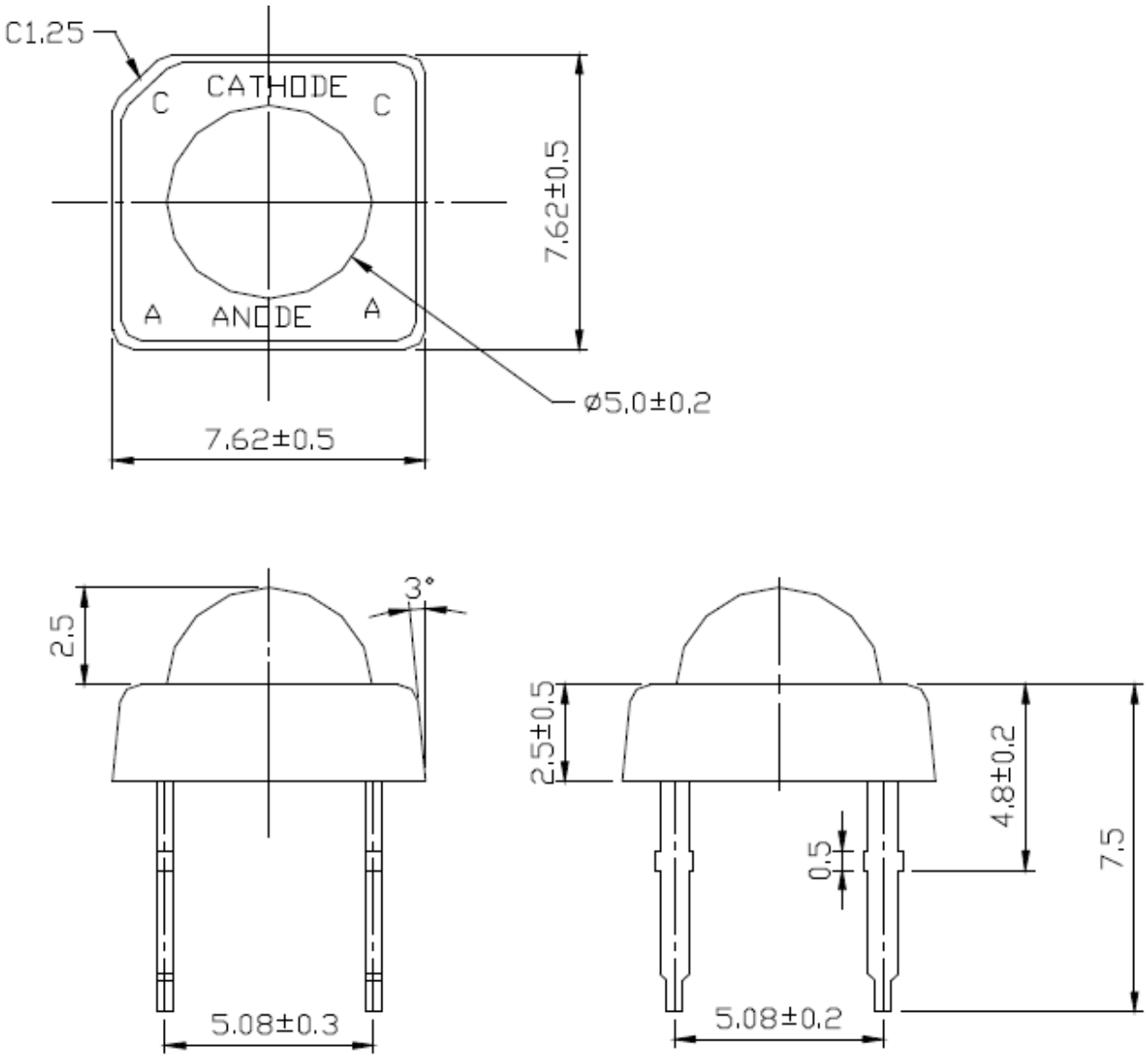
Part No. **AL-50-30UW1C/4PRB** Diff No.154

5 mm High Power Type：LED Lamps

■ Package Dimension:



Notes:
1. All dimensions are in millimeter.
2. An epoxy meniscus may extend about.
   1.5mm(0.059") down to the lead
3. Tolerances unless Dimension ±0.25mm.

Part No. **AL-50-30UW1C/4PRB** Diff No.154

5 mm High Power Type：LED Lamps

LED Parts P/N.	Chip		Lens Color
	Material	Emitted Color	
AL-50-30UW1C/4PRB	InGaN	White	Water Clear

■ Absolute Maximum Ratings at Ta=25℃

Parameter	Symbol	Rating	Unit
Continuous Forward Current	I_F	30	mA
Operating Temperature	Topr	-40 to +85	℃
Storage Temperature	Tstg	-40 to +100	℃
Soldering Temperature	Tsol	260 ± 5	℃
Electrostatic Discharge	ESD	4000	V
Power Dissipation	P_D	120	mW
Peak Forward Current （Duty 1/10@1KHz）	I_F（Peak）	100	mA
Reverse Voltage	V_R	5	V

■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Total Flux	Φv	2850	4000	5650	mlm	I_F=30mA
Viewing Angle	2θ 1/2	／	65	／	deg	I_F=30mA
Chromaticity Coordinates	X	／	0.30	／	／	I_F=30mA
	Y	／	0.29	／	／	
Forward Voltage	V_F	3.0	3.5	4.0	V	I_F=30mA
Reverse Current	I_R	／	／	10	μA	V_R=5V

Part No. **AL-50-30UW1C/4PRB** Diff No.154

5 mm High Power Type：LED Lamps

■ Reliability test items and conditions :

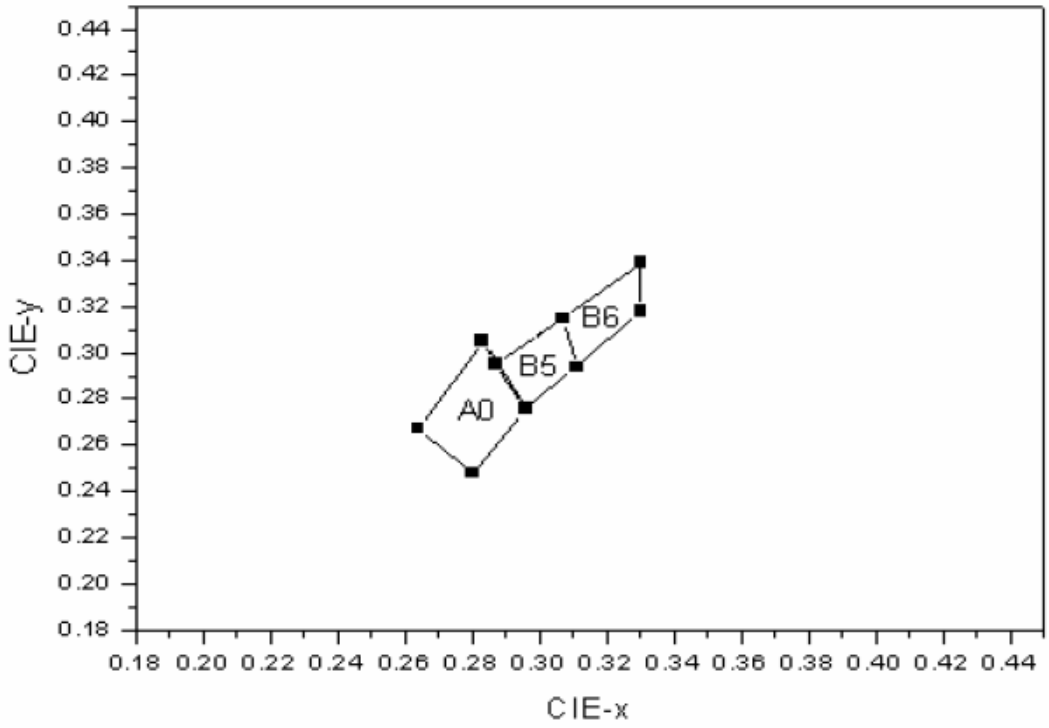
The reliability of products shall be satisfied with items listed below.
Confidence level: 90%
LTPD: 10%

NO	ITEM	Test Conditions	Test hours/cycle	Sample Q'ty	Ac/Re
1	Solder Heat	Temp：260℃±5℃	5 sec	80 pcs	0/1
2	Temperature Cycle	H：+85℃ 30min 〉 5min L：-40℃ 30min	100 cycles	80 pcs	0/1
3	Thermal Shock	H：+100℃ 5min 〉 10sec L：-10℃ 5min	100 cycles	80 pcs	0/1
4	High Temperature Storage	Ta=100℃	1000 hrs	80 pcs	0/1
5	Low Temperature Storage	Ta=-40℃	1000 hrs	80 pcs	0/1
6	DC Operating Life	Temp：25℃ I_F=20mA	1000 hrs	80 pcs	0/1
7	High Temperature／ High Humidity	85℃／85%RH	1000 hrs	80 pcs	0/1

Part No. **AL-50-30UW1C/4PRB** Diff No.154

5 mm High Power Type：LED Lamps

CIE Chromaticity Diagram



Color Ranks (IF=30mA，Ta=25℃)

Color Ranks		CIE Rank			
A0	X	0.280	0.264	0.283	0.296
	Y	0.248	0.267	0.305	0.276
B5	X	0.296	0.287	0.307	0.311
	Y	0.276	0.295	0.315	0.294
B6	X	0.311	0.307	0.330	0.330
	Y	0.294	0.315	0.339	0.318

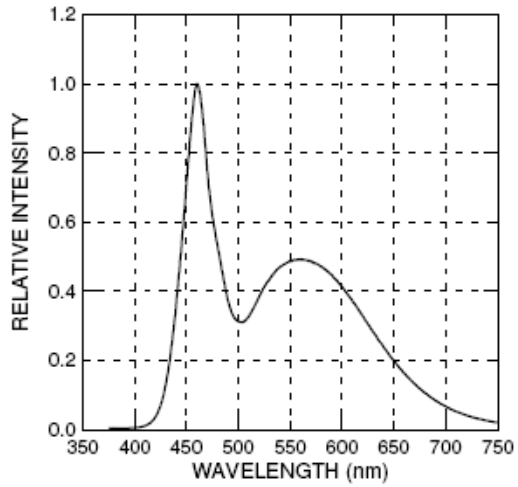
*Measurement uncertainty of the color coordinates：±0.01

Part No. **AL-50-30UW1C/4PRB** Diff No.154

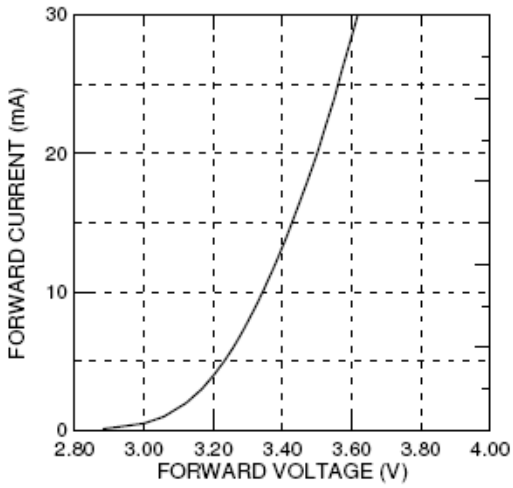
5 mm High Power Type：LED Lamps

Typical Electro-Optical Characteristics Curves

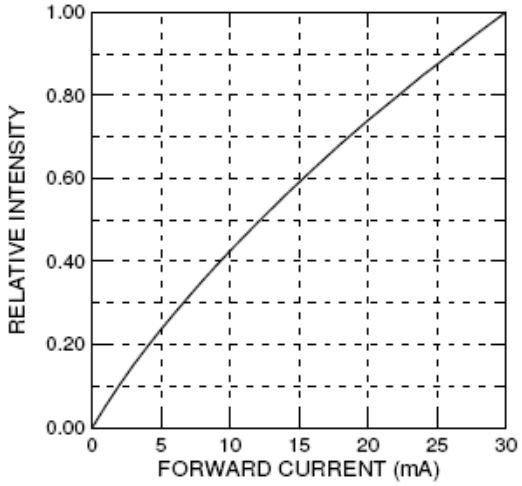
Relative Intensity vs. Wavelength



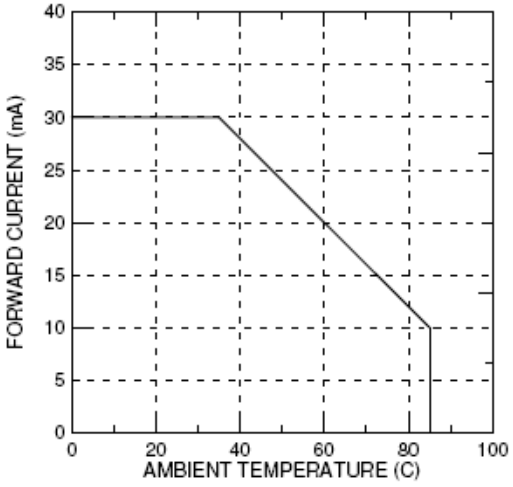
Forward Current vs. Forward Voltage



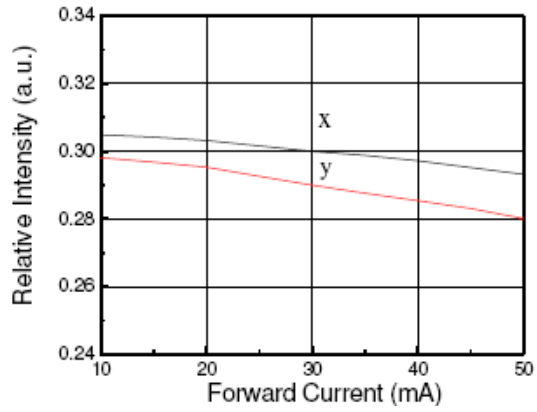
Relative Intensity vs. Forward Current



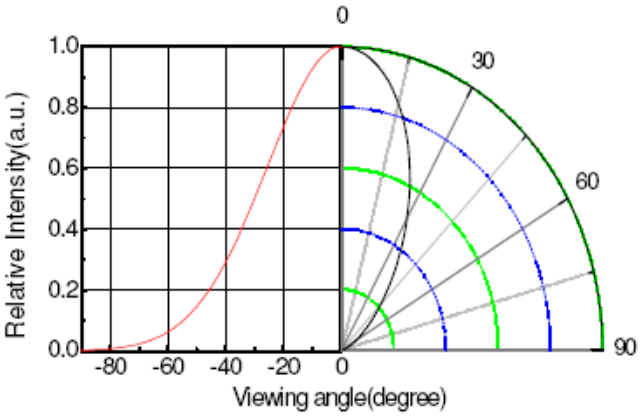
Forward Current vs. Ambient Temp.



Chromaticity Coordinate vs. Forward Current



Radiation Characteristics



Precautions For Use

1. Over-current proof

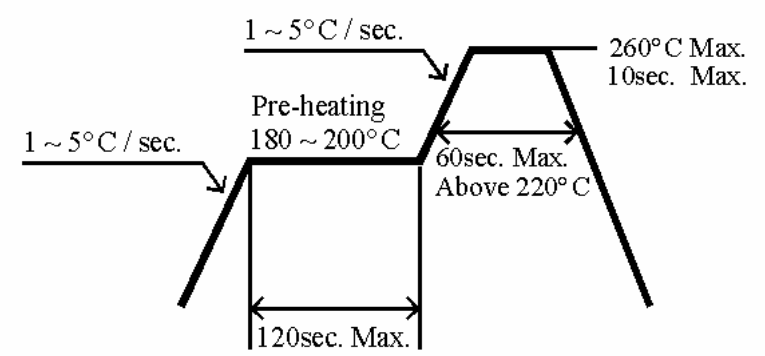
   Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage

   Do not open moisture proof bag before the products are ready to use.
   Before opening the package, the LEDs should be kept at 30℃ or less and 90%RH or less.
   The LEDs should be used within a year.
   After opening the package, the LEDs should be kept at 30℃ or less and 70%RH or less.
   The LEDs should be used within 168 hours (7 days) after opening the package.
   If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.
   Baking treatment：60±5℃ for 24 hours.

3. Soldering Condition

   Pb-free solder temperature profile



   Reflow soldering should not be done more than two times.
   When soldering, do not put stress on the LEDs during heating.
   After soldering, do not warp the circuit board.

4. Soldering Iron

   Each terminal is to go to the tip of soldering iron temperature less than 280℃ for 3 seconds within once in less than soldering iron capacity 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.