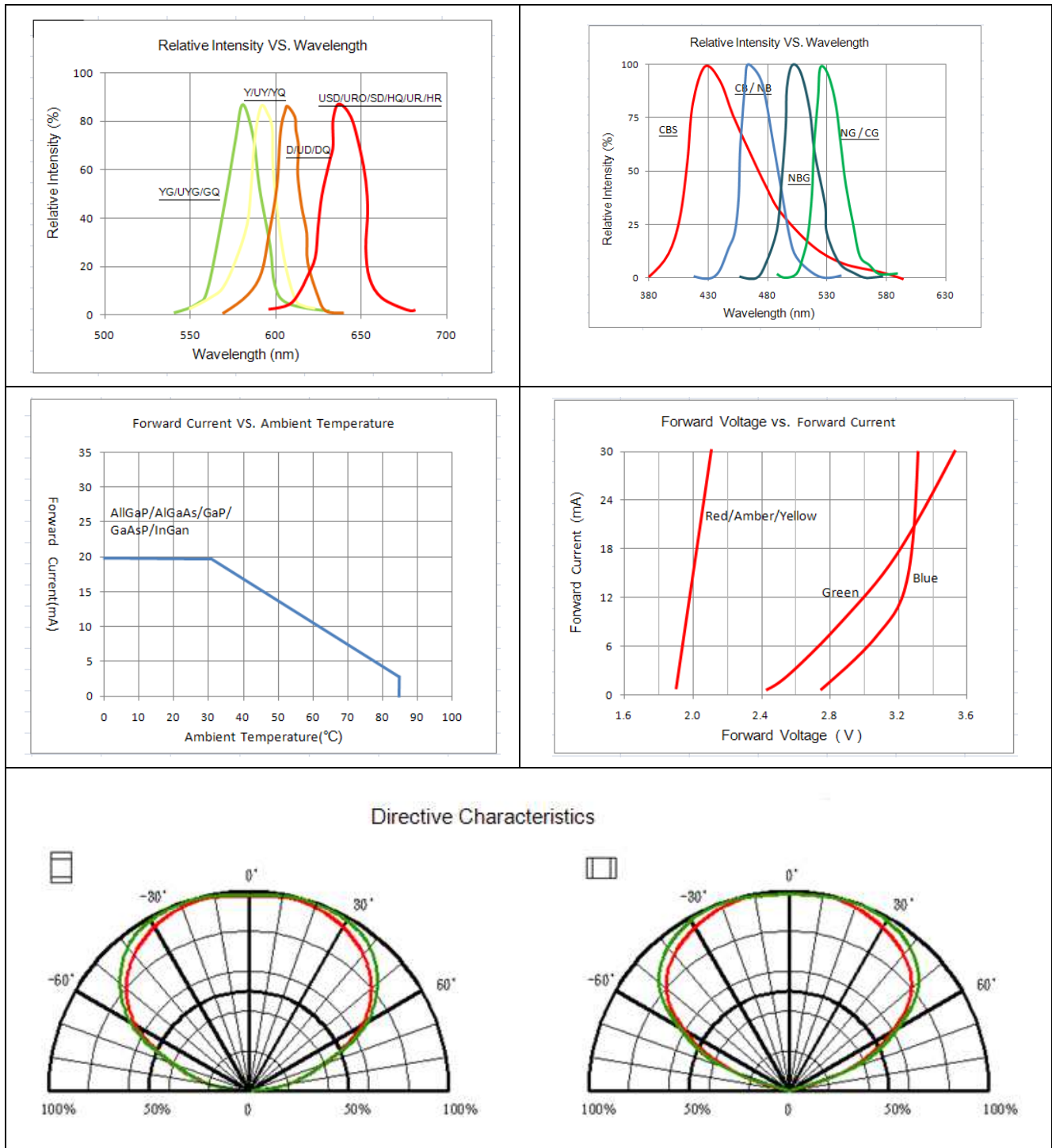
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Precaution for Use

1. The chips should not be used directly in any type of fluid such as water, oil, organic solvent, etc.
2. When the LEDs are illuminating, the maximum ambient temperature should be first considered before operation.
3. LEDs must be stored in a clean environment. A sealed container with a nitrogen atmosphere is necessary if the storage period is over 3 months after shipping.
4. The LEDs must be used within seven days after unpacked. Unused products must be repacked in an anti-electrostatic package, folded to close any opening and then stored in a dry and cool space.
5. The appearance and specifications of the products may be modified for improvement without further notice.
6. The LEDs are sensitive to the static electricity and surge. It is strongly recommended to use a grounded wrist band and anti-electrostatic glove when handling the LEDs. If a voltage over the absolute maximum rating is applied to LEDs, it will damage LEDs. Damaged LEDs will show some abnormal characteristics such as remarkable increase of leak current, lower turn-on voltage and getting unlit at low current.

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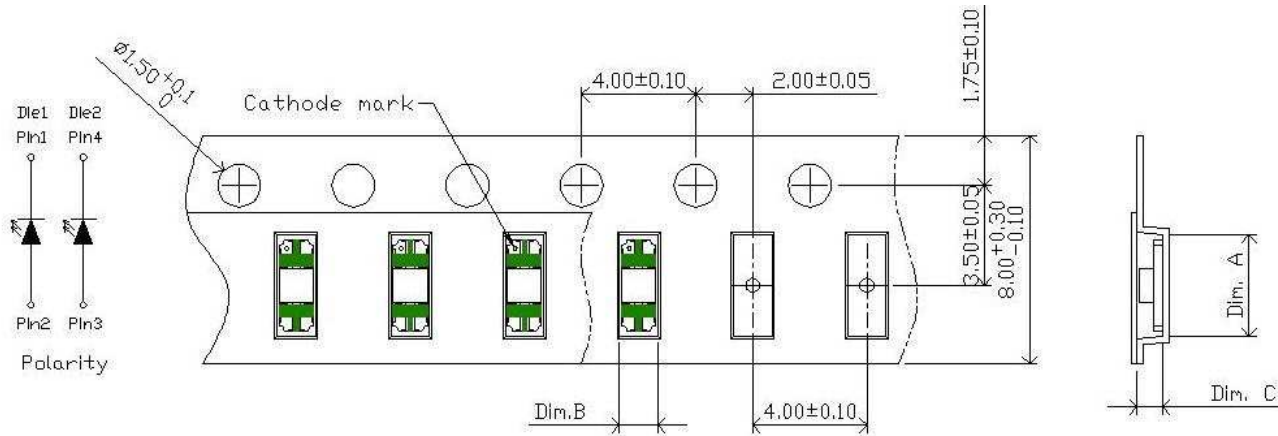
Characteristics of HT-263 Series



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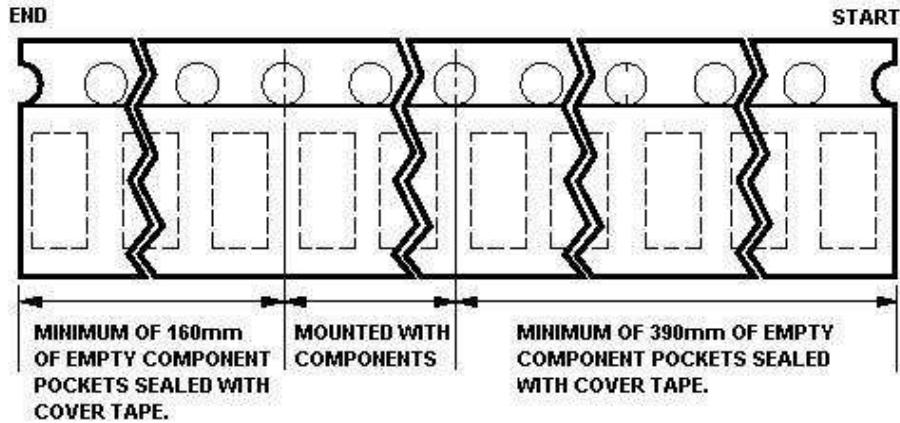
Packaging

Tape Dimension



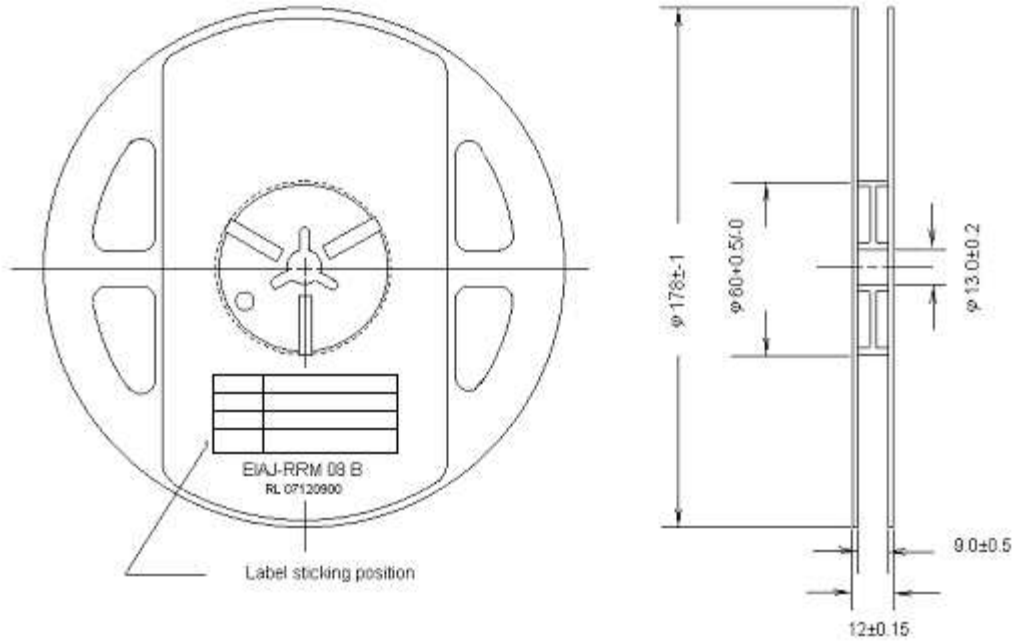
Part No.	Dim. A	Dim. B	Dim. C	Q'ty/Reel
HT-263	3.40 ± 0.10	1.42 ± 0.10	1.37 ± 0.10	3K

Unit: mm :

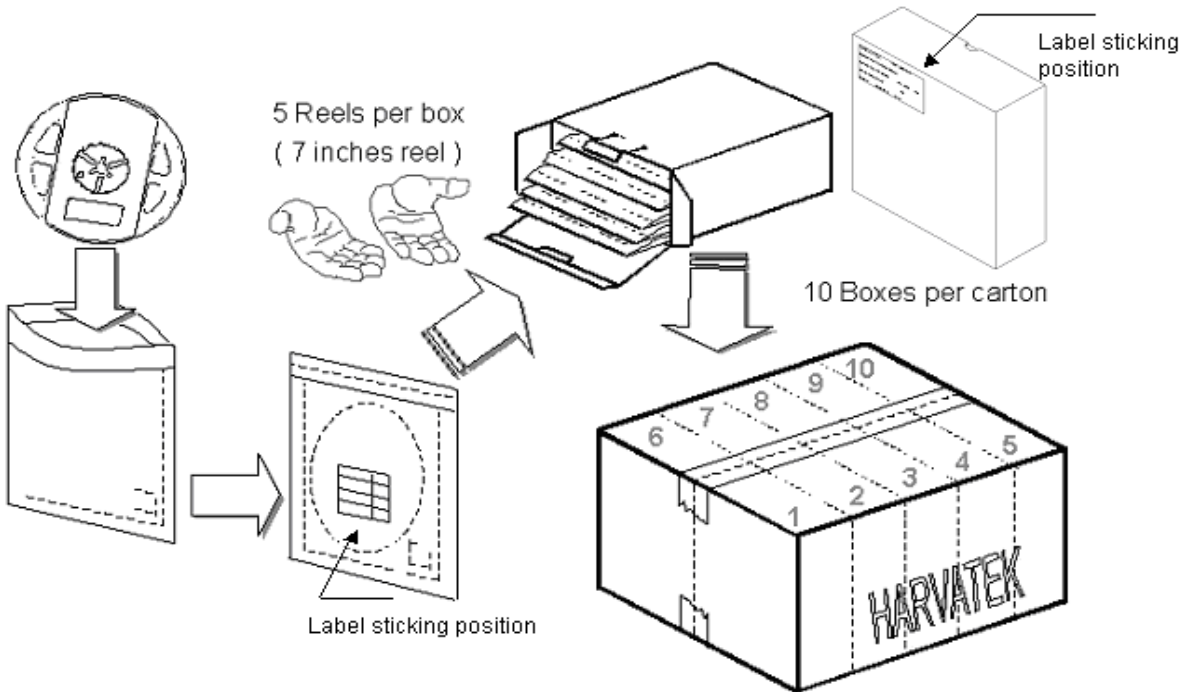


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Reel Dimension



Packing



5 boxes per carton is available depending on shipment quantity.

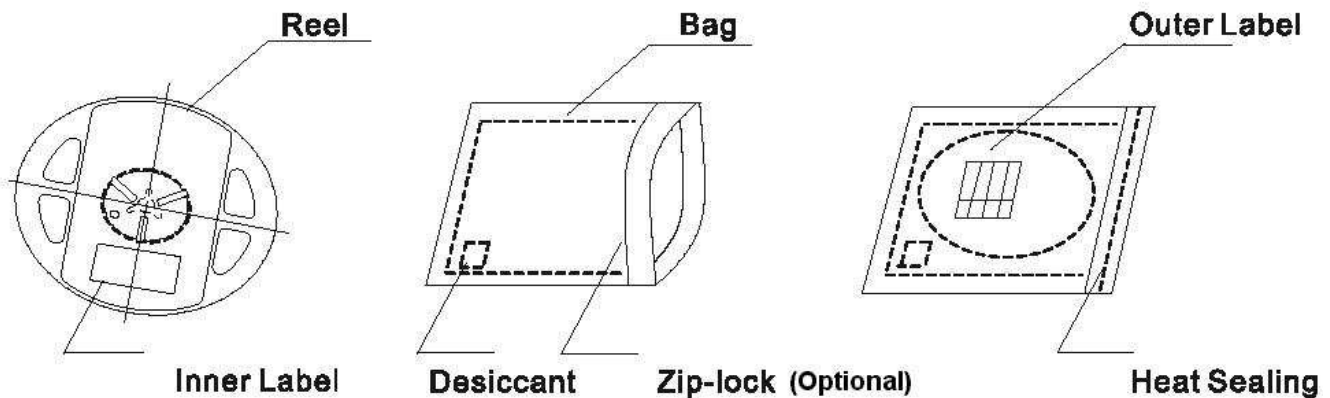
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Dry Pack

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.

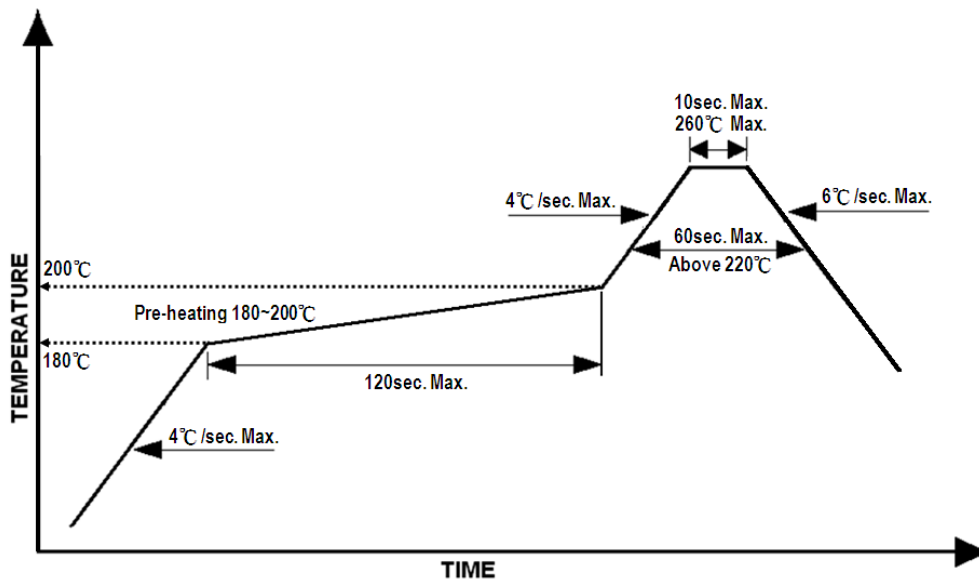
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Reflow Soldering

Recommend soldering paste specifications:

1. Operating temp.: Above 220 °C ,60sec
2. Peak temp.:260 °CMax.,10sec Max.
3. Never take next process until the component is cooled down to room temperature after reflow.
4. The recommended reflow soldering profile (measuring on the surface of the LED terminal) is following:

Lead-free Solder Profile



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

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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.

Revise History

Rev.	Descriptions	Date	Page
1.0	-	07/04/2013	-

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