No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Lextar

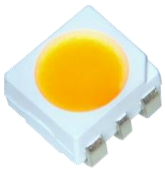
PC35A25 V0
Product Specification

No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Approval Sheet

PC35A25
Product Specification

Product	Yellow SMD LED
Part Number	PC35A25 V0
Issue Date	2021/07/14



Features

- ✓ Yellow SMD LED (L x W x H) of 3.4 x 3.3 x 1.9 mm
- ✓ AEC-Q101 Rev. D and IEC 60810 qualification
- ✓ Dice Technology : InGaN
- ✓ Qualified according to JEDEC moisture sensitivity Level 2
- ✓ Cu Alloy with Gold plated lead frame
- ✓ Environmental friendly ; RoHS compliance
- ✓ ESD protection
- ✓ Packing : 500 pcs/reel

Applications

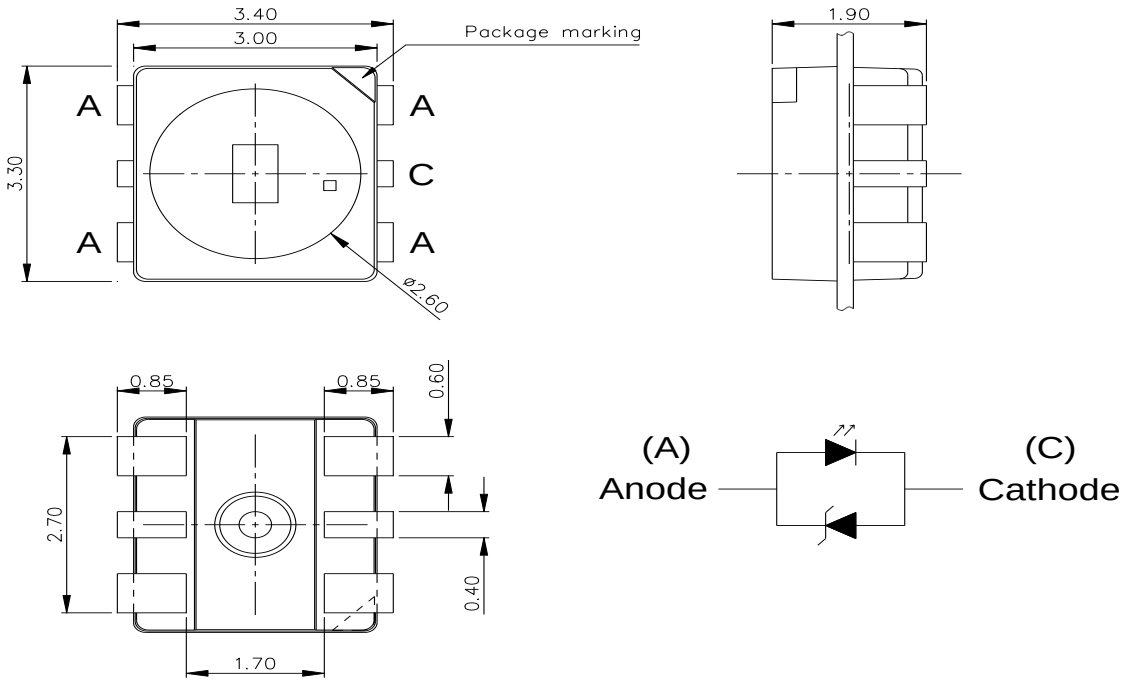
- ✓ Signaling
- ✓ Indicator light
- ✓ Exterior Automotive Lighting
- ✓ Automotive Interior Lighting

No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Outline Dimension

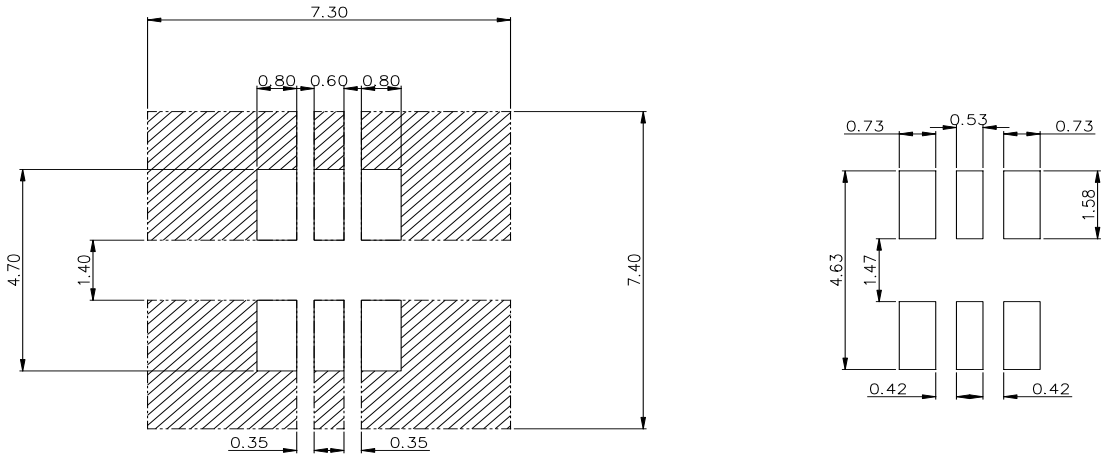
PC35A25
Product Specification

Package Dimension



Unit: mm, Tolerance: ±0.1mm

Recommended Soldering Pad



Exposed Cu for soldering

Cu area with solder mask for heat dissipation

No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	I_F = 140 mA	2.8	3.15	3.4	V
Luminous Flux	Iv		20.1	31	42.2	lm
Color	CIE		(0.575, 0.415)			-
View Angle	θ		120			deg
Thermal Resistance	Rth		50			℃/W

* The Forward Voltage tolerance is ±0.05V

* The luminous intensity tolerance is ± 8%

* Tolerance of measurements of the Chromaticity Coordinate is ±0.005.

Absolute Maximum Ratings

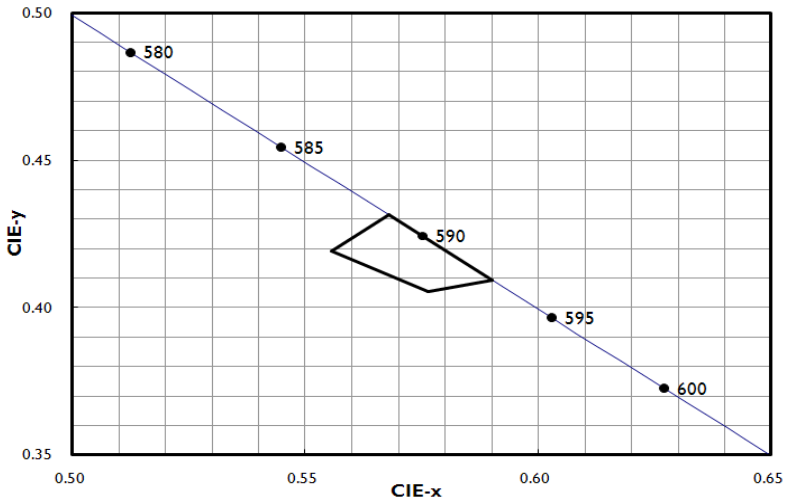
Parameter	Symbol	value	Unit
DC Forward Current	I_F	250	mA
Power Dissipation	P_D	0.85	W
Pulse Forward Current(1)	I_{FP}	600	mA
Storage Temperature	T_{stg}	-40 ~ +125	°C
Operating Temperature	T_{opr}	-40 ~ +115	°C
Junction Temperature	T_J	125	°C
Junction Temperature for short time applications(2)	T_J	150	°C
ESD (HBM)	ESD_{HBM}	8000	V
Assembly Temperature	Tsld	260	°C

(1) I_{FP} Condition: t < 10 μs；D = 0.005；T_S= 25 °C

(2) The median lifetime (L70/B50) for Tj =150°C is 100h.

No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Chromaticity Coordinates



Bin code definition

V_F Rank	Luminous Flux Rank	CIE Rank
A	A8	A2000

V_F Rank	Condition	Min. (V)	Max. (V)
A	I_F = 140 mA Tj=25℃	2.8	3.0
B		3.0	3.2
C		3.2	3.4

Luminous Flux Rank	Condition	Min. Iv (lm)	Max. Iv (lm)
A6	I_F =140mA Tj=25℃	20.1	23.1
A7		23.1	26.6
A8		26.6	30.6
A9		30.6	35.2
AA		35.2	42.2

* The Forward Voltage tolerance is ±0.05V

* The luminous intensity tolerance is ± 8%

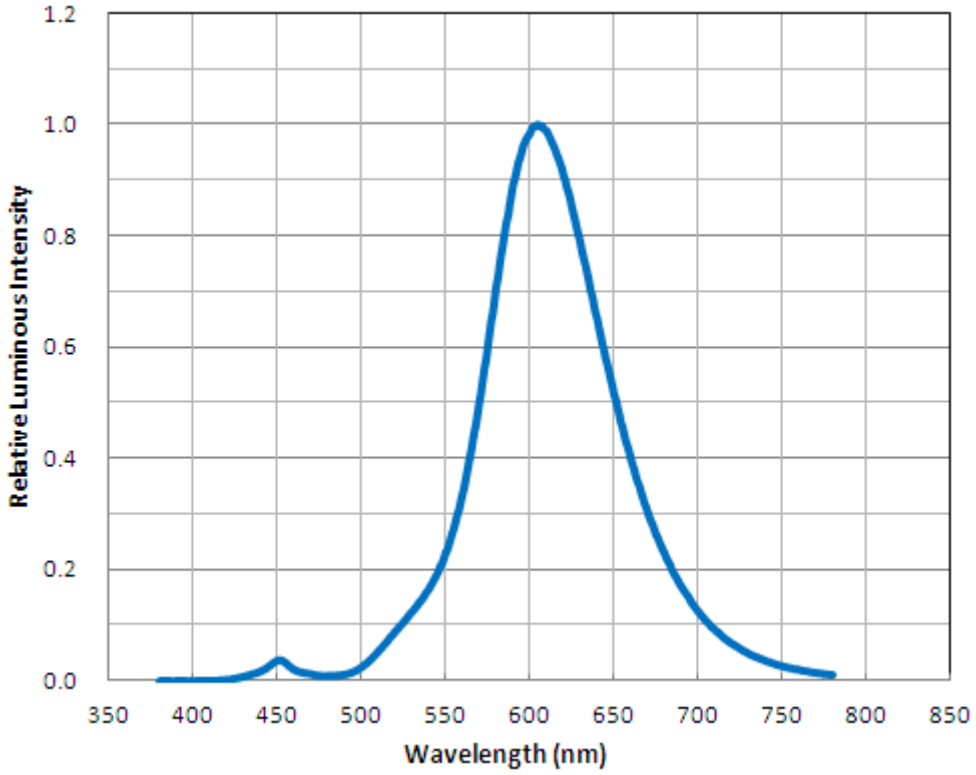
* Tolerance of measurements of the Chromaticity Coordinate is ±0.005.

CIE Rank

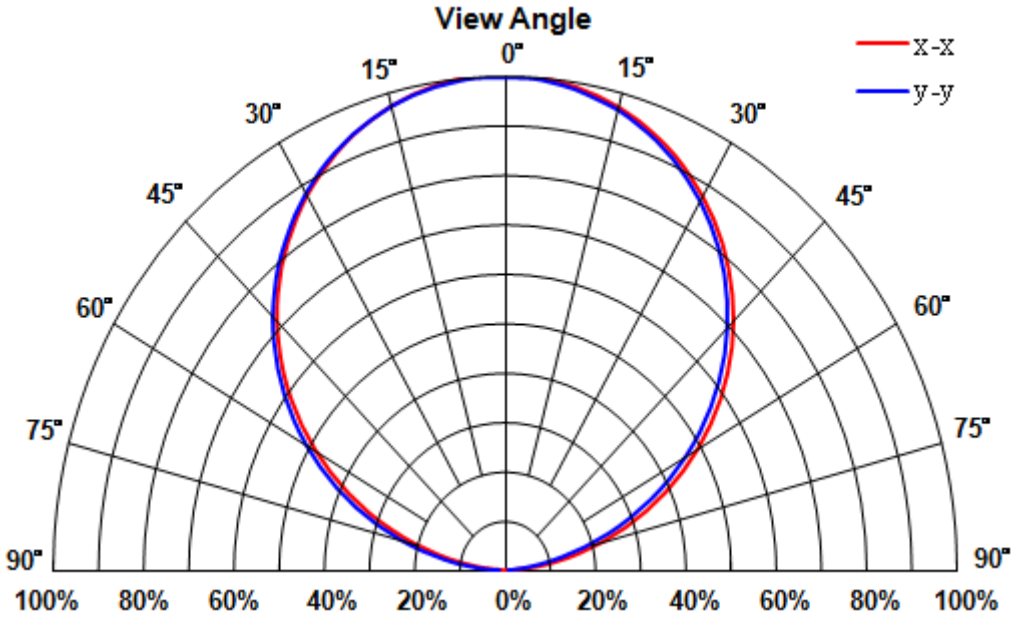
CIE Rank	x1	y1	x2	y2	x3	y3	x4	y4
A2000	0.5680	0.4315	0.5901	0.4094	0.5763	0.4054	0.5557	0.4192

No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Color Spectrum, I_F=140mA, Ta=25℃

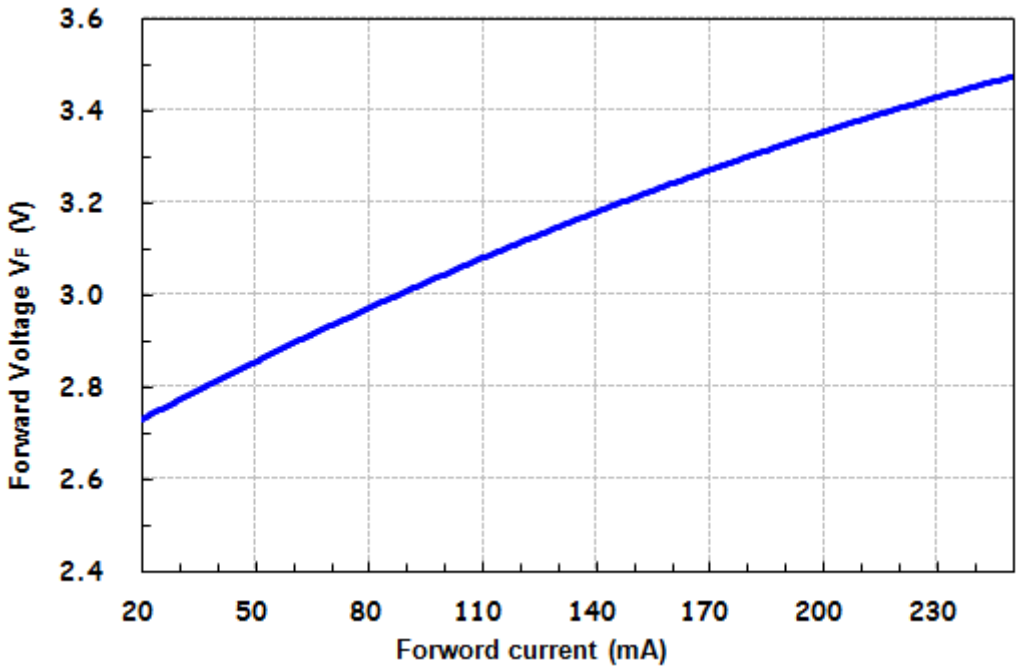


Viewing Angle Distribution, IF=140mA, Ta=25℃

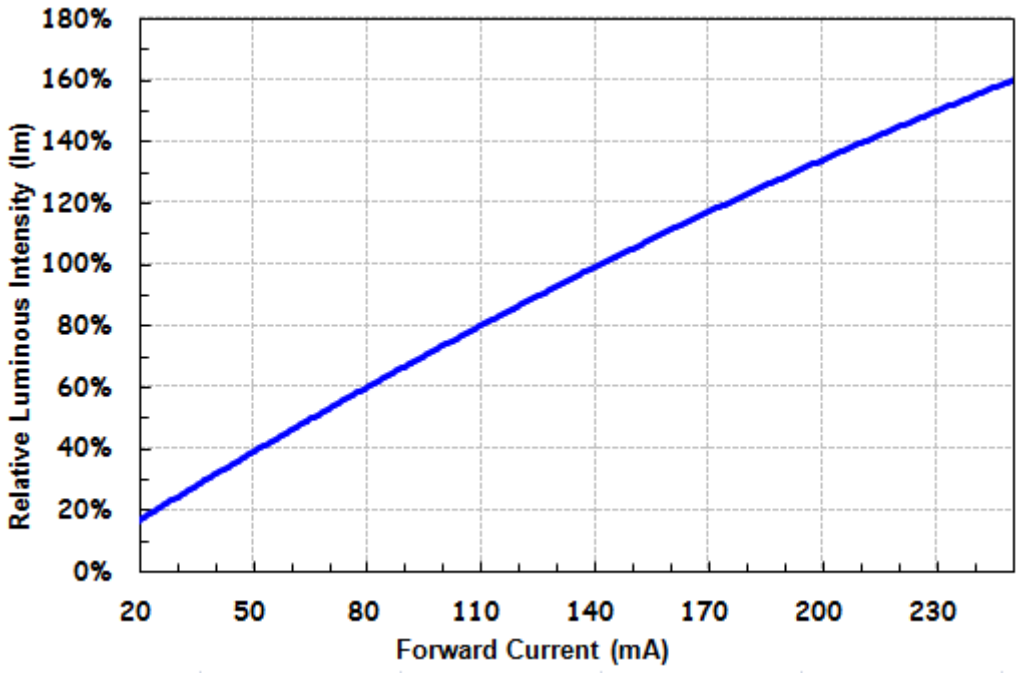


No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Forward Voltage vs. Forward Current, Ta=25℃

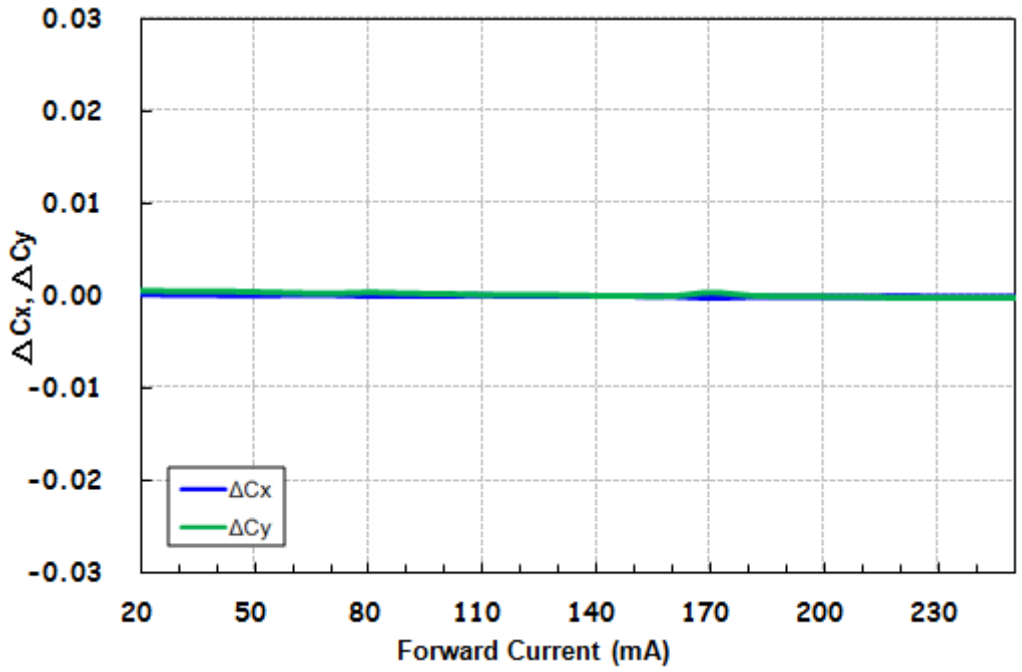


Forward Current vs. Relative Luminosity Intensity, Ta=25℃

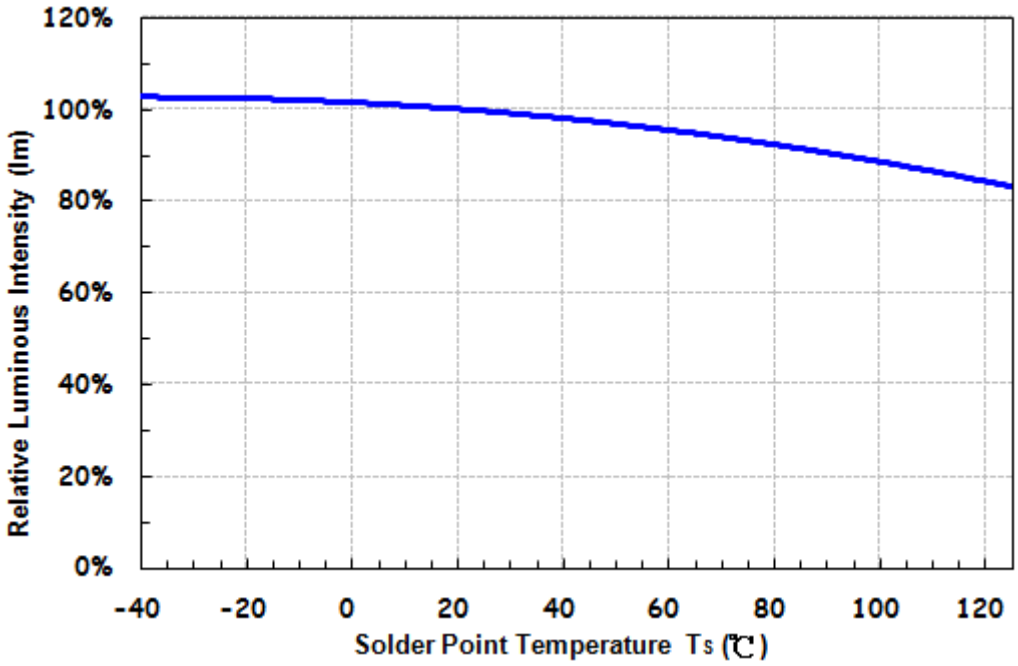


No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Forward Current vs. CIE X, Y Shift,Ta=25℃

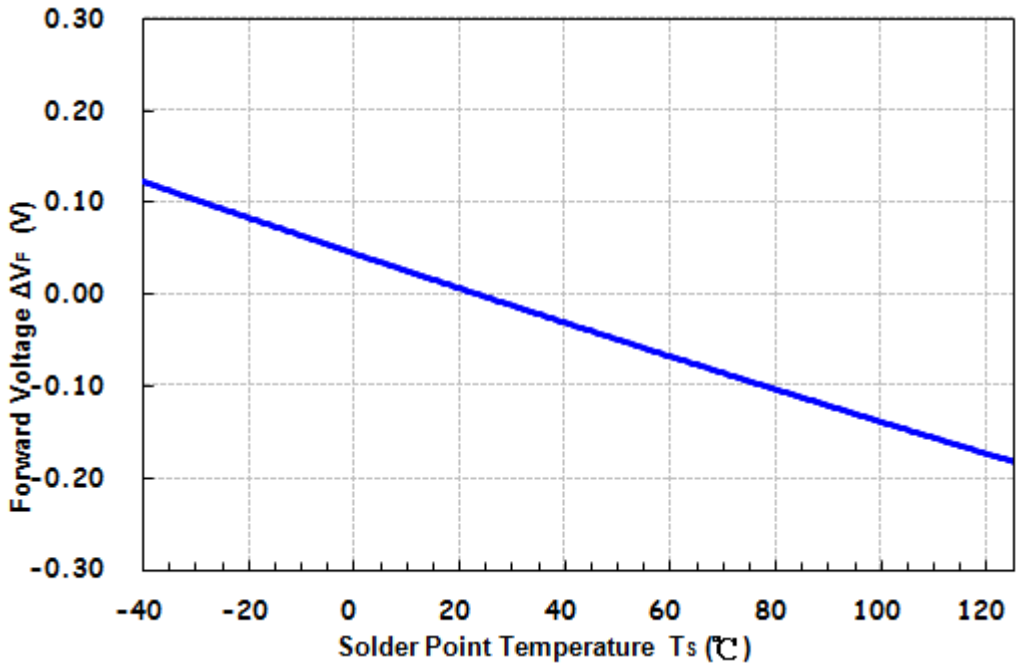


Soldering Temperature vs. Relative Luminance, I_F=140mA

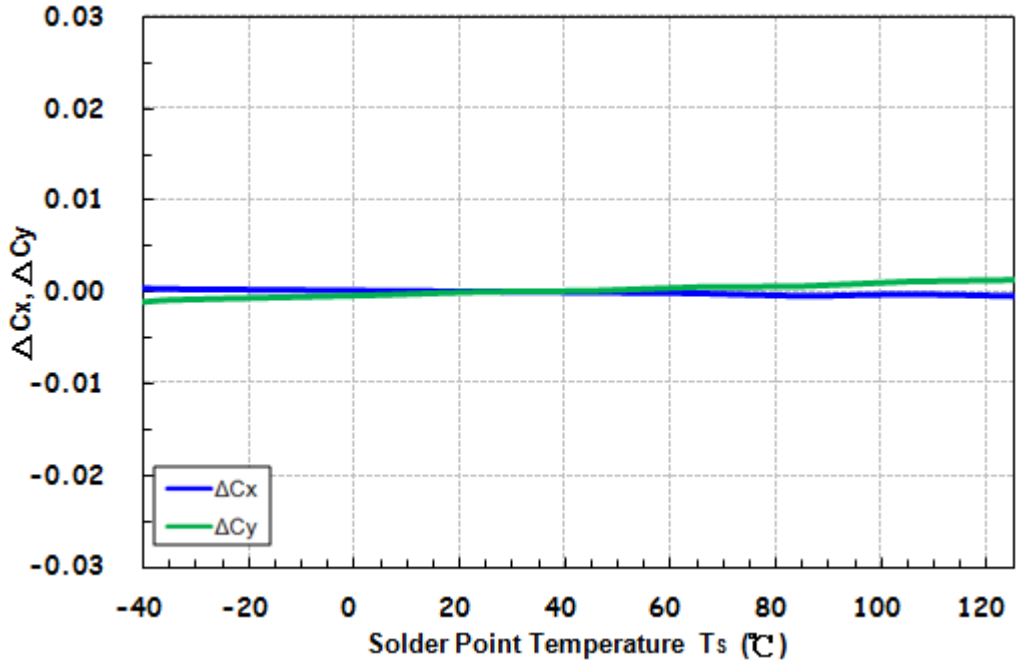


No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Soldering Temperature vs. Forward Voltage Shift, I_F=140mA

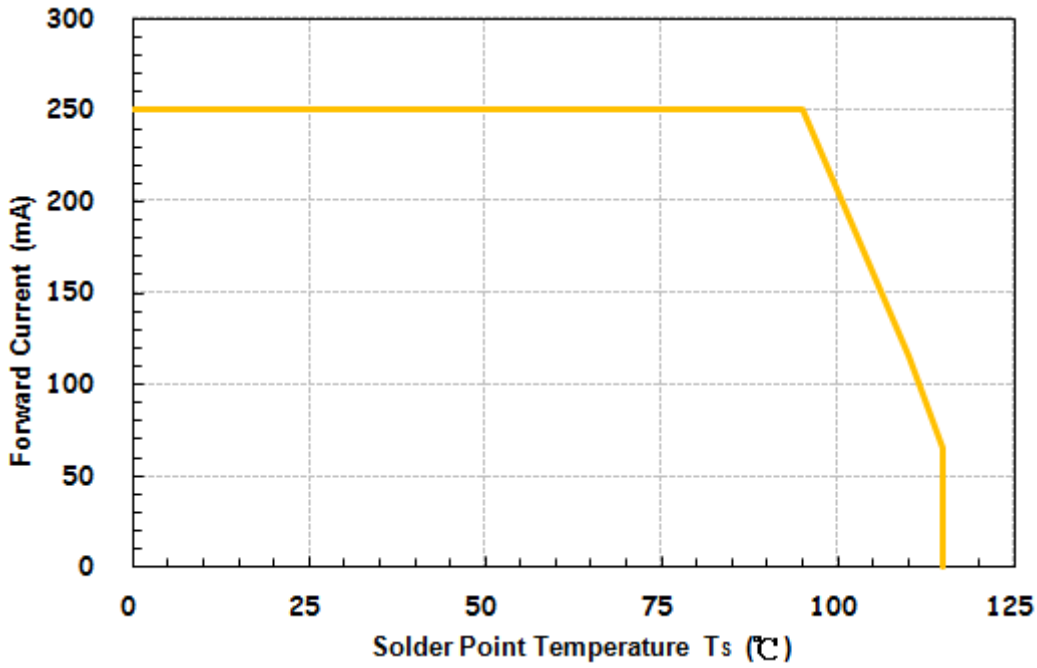


Chromaticity Coordinate vs. Soldering Temperature, I_F=140mA



No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

De-rating Curve



No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Reliability test

	Item	Reference Standard	Condition	Time/Cycle
1	Thermal shock	JESD22-A106	-40℃ to 100 ℃, 20 mins dwell, 5 min transfer time	1000 Cycles
2	Temperature Cycle	AEC-Q101 Rev. D	-45℃ to 125 ℃ 15 mins dwell at each high and low temperature extreme	1000 cycles
3	Power and Temperature Cycle	AEC-Q101 Rev. D	-40 ℃~ 85 ℃, IF=250mA, Dwell/transfer time = 10 mins, 20 mins 1,000 cycles , on/off 15,000 cycles	15,000 cycles
4	MSL Level 2	J-STD-020	85℃ / 60% RH	168 hours
5	High Temperature Storage	JESD22-A103	TA=105℃, 1000h	1000 hours
6	Low Temperature Storage	JESD22-A119	TA=-40℃, 1000h	1000 hours
7	High Temperature Operating Life	AEC-Q101 Rev. D	TA=105℃, IF=250mA	1000 hours
8	Low Temperature Operating Life	JESD22-A108	TA=-40℃, IF=250mA	1000 hours
9	Temperature Humidity Operating Life	AEC-Q101 Rev. D	85℃, RH=85%, 1000h, IF=250mA	1000 hours
10	Electrostatic Discharges	AEC-Q101 Rev. D	HBM 8 KV, 1.5KΩ, 100pF, 3 pulses, alternately positive or negative	

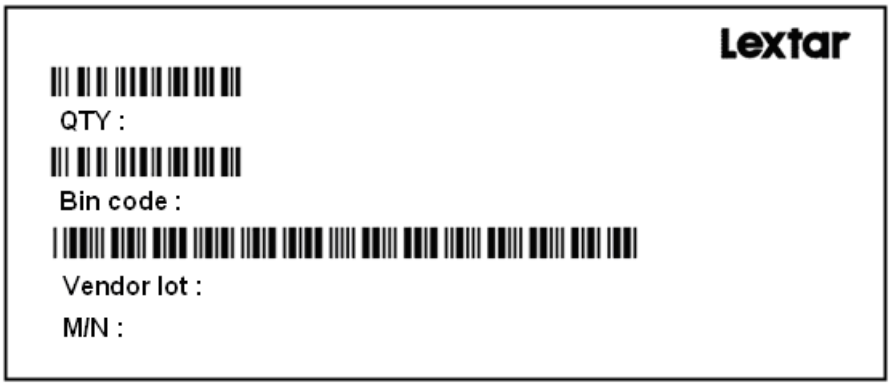
Item	Reference Standard	Condition	Time
Corrosion robustness:	IEC 60068-2-43	(H2S) [25°C / 75 %RH / 10 ppm H_2S]	336 hours
	EN60068-2-60	[25 °C / 75 %RH / 200 ppb SO_2, 200 ppb NO_2,10 ppb Cl_2]	504 hours

Judgment Criteria

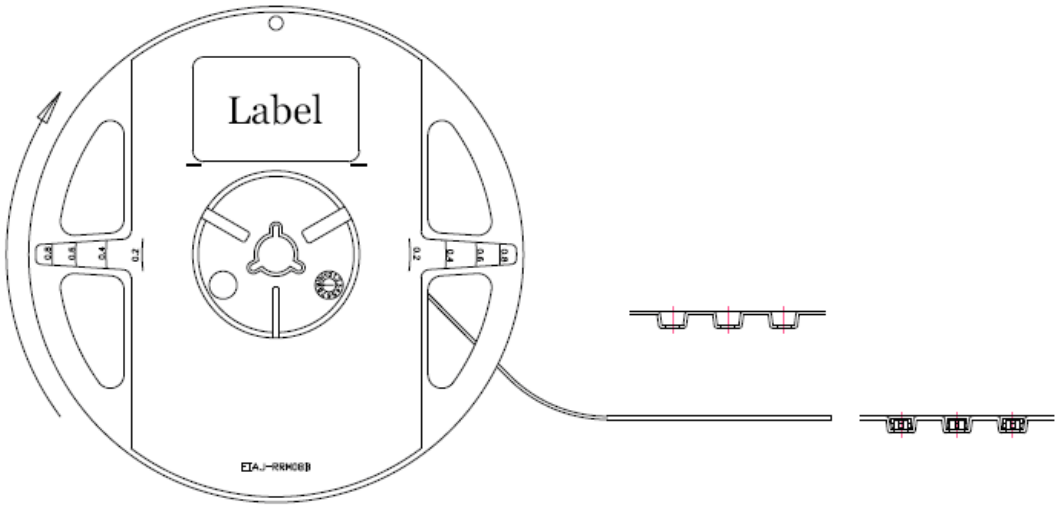
Item	Symbol	Test Condition	Judgment Criteria
Forward Voltage	Vf	140 mA	ΔVf < 10 %
Luminous Flux	Iv	140 mA	ΔIv < 20 %
Delta CIE	CIE-x ,CIE-y	140mA	△x,y <0.01

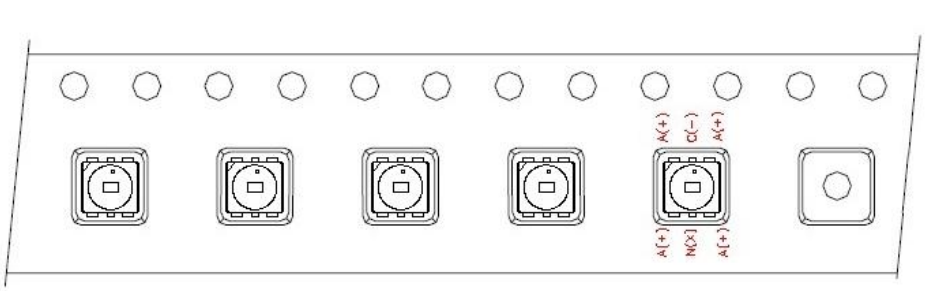
No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

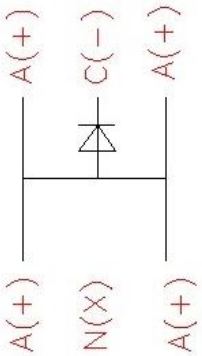
Label



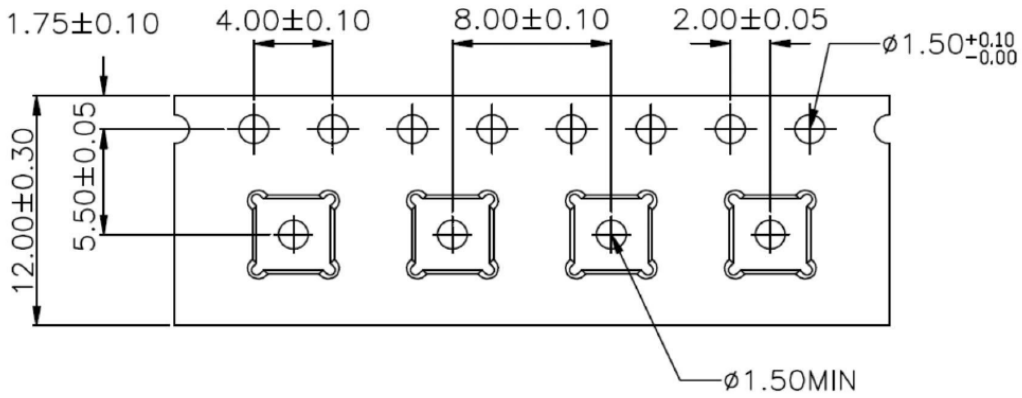
Carrier Taping





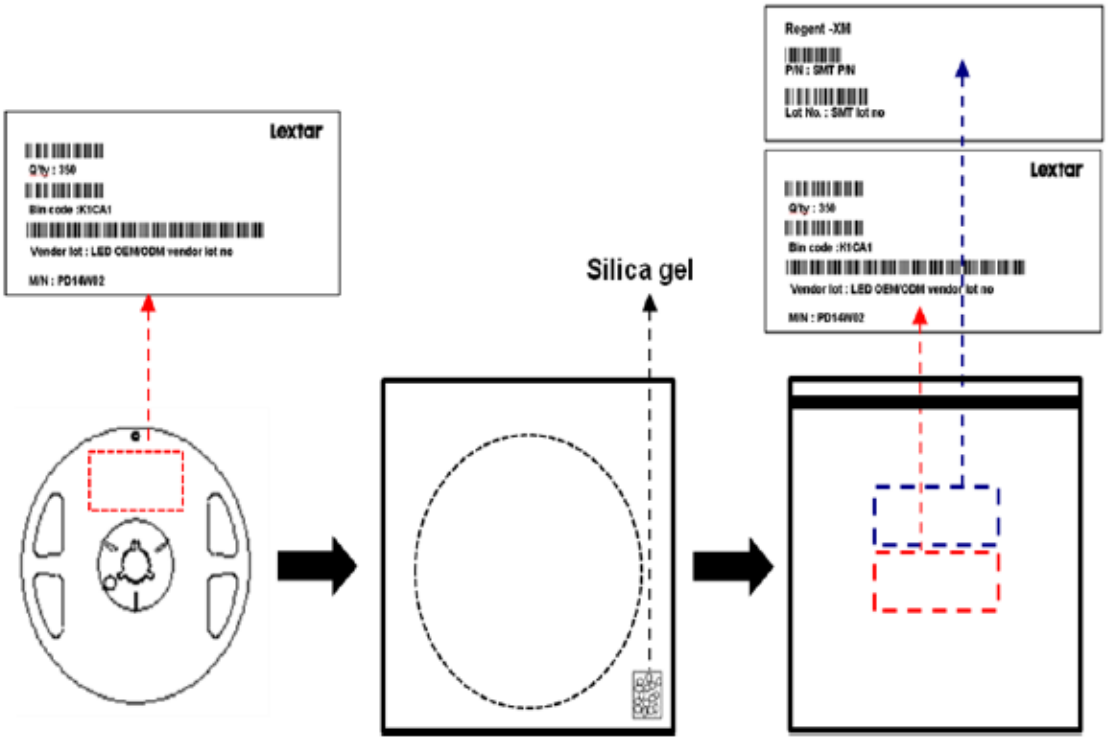


No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800



(Unit：mm)

Shield Bag Taping

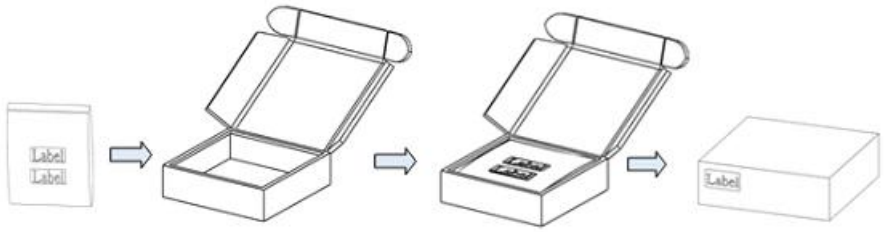


Packing Box

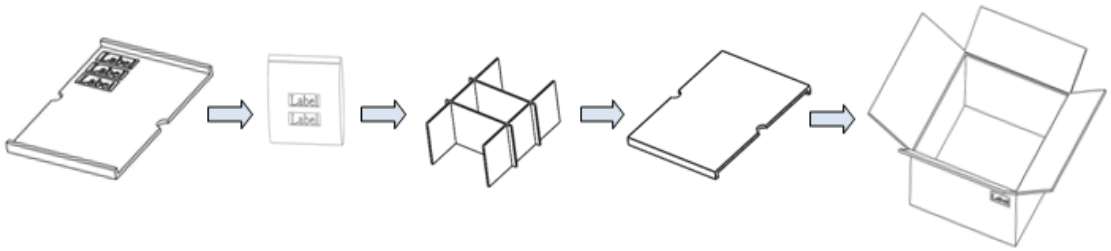
Type	Large Box		Medium Box		Small Box	
Dimension	541X511X276mm		385X303X260mm		283X235x70mm	
Maximum Reels	7"X12mm Reel	64/R	7"X12mm Reel	21/R	7"X12mm Reel	4/R
Minimum Reels	7"X12mm Reel	32/R	7"X12mm Reel	9/R	7"X12mm Reel	1/R

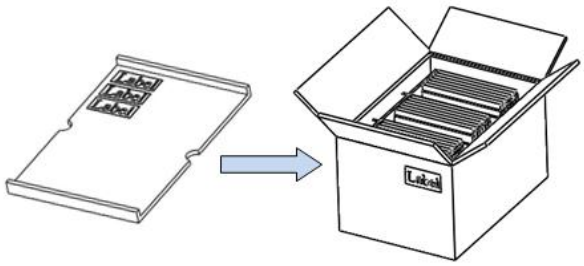
No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Small Box

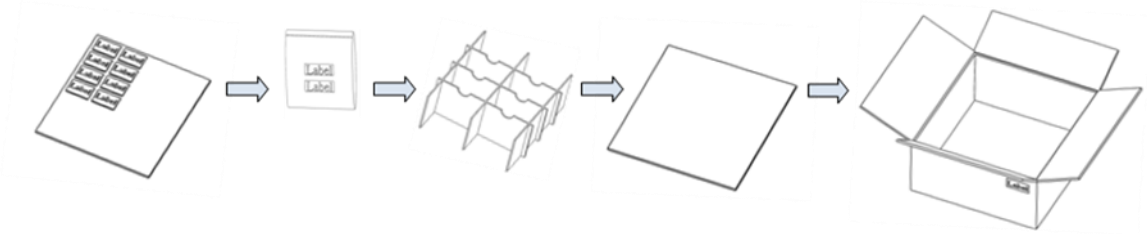


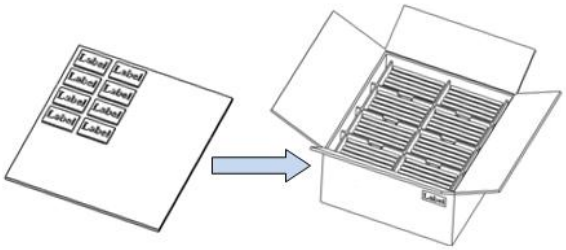
Medium Box





Large Box





No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Safety Precautions

- The LED light output is too strong for human eyes without shield. Prevent eye contact directly more than seconds.
- Ensure operating under maximum rating.

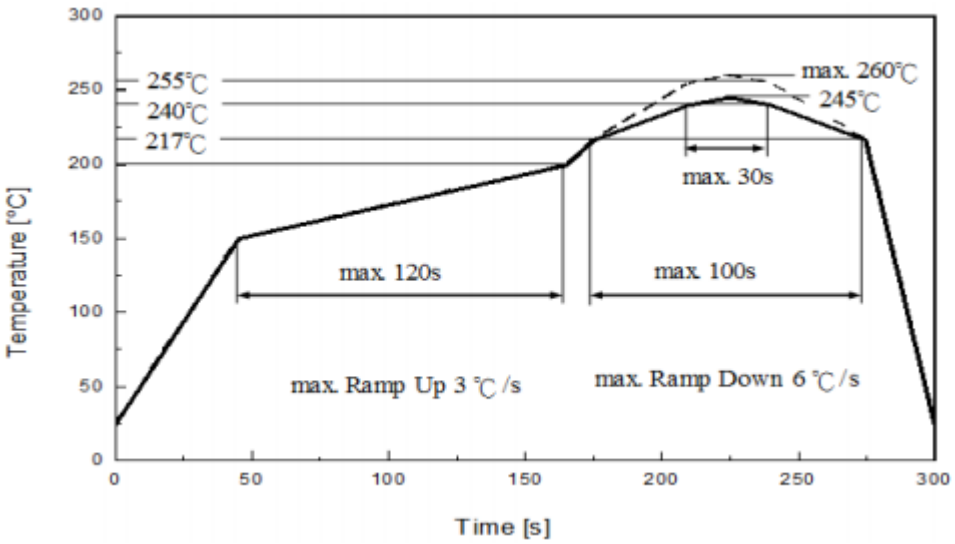
Storage

- Before opening the package, the LEDs should be kept at 40°C, 90% RH environment or less , and should be used within one year.
- After opening the package bag,
  The LEDs should be kept at 30°C, 60% RH environment or less.
  The LEDs should be soldered within 12 months (1 year).
  If unused LEDs remain, they should be stored in moisture proof packages, such as sealed containers with packages of moisture absorbent material (silica gel).
- If the package is over storage time, the LEDs should be pre-bake 65 ± 5 °C / 12 hrs before use. (One time only).

Soldering Notice and Conditions

When soldering LEDs,

- Do not solder/reflow the same LED over two times.
- Reflow temperature profile as below: (lead-free solder)



Classification Reflow Profile (JEDEC J-STD-020D)

- When soldering, don't put stress on the LEDs
- After LEDs have been soldered, strongly recommend not to repair to keep the LEDs performance.

Static Electricity

- LED package is extremely sensitive to static electricity. It's recommended that anti-electrostatic glove and wrist band is necessary when handling the LEDs. All devices are also be grounded properly as well.
- Protection devices design should be considered in the LED driving circuit.

Cleaning

- If washing is required, recommend to use alcohol as a solvent.
- Recommend to avoid cleaning the LEDs by ultrasonic. If necessary, pre-test the LED is necessary to confirm whether any damage occur after the process.

No. 3, Gongye E. 3rd Road, Hsinchu Science Park, Hsinchu 30075, Taiwan
TEL：886-3-565-8800

Revision History

Date	Contents	Writer	Approved
2017.02.20	Preliminary version	SK	Rex
2017.07.20	Update Carrier Taping	Kelly	Bemore
2017.08.07	1. Update Reliability test – P.10 2. Soldering Notice and Conditions – P.14	Kelly	Bemore
2017.09.11	Add Recommended Soldering Pad Polarity – P.3	Kelly	Bemore
2018.01.10	Add Rth – P.4	Kelly	Bemore
2018.07.11	Add De-rating curve – P.10 LED placed into carrier tape definition – P.12	Ray	Bemore
2018.12.25	Official version	Ray	Bemore
2020.02.14	Update carrier taping – P.13	Rick	Bemore
2021.07.19	Update Packing reel Q'ty – P.2	Rick	Bemore

Smart Lighting
Amazing Life

Lextar Electronics Corp. is the leading LED (Light Emitting Diode)
maker integrating upper stream epitaxial, middle stream chip, and downstream package,
SMT and LED lighting applications. Founded in May, 2008, Lextar is a subsidiary of AU Optronics,
the leading TFT-LCD and solar PV manufacturer. Lextar's product applications include lighting and LCD backlight.
Lextar's manufacturing sites include Hsinchu and Chunan in Taiwan, and Suzhou in China.
The company turnover in 2010 is 266 million USD.