

Doc. version: 0
Total pages: 12
Date: 2011/07

LED Product Spec

PC30H06

MODEL NAME: PC30H06

<◆> Preliminary Specification

< > Final Specification

Note: The content of this specification is preliminary for reference only..

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Record of Revision

Version and Date	Page	Old description	New Description	Remark
0.1 2011/7	All	First Preliminary Edition		

Preliminary

1 Specification

1.1 Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Absolute Maximum Rating	Unit
Forward Current	I _F	30	mA
Pulse Forward Current *	I _{FP}	100	mA
Allowable Reverse Current	I _R	2	uA
Maximum Power Dissipation	P _D	110	mW
Operating Temperature	T _{opr}	-40 ~ + 85	°C
Storage Temperature	T _{stg}	-40 ~ +100	°C
Soldering Temperature	T _{slid}	Reflow Soldering : 245 (10sec) Hand Soldering : 350 (3sec)	°C

*: I_{FP} Condition: Duty 1/10, Pulse within 10msec.

** : Mil-STD-883

1.2 Initial Electrical/Optical Characteristics (Ta=25°C)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V _F	I _F =30 mA	2.9	3.3	3.5	V
Luminous Flux	Φ _v	I _F =30 mA	7	9		lm
View Angle	2θ _{1/2}	I _F =30 mA	-	120	-	degree
Color Rendering Index		I _F =30 mA	80			
Chromaticity Coordinate *	x	I _F =30 mA	Refer to ranking table			-
	y	I _F =30 mA				

* Please refer to CIE 1931 chromaticity diagram

1.3 Ranking

1.3.1 Luminous Flux Ranks (Ta=25°C)

Item	Symbol	Condition	Min.	Max.	Unit
M7	Φ_v	$I_F=30\text{ mA}$	7	8	Lm
M8	Φ_v	$I_F=30\text{ mA}$	8	9	
M9	Φ_v	$I_F=30\text{ mA}$	9	10	
MA	Φ_v	$I_F=30\text{ mA}$	10	11	
MB	Φ_v	$I_F=30\text{ mA}$	11	12	

*Luminous Flux Measurement allowance is $\pm 7\%$

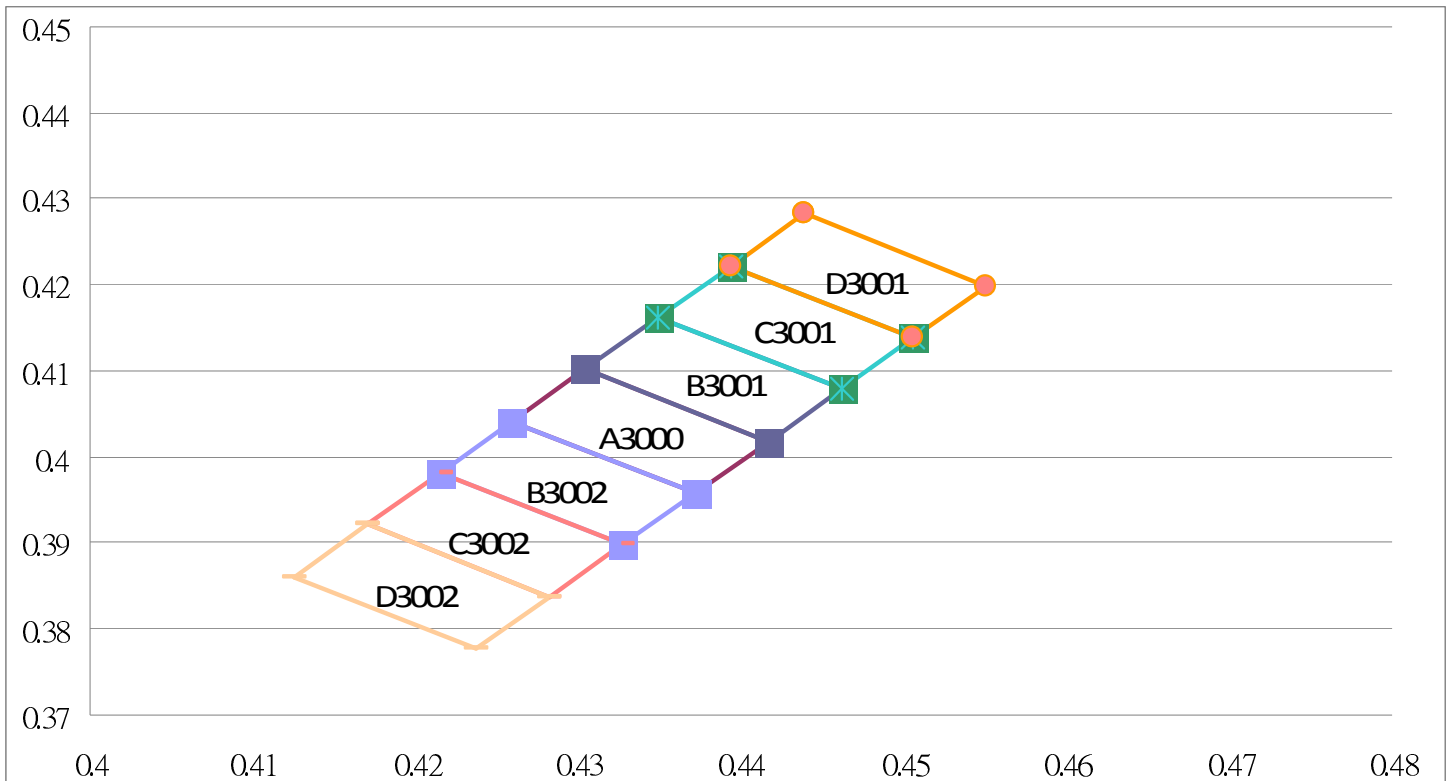
1.3.2 Forward Voltage Ranks (Ta=25°C)

Item	Symbol	Condition	Min.	Max.	Unit
1	V_F	$I_F=30\text{ mA}$	2.9	3.0	V
2	V_F	$I_F=30\text{ mA}$	3.0	3.1	V
3	V_F	$I_F=30\text{ mA}$	3.1	3.2	V
4	V_F	$I_F=30\text{ mA}$	3.2	3.3	V
5	V_F	$I_F=30\text{ mA}$	3.3	3.4	V
6	V_F	$I_F=30\text{ mA}$	3.4	3.5	V

* Forward Voltage Measurement allowance is $\pm 3\%$

1.3.3 Color Rank ($I_f=30\text{mA}$, $T_a=25^\circ\text{C}$)

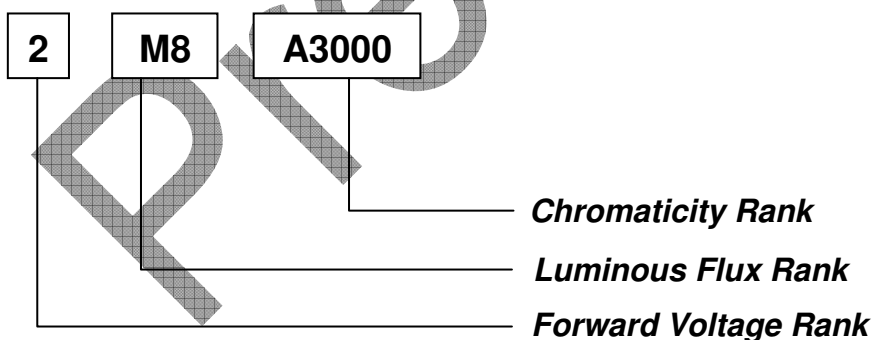
Chromaticity Diagram



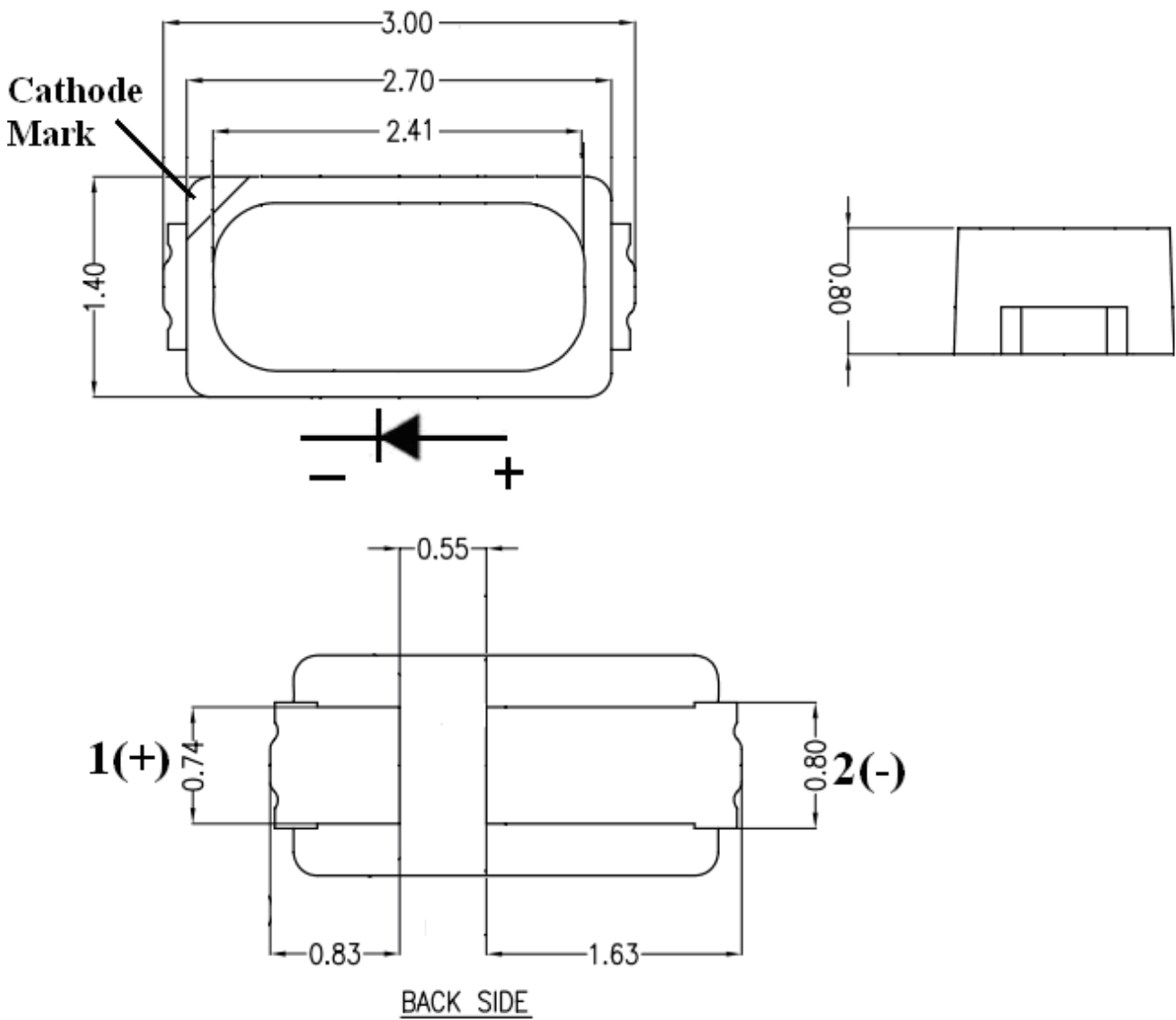
Pre

Code	x	y	Code	x	y
D3001	0.44387	0.42823	B3002	0.42595	0.40417
	0.43939	0.42222		0.42147	0.39816
	0.45061	0.41386		0.43269	0.38980
	0.45509	0.41987		0.43717	0.39581
	0.44387	0.42823		0.42595	0.40417
C3001	0.43939	0.42222	C3002	0.42147	0.39816
	0.43491	0.41620		0.41699	0.39214
	0.44613	0.40784		0.42821	0.38378
	0.45061	0.41386		0.43269	0.38980
	0.43939	0.42222		0.42147	0.39816
B3001	0.43491	0.41620	D3002	0.41699	0.39214
	0.43043	0.41019		0.41251	0.38613
	0.44165	0.40183		0.42373	0.37777
	0.44613	0.40784		0.42821	0.38378
	0.43491	0.41620		0.41699	0.39214
A3000	0.43043	0.41019			
	0.42595	0.40417			
	0.43717	0.39581			
	0.44165	0.40183			
	0.43043	0.41019			

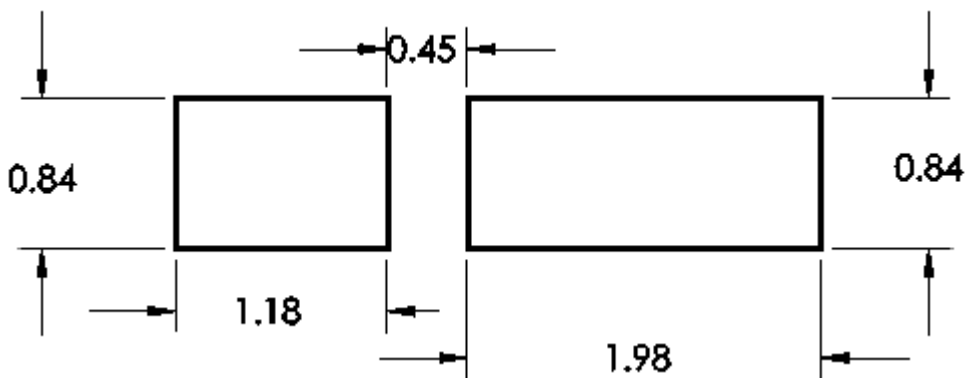
Bin code definition



2 Outline Dimension and Recommended Soldering Pad



Recommended Soldering Pad:



3 Reliability

Test Item	Judgment	Test Condition	Test Period	Damage No.
Resistance to Soldering Heat (Reflow Soldering)	Open/Short	T _{sld} =240°C 10 sec (Pretreatment 30°C,70%,168hrs.)	Twice	0/30
Thermal Shock	Open/Short	-40°C ~ 100°C 5min 5min	1000 cycles	0/30
Temperature Cycle	Open/Short	-40°C ~ 25°C ~ 100°C ~ 25°C 30min 5min 30min 5min	1000 cycles	0/30
High Temperature Storage	See Note	T _a =85°C	1000hrs	0/30
Low Temperature Operating Life	See Note	T _a =-40°C, I _F =30mA	1000hrs	0/30
High Temperature Operating Life	See Note	T _a =85°C, I _F =30mA	1000hrs	0/30
Steady State Operating Life	See Note	T _a =25°C, I _F =30mA	1000hrs	0/30
High Temperature & Humidity Operating Life	See Note	T _a =85°C, 85%RH, I _F =30mA	1000hrs	0/30

Notes:

1. A failure is an LED that is open, shorted, no longer light up, V_F shift>200mV.
Luminous flux degradation>15%, or Forward or reverse leakage>10 μA.
2. A failure is an LED that is open or shorted.

4 Initial Optical/Electrical Characteristics

4.1 Spectrum

TBD

4.2 Directivity

TBD

4.3 Forward Voltage vs. Forward Current

$T_a = 25^\circ\text{C}$

TBD

4.4 Forward Current vs. Relative Luminosity

TBD

4.6 Forward Current vs. Chromaticity Coordinate

TBD

4.7 Forward Voltage change vs. Ambient Temperature

TBD

4.8 Relative Luminous Intensity vs. Ambient Temperature

TBD

4.9 Chromaticity vs. Ambient Temperature

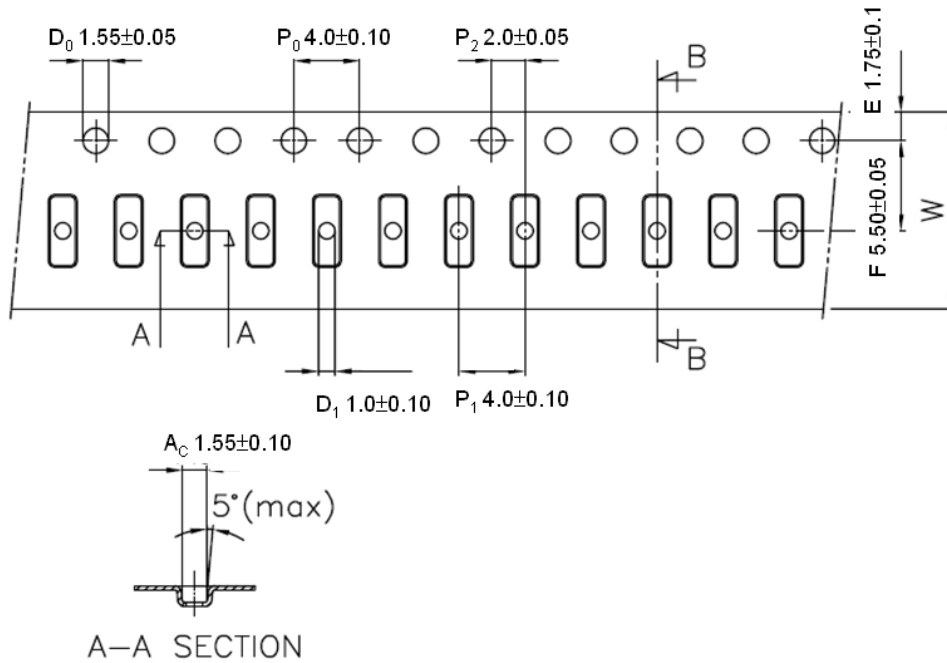
TBD

4.8 Allowable Forward Current vs. Ambient Temperature

TBD

5. Packaging

5.1 Carrier Tape Dimension



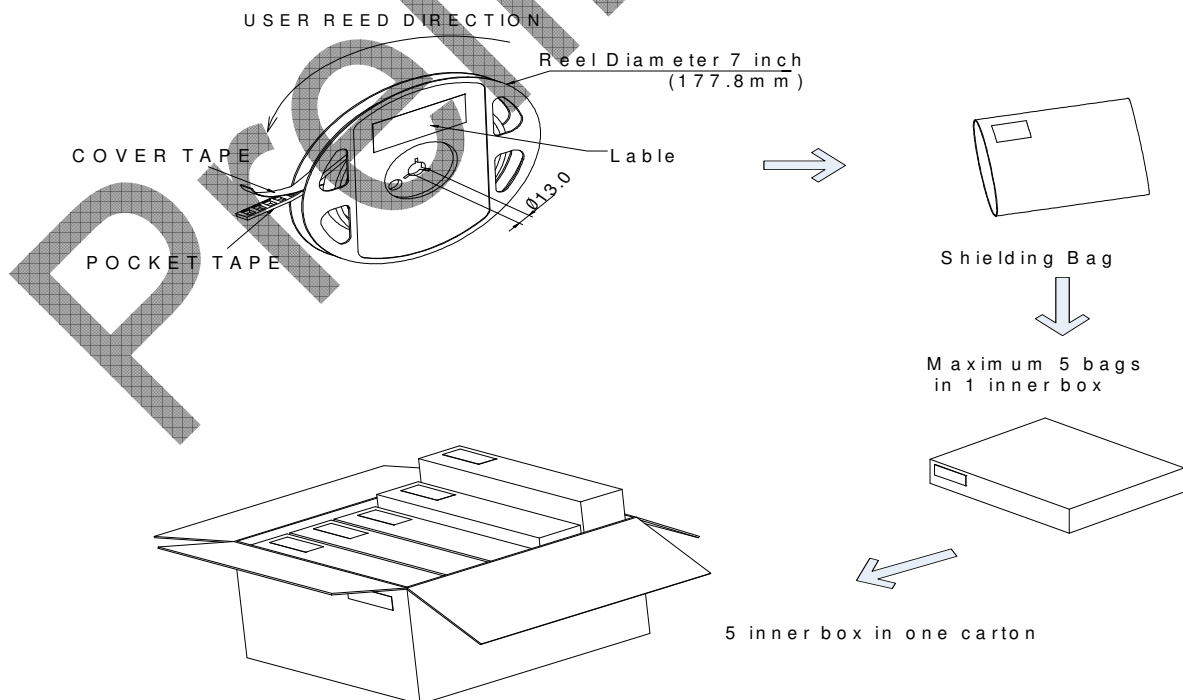
5.2 Reel Label

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5.3 Label on carton

TBD

5.4 Package



6 Precautions

6.1 Safety Precautions

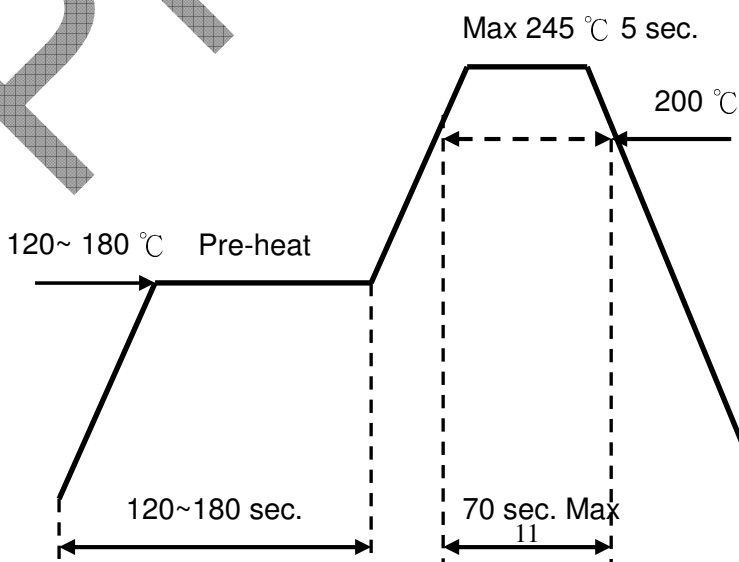
- The LED light output is too strong for human eyes without shield. Prevent eye contact directly more than seconds.
- Ensure operating under maximum rating.

6.2 Storage

- Before opening the package, the LEDs should storage under 30°C, 70% RH. Recommend to use within one year.
- After opening the package bag, the LEDs should be keep under 30°C, 70% RH. Recommend to use within 2days. If unused LEDs remain, suggest to store into moisture proof bag or original package bag with moisture absorbent material such as silica gel. Reseal well is necessary.
- If the product exceeded the storage period or the moisture absorbent material faded away, baking treatment should be done by following conditions.
Baking condition: 60°C, 12hours (One time only).

6.3 Soldering Notice and Conditions

- When soldering LEDs,
- Do not solder/reflow the same LED over two times.
- Recommend soldering conditions:
Hand soldering : 350 °C max , 3 sec. max.
Reflow soldering : Pre-heat 150 °C max , 180 sec. max.
Peak 245 °C max , 5 sec. max.
- Reflow temperature profile as below: (lead-free solder)



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

6.4 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.

6.5 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.

Preliminary

单击下面可查看定价，库存，交付和生命周期等信息

[>>Lextar\(隆达\)](#)