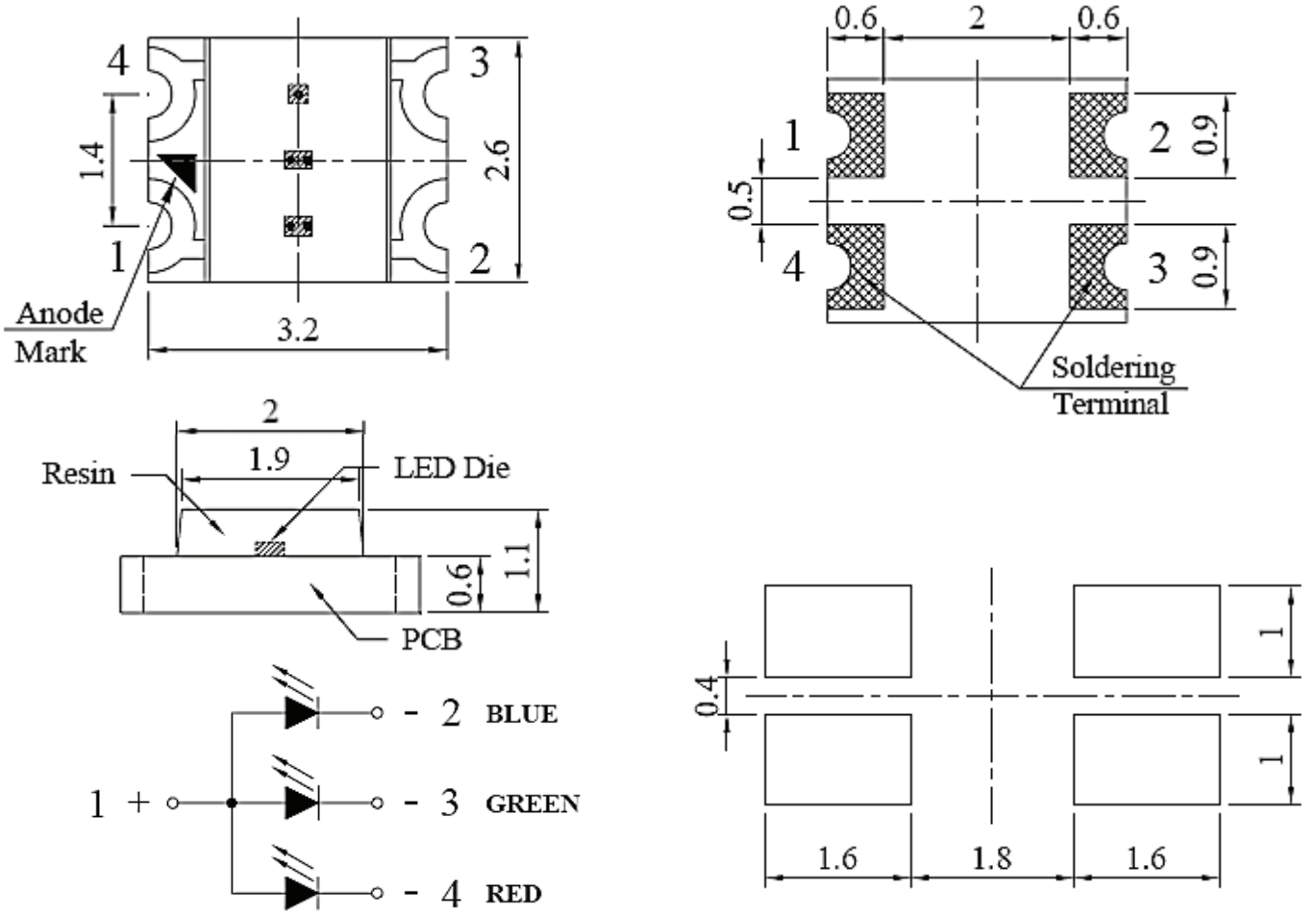
SPECIFICATION CS121R2GT2B2C

PACKAGE OUTLINES



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25mm (0.01”) unless otherwised noted.
3. Specifications are subject to change without notice.

Part Number	Chip Material	Color of Emission	Lens Type	Viewing Angle
CS121R2GT2B2C	InGaAlP	Red	Water Clear	120°
	InGaN	True Green	Water Clear	120°
	InGaN	Blue	Water Clear	120°

ABSOLUTE MAXIMUM RATINGS (TA=25°C)

Parameter	Symbol	Max Rating		Unit
		Blue/ Green	Red	
Forward Current	I_F	25	25	mA
Reverse Voltage	V_R	5	5	V
Power Dissipation	Pd	95	60	mW
Operating Temperature Range	T_{OP}	-40~+80		°C
Storage Temperature Range	T_{STG}	-40~+85		°C
Peak Pulsing Current (tp ≤ 10 μ S, duty cycle = 0.005)	I_{FP}	100		mA

OPTICAL-ELECTRICAL CHARACTERISTICS (TA=25°C)

Parameter	Symbol	Test Condition	Color	Value			Unit
				Min	Typ	Max	
Luminous Intensity	Iv	I_F = 20mA	Red	80	120	-	mcd
			Green	200	300	-	
			Blue	40	75	-	
Forward Voltage	V_F	I_F = 20mA	Red	-	2.0	2.4	V
			Green	-	3.4	3.8	
			Blue	-	3.4	3.8	
Viewing Angle at 50% Iv	2θ1/2	I_F = 20mA	-	-	120	-	Deg
Dominant Wavelength	λ_D	I_F = 20mA	Red	-	624	-	nm
			Green	-	525	-	
			Blue	-	470	-	

*Tolerance of viewing angle: -10 / +5 deg.
*Tolerance of forward voltage is -/+ 0.05V
*Tolerance of luminous intensity -/+ 1nm

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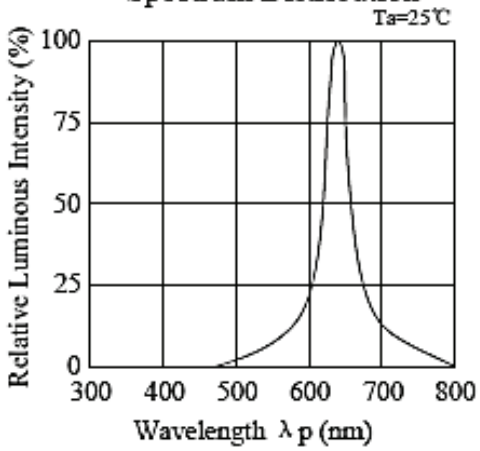
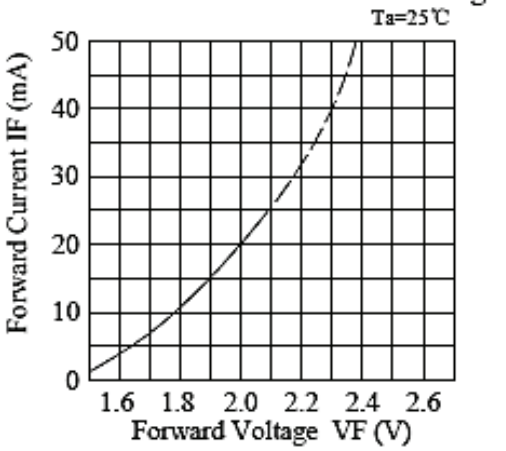
TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES (RED)

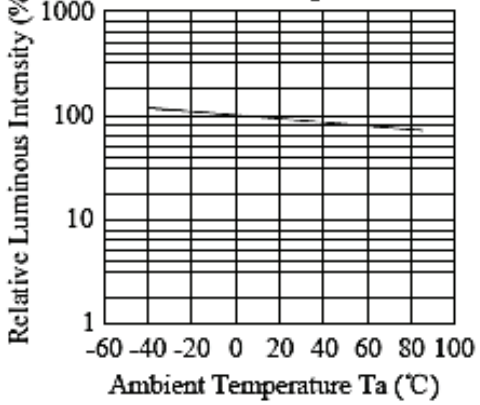
Spectrum Distribution



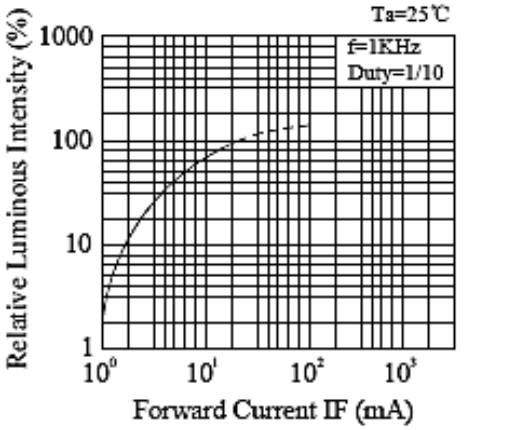
Forward Current & Forward Voltage



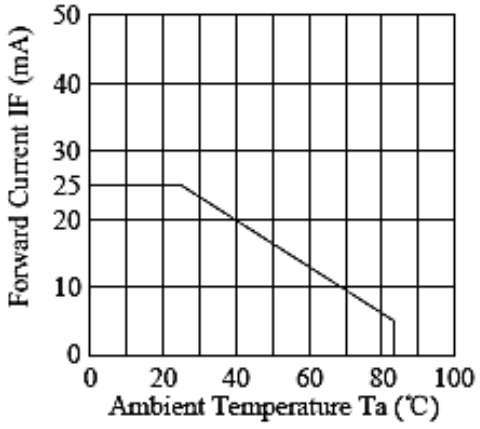
Luminous Intensity & Ambient Temperature



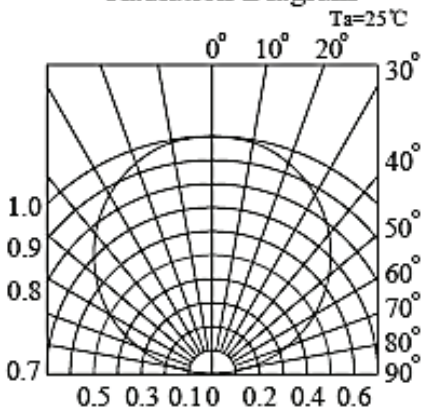
Luminous Intensity & Forward Current



Forward Current Derating Curve



Radiation Diagram



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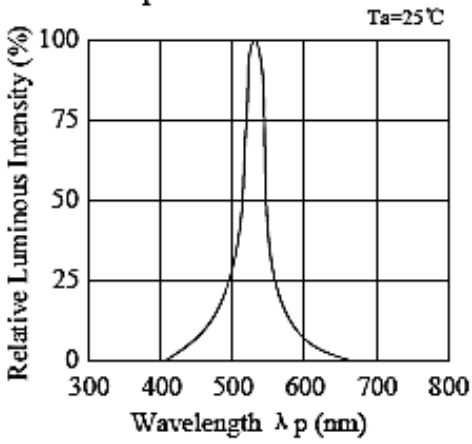
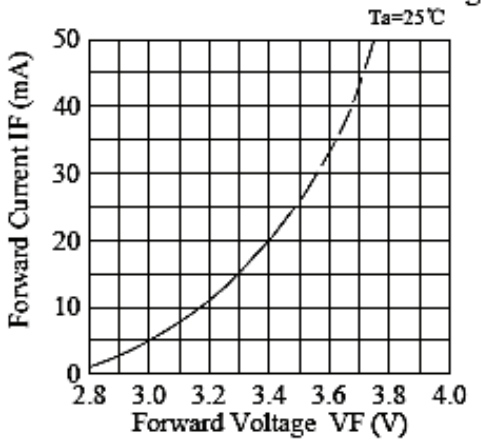
TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES (GREEN)

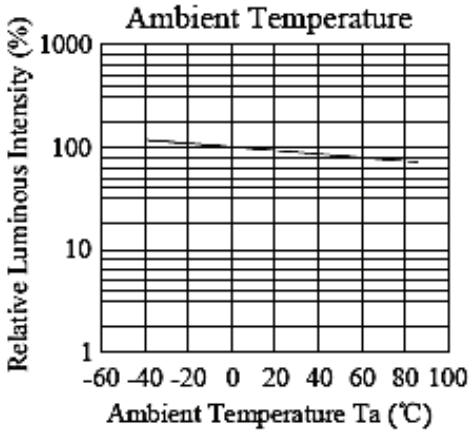
Spectrum Distribution



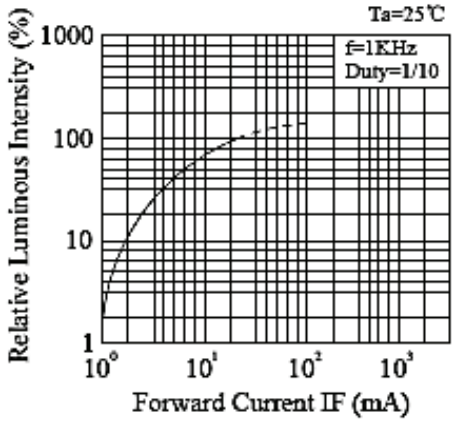
Forward Current & Forward Voltage



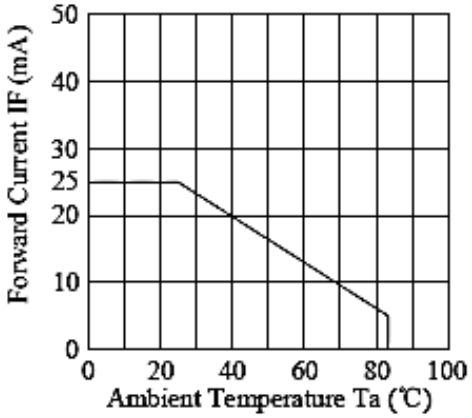
Luminous Intensity & Ambient Temperature



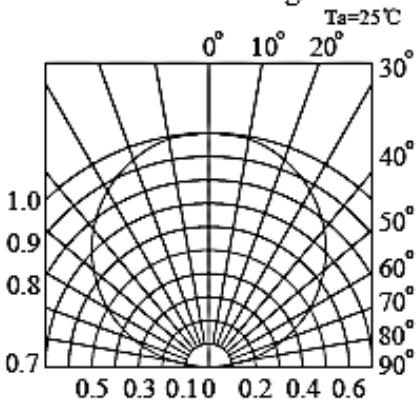
Luminous Intensity & Forward Current



Forward Current Derating Curve



Radiation Diagram



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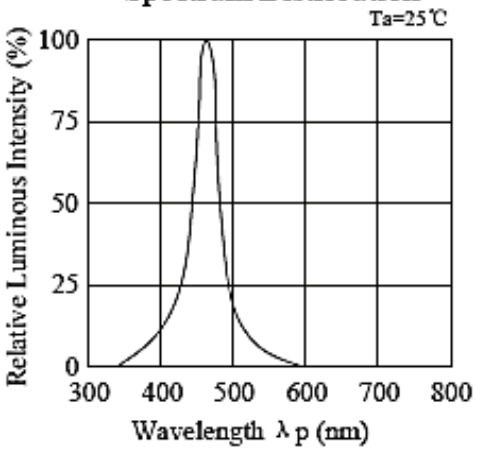
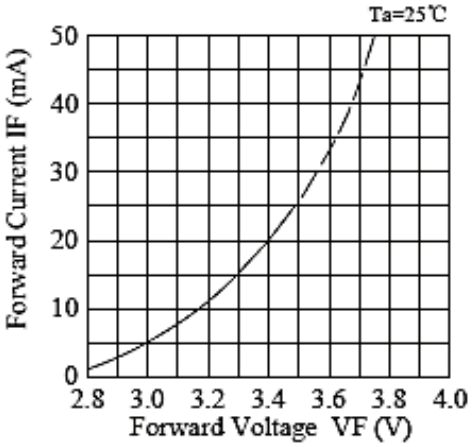
TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES (BLUE)

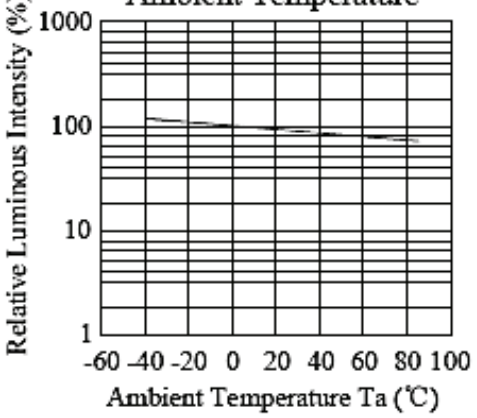
Spectrum Distribution



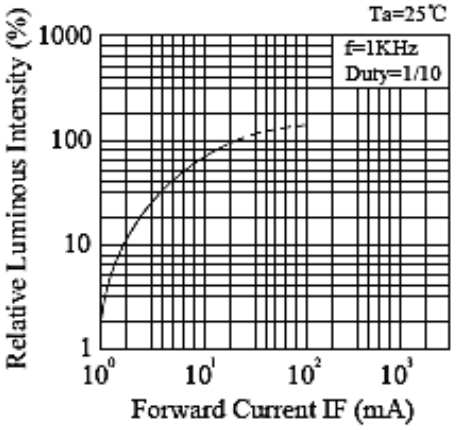
Forward Current & Forward Voltage



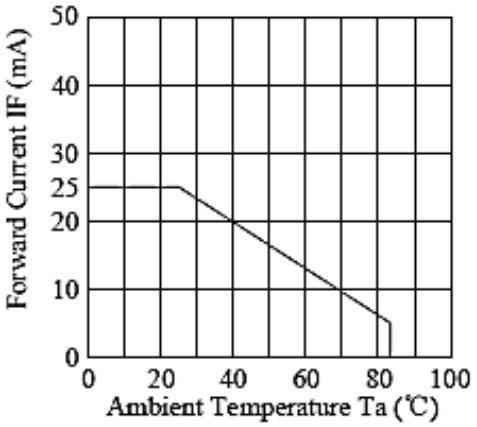
Luminous Intensity & Ambient Temperature



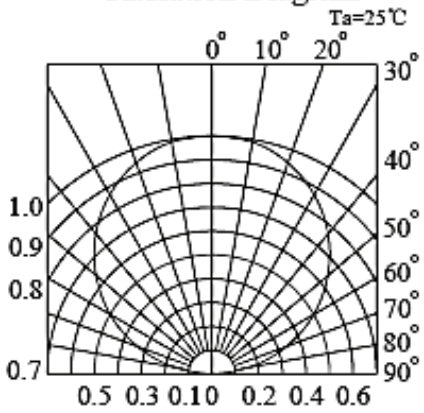
Luminous Intensity & Forward Current



Forward Current Derating Curve



Radiation Diagram



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SOLDERING CONDITIONS

PRECAUTION FOR USE

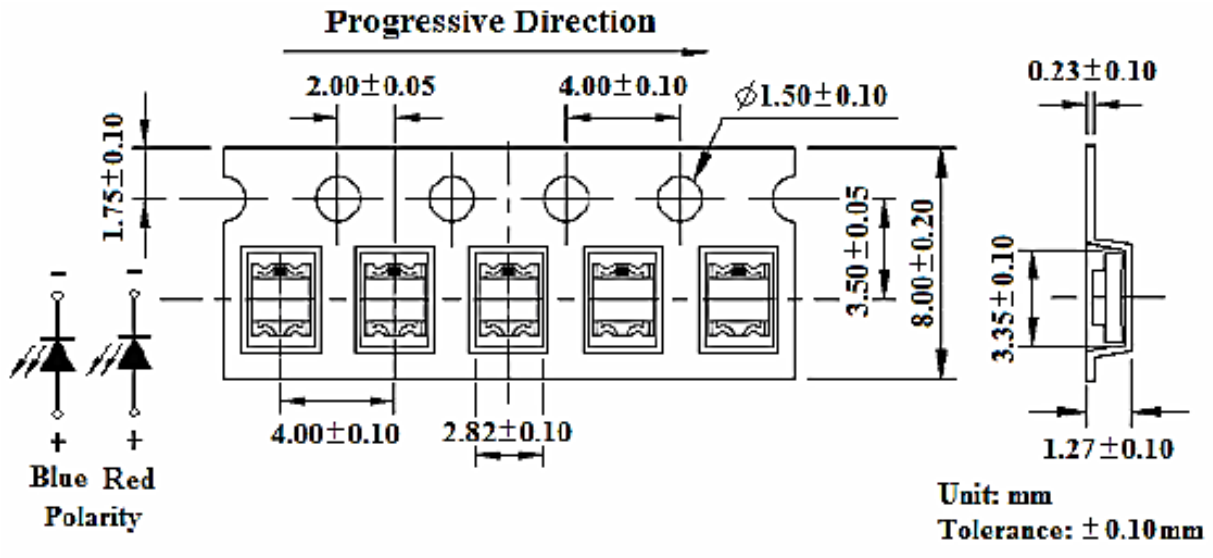
1. Over-Current-Proof
   Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change & burn out will happen.
2. Storage
   2.1 Do not open moisture proofs bag before the products are ready to use.
   2.2 Before opening the package, the LEDs should be kept at 30 ºC or less and 80% RH or less.
   2.3 The LEDs should be used within a year.
   2.4 After opening the package, the LEDs should be kept at 30 ºC or less and 60% RH or less.
   2.5 The LEDs should be used within 168 hours (7 days) after opening the package.
   2.6 If the moisture absorbent material has faded away or the LEDs have exceed the storage time, baking treatment should be performed using the following conditions: 60±5 ºC for 24 hours.
3. Soldering condition
   When soldering lamps without stopper style, it is recommended to leave a minimum of 3mm clearance from the base of the lens to the soldering joint.
   To avoid the epoxy climb up to lead frame and impact the non-soldering pattern, dipping the lens into the solder must be avoided.
   Do not apply any external stress to the lead frame during soldering while the LED is at high temperature.
   Recommended soldering conditions:

Soldering Iron		Wave Soldering	
Temperature Soldering Time	300℃ Max. 3 sec. Max. (one time only)	Pre-heat Pre-heat Time Solder Wave Soldering Time	100℃ Max. 60 sec. Max. 260℃ Max. 5 sec. Max.

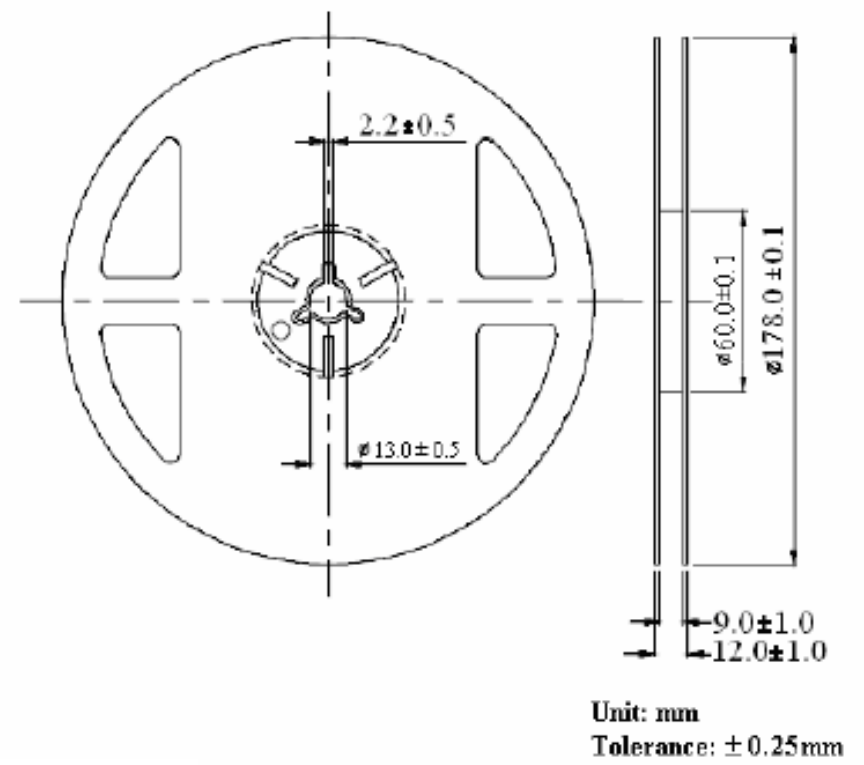
   Note: excessive soldering temperature and/or time might result in deformation of the LED lens or catastrophic failure of the LED.
4. Soldering Iron
   Each terminal is to go to the tip of the soldering iron temperature less than 260 ºC for 5 seconds within one time in less than the soldering iron capacity of 25W. Leave two seconds and more intervals and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

REEL PACKAGING

TAPE DIMENSIONS



REEL DIMENSIONS



*Loaded quantity: 3000 pcs per reel.