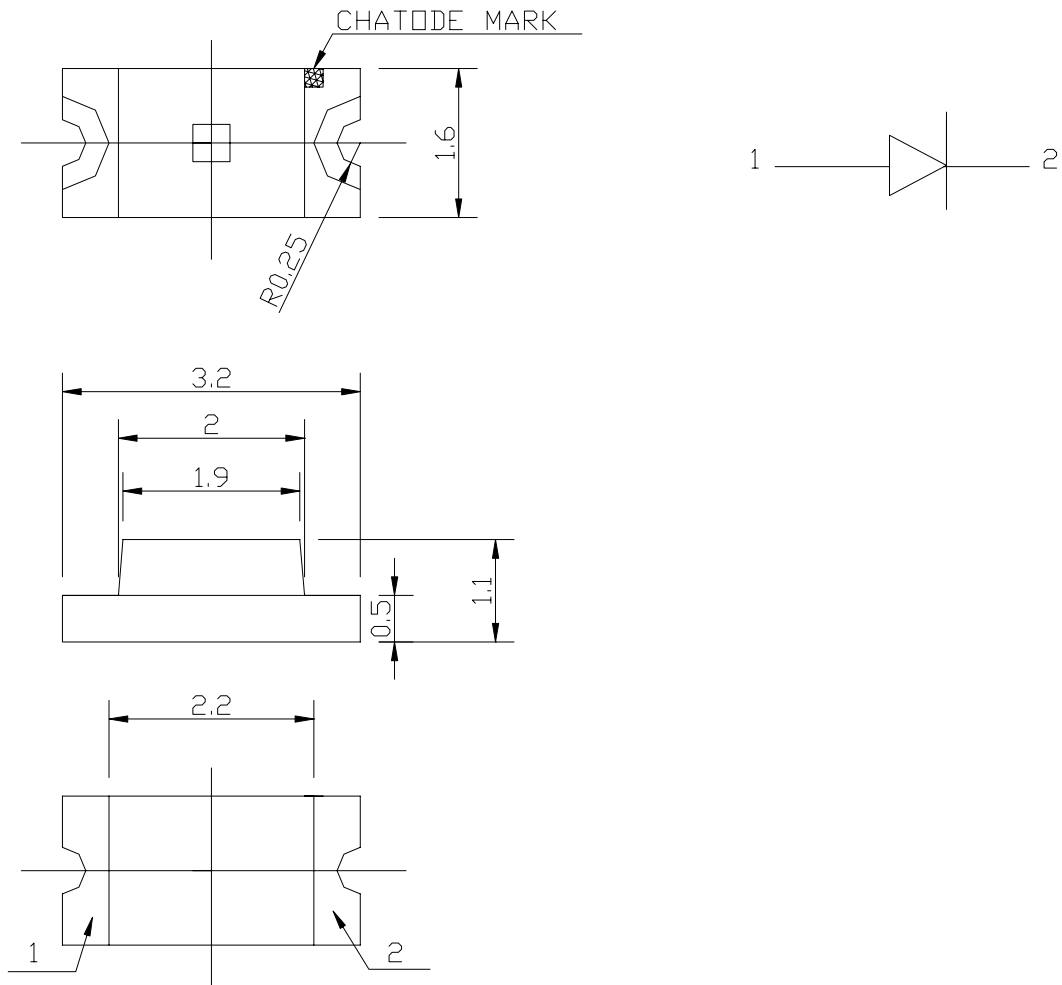


PRODUCT SPECIFICATION

DATE: 08/11/2004

cosmo ELECTRONICS CORPORATION	SMD LED : KL-150CGX	NO. 61L30010	REV. 1
		SHEET 1 OF 9	

UNIT:MM
TOLERANCE: ±0.25



Part No.	Emitting Color	Material	Lens Type	I _v (I _f =20mA)		Viewing Angle 2θ 1/2
				MIN (mcd)	TYP (mcd)	
KL-150CGX	Super brightness green	InGaN	Water Clear	165	230	120°

PRODUCT SPECIFICATION

DATE: 08/11/2004

cosmo ELECTRONICS CORPORATION	SMD LED :	NO. 61L30010	REV.
	KL-150CGX	SHEET 2 OF 9	1

Absolute maximum ratings (TA=25°C)		T2G (InGaN)	Green	Unit
Reverse voltage	V _R	5		V
Forward current	I _F	30		mA
Forward current(Peak) <small>1/10 Duty Cycle,0.1ms Pulse Width</small>	I _{FP}	100		mA
Power dissipation	P _d	105		mW
LED LAMPS:				
Operating temperature	T _{OP}	-40~+85		°C
Storage temperature	T _{ST}	-40~+85		°C
LED DISPLAYS:				
Operating temperature	T _A	-40~+85		°C
Storage temperature	T _{STG}	-40~+85		°C

Operating characteristics (TA=25°C)		T2G (InGaN)	Green	Unit
Forward voltage(typ.) I _F =20mA	V _F	3.5		V
Forward voltage(max.) I _F =20mA	V _F	4.0		V
Reverse current(max.) V _R =5V	I _R	10		uA
Wavelength at dominant emission(typ.) I _F =20mA	λ _D	525		nm
Wavelength at peak emission(typ.) I _F =20mA	λ _P	523		nm
Spectral line half-width I _F =20mA	Δλ	36		nm
Capacitance V _F =0V,f=1MHz	C	20		pF

PRODUCT SPECIFICATION

DATE: 08/11/2004

cosmo

ELECTRONICS CORPORATION

SMD LED :

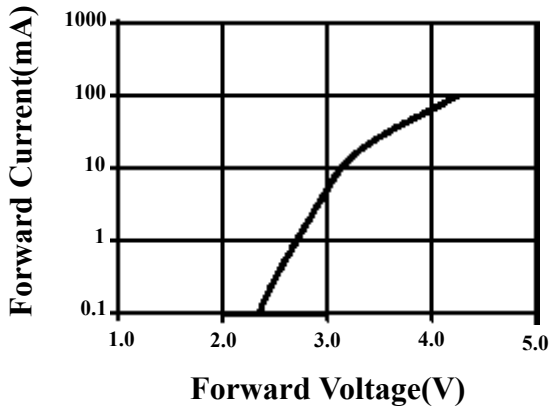
KL-150CGX

NO.61L30010

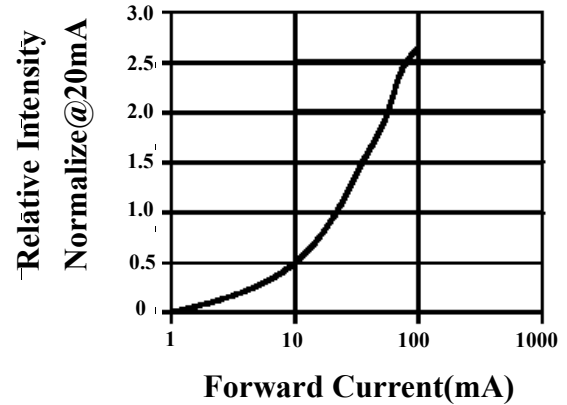
SHEET 3 OF 9

REV.

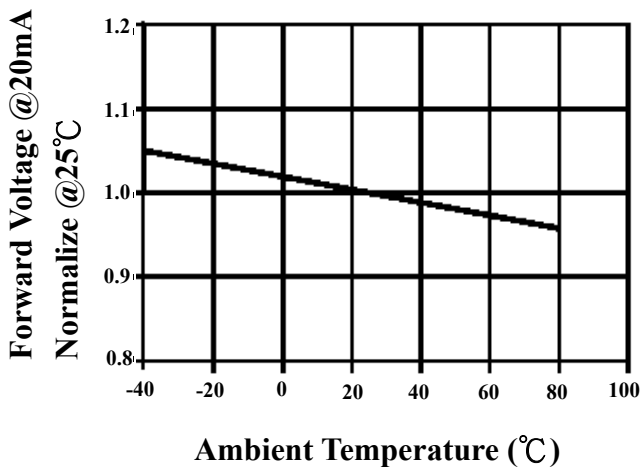
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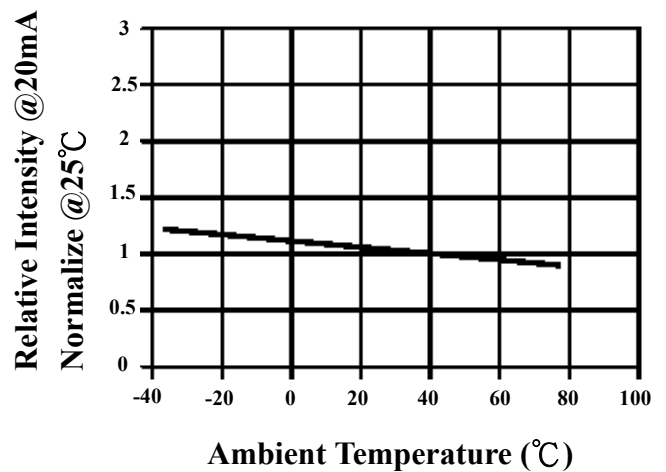
Forward Current Vs.
Forward Voltage



Relative Intensity Vs.
Forward Current



Forward Voltage Vs.
Ambient Temperature

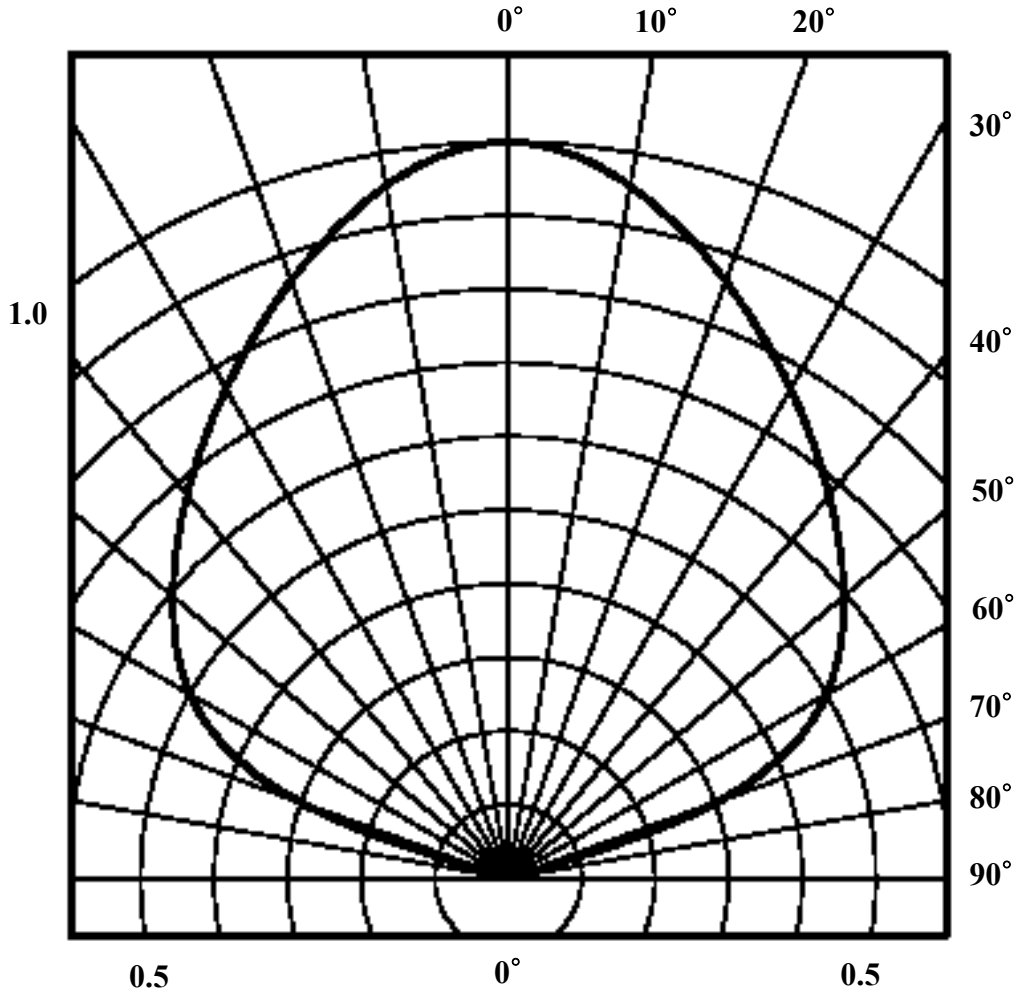


Relative Intensity Vs.
Ambient Temperature

PRODUCT SPECIFICATION

DATE: 08/11/2004

cosmo ELECTRONICS CORPORATION	SMD LED : KL-150CGX	NO. 61L30010	REV. 1
		SHEET 4 OF 9	



View Angle $2\theta_{1/2}=120^\circ$

PRODUCT SPECIFICATION

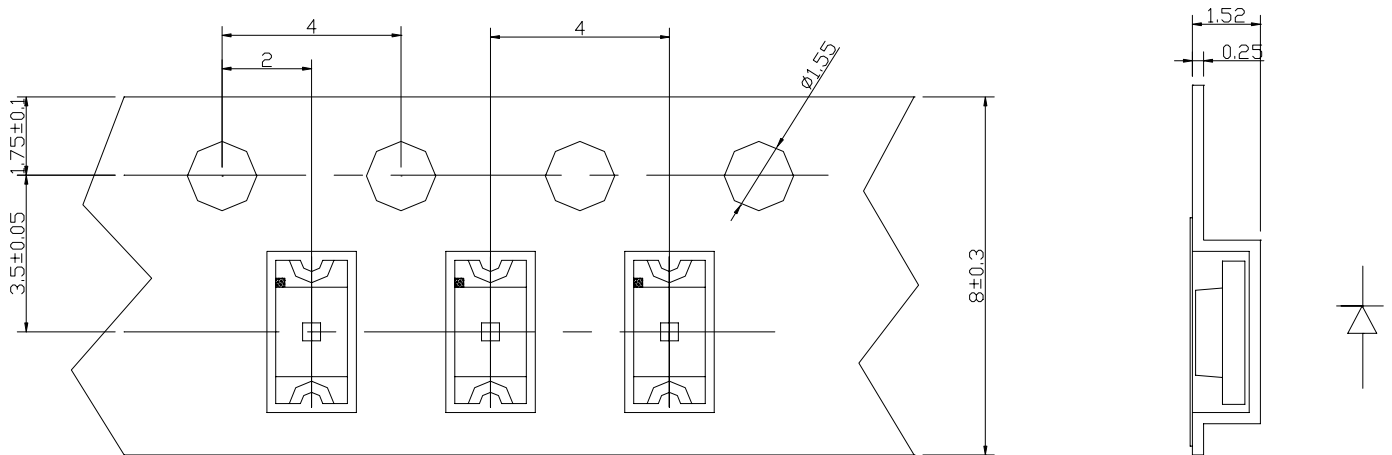
DATE: 08/11/2004

cosmo ELECTRONICS CORPORATION	SMD LED : KL-150CGX	NO. 61L30010	REV. 1
		SHEET 5 OF 9	

UNIT:MM

TOLERANCE: ± 0.25

TYPE \longrightarrow PACKAGE:2000 OR 1000PCS/REEL
REEL "T":14mm TYP



PRODUCT SPECIFICATION

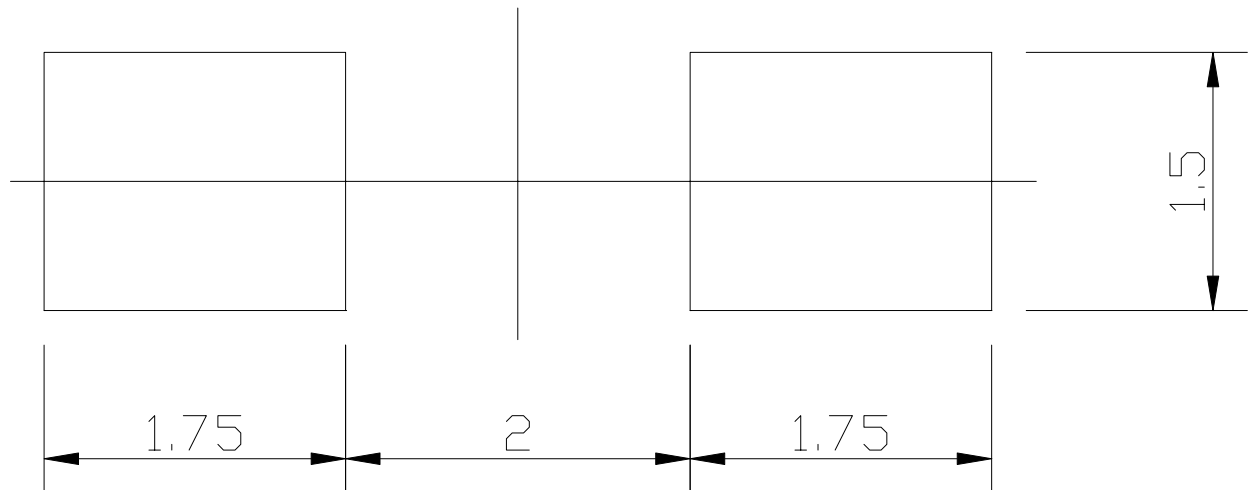
DATE: 08/11/2004

cosmo ELECTRONICS CORPORATION	SMD LED : KL-150CGX	NO. 61L30010	REV. 1
		SHEET 6 OF 9	

UNIT:MM

The following soldering patterns are recommended for reflow-soldering:

For reflow soldering



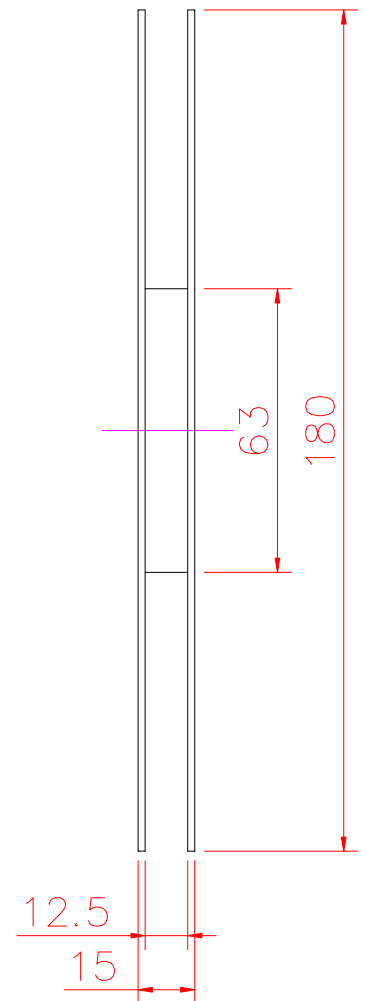
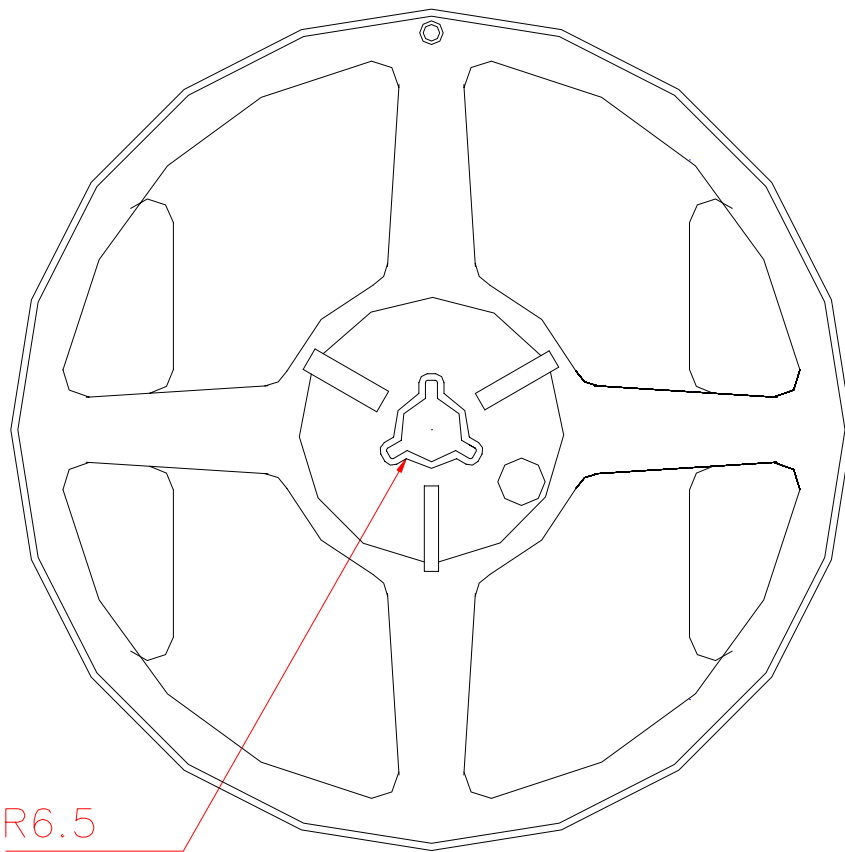
PRODUCT SPECIFICATION

DATE: 08/11/2004

cosmo ELECTRONICS CORPORATION	SMD LED :	NO. 61L30010	REV.
	KL-150CGX	SHEET 7 OF 9	1

UNIT:MM

TOLERANCE: ± 0.25



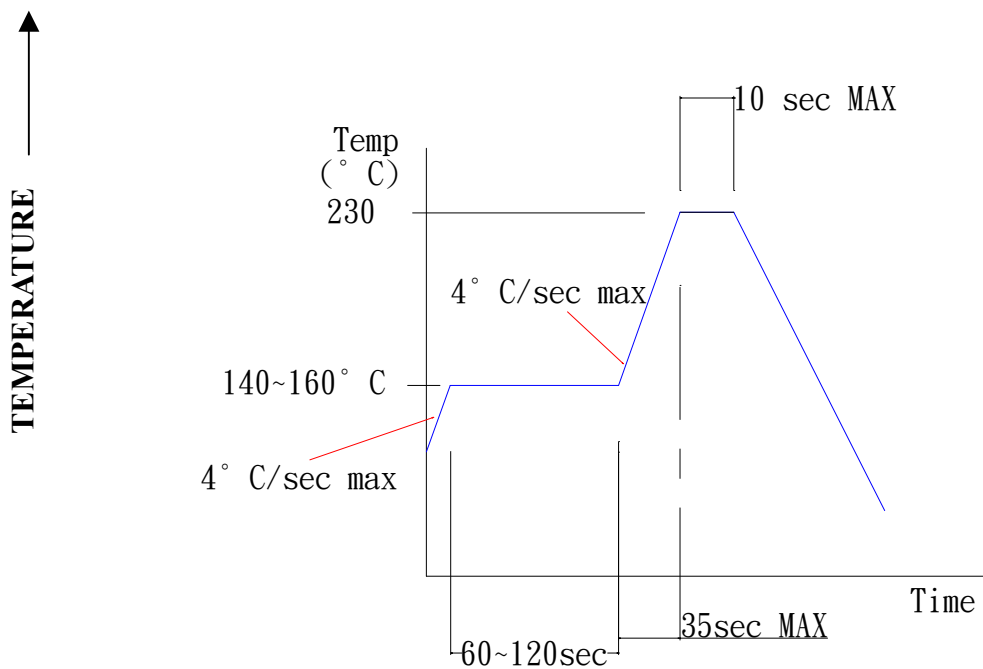
PRODUCT SPECIFICATION

DATE: 08/11/2004

cosmo ELECTRONICS CORPORATION	SMD LED : KL-150CGX	NO. 61L30010	REV. 1
		SHEET 8 OF 9	

SOLDERING

SMT REFLOW SOLDERING INSTRUCTIONS



SOLDERING INSTRUCTIONS

TYPES	DIP AND WAVE SOLDERING			IRC (WITH 1.5mm IRON TIP)		
	TEMPERATURE OF THE SOLDERING BATH	MAXIMUM SOLDERING TIME	DISTANCE FROM SOLDER JOINT TO CASE	TEMPERATURE OF SOLDERING IRON	MAXIMUM SOLDERING TIME	DISTANCE FROM SOLDER JOINT TO CASE
LEDS	≤ 260°C	3S	> 2mm	≤ 260°C	3S	> 2mm
	≤ 260°C	5S	> 4mm	≤ 260°C	5S	> 4mm
DISPLAYS	≤ 260°C	3S	> 2mm	≤ 260°C	3S	> 2mm

PRODUCT SPECIFICATION

DATE: **08/11/2004**

cosmo ELECTRONICS CORPORATION	SMD LED : KL-150CGX	NO. 61L30010	REV.
		SHEET 9 OF 9	1

SMD HANDLING AND APPLICATION PRECAUTIONS

STORAGE

(1.1) It is recommended to store the devices in accordance with the following conditions:

Humidity: 60%RH Max.

Temperature: 5°C~30°C (41°F~86°F)

(1.2) Shelf life in sealed bag: 12 month at <5°C~30°C and <30%RH.

After the package is opened, the products should be used within 72hrs.

Or they should be kept at $\leq 20\%$ RH in zip -locked sealed bags.

DRY PACK AND BAKING

SMD LEDs are MOISTURE SENSITIVE devices. Avoid absorbing moisture at any time during transportation and/or storage. It is recommended to bake before soldering when the pack is unsealed after 72 hrs, or any suspicious moisture being found. Bake devices in accordance with the following conditions:

(a) 60±3°C x (12~24hrs) and <5%RH, taped reel type

(b) 100±3°C x (45min~1hr), loose packing type, or

(c) 130±3°C x (15~30min), loose packing type

ELECTRIC STATIC DISCHARGE(ESD) PROTECTION

Materials with GaN, InGaN, AlInGaP are STATIC SENSITIVE devices. They will be packed in anti-static bags. ESD protection must be deliberately observed from the initial design stage. The static -electric discharge may result in severe malfunction of the devices. In the events of manual working in process, make sure the devices are well protected from ESD at any time. Surge before and during handling products.