TOP LED - 5630 - WARM WHITE
- CC - IMH5630DS - FE - J -

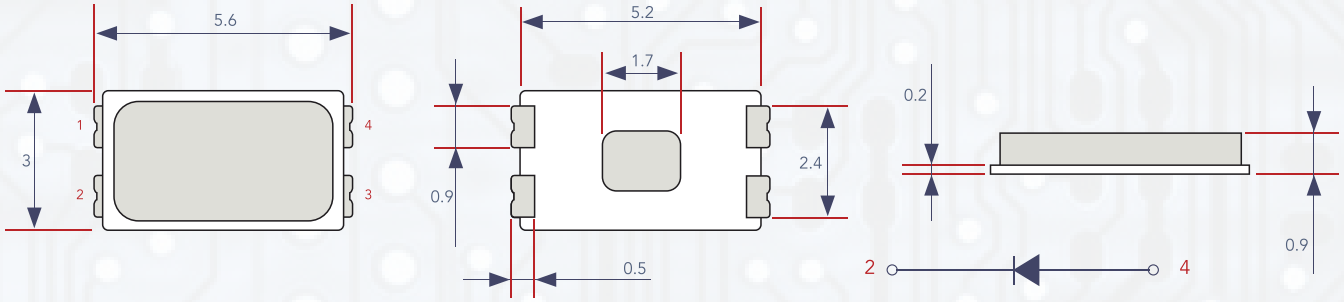
FEATURES

- Viewing angle: 120 deg
- The materials of the LED dice is InGaN
- 5.6mm x 3.0mm x 0.9mm
- RoHS compliant led-free soldering compatible

ATTENTION

OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC SENSITIVE DEVICES

PACKAGE OUTLINE



- All dimensions are in millimeters (inches)
- Tolerances are ±0.2mm (0.008 inch) unless otherwise noted

ABSOLUTE MAXIMUM RATINGS AT Ta - 25°C

PARAMETER	SYMBOL	VALUE	UNIT
Forward Current	If	180	mA
Reverse Voltage	Vr	5	V
Operating Temperature Range	Top	-20 ~ +85	°C
Storage Temperature Range	Tstg	-35 ~ +85	°C
Pulse Foward Current	Ifp	1000	lm
Electrostatic Discharge	ESD	2000 (HBM)	V

ELECTRO-OPTICAL CHARACTERISTICS AT Ta - 25°C

PARAMETER		TEST CONDITION	SYMBOL	VALUE			UNIT
				MIN	TYPE	MAX	
Forward Voltage	Rank H1	If - 150mA	Vf	3.0	-	3.1	V
	Rank H2			3.1	-	3.2	
	Rank I1			3.2	-	3.3	
	Rank I2			3.3	-	3.4	
	Rank J1			3.4	-	3.5	
	Rank J2			3.5	-	3.6	
Luminous Flux	Rank RCA	If - 150mA	ø	37	-	40.9	mcd
	Rank RDA			40.9	-	45.3	
	Rank SAA			45.3	-	50	
	Rank SBA			50	-	55.3	
Viewing Angle at 50%		If - 150mA	2θ 1/2	-	120	-	Deg
Color Rending Index		If - 150mA	CRI	80	-	-	-
Reverse Current		Vr - 5V	Ir	-	-	10	µA

NOTE: (Tolerance: Iv ±10%,Vf ±0.05V, X, Y ±0.00 5)
IFP Conditions: Pulse Width ≤10m sec. and Duty ≤1/10.

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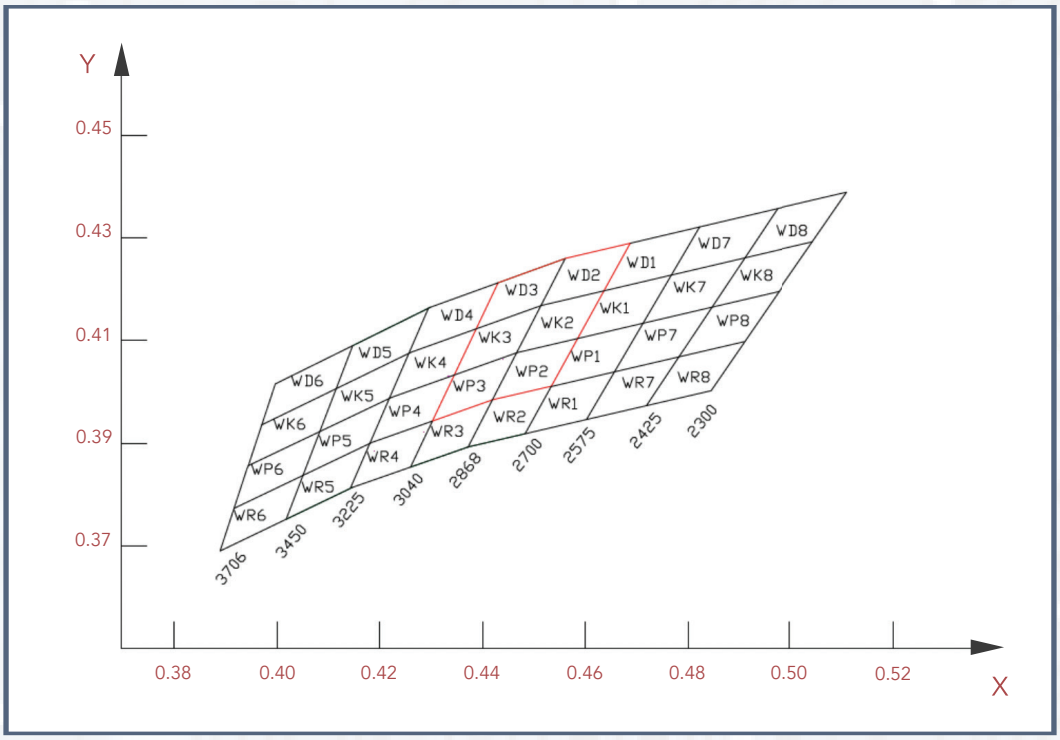
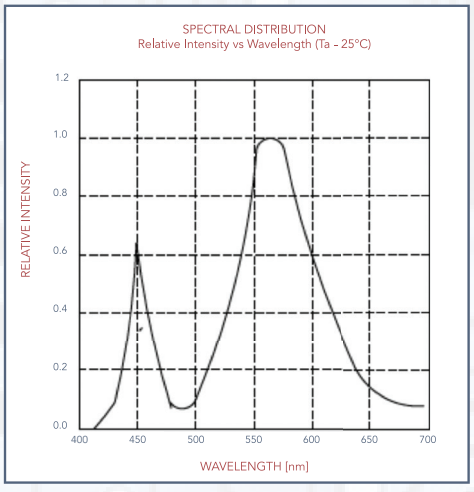
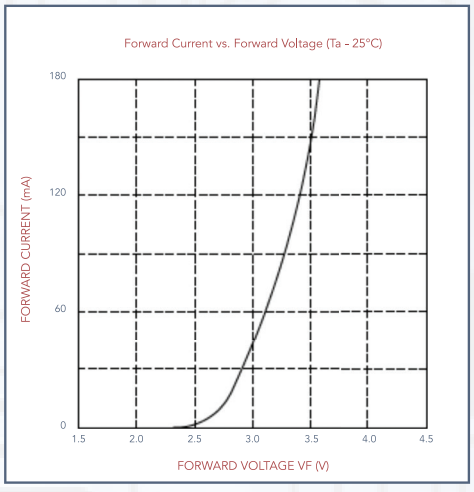
CHROMATICITY BIN

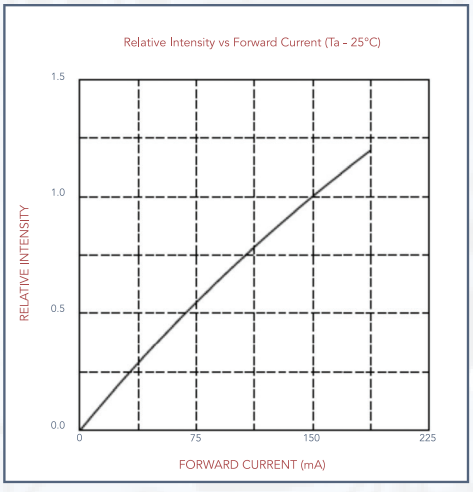


BIN CODE	CIE-X1	CIE-Y1	CIE-X2	CIE-Y2	CIE-X3	CIE-Y3	CIE-X4	CIE-Y4
WP2	0.4468	0.4077	0.4585	0.4106	0.4534	0.4011	0.4420	0.3985
WK2	0.4515	0.4168	0.4636	0.4197	0.4585	0.4106	0.4468	0.4077
WD2	0.4562	0.4260	0.4688	0.4290	0.4636	0.4197	0.4515	0.4168
WP3	0.4345	0.4033	0.4468	0.4077	0.4420	0.3985	0.4303	0.3943
WK3	0.4388	0.4123	0.4515	0.4168	0.4468	0.4077	0.4345	0.4033
WD3	0.4431	0.4213	0.4562	0.4260	0.4515	0.4168	0.4388	0.4123

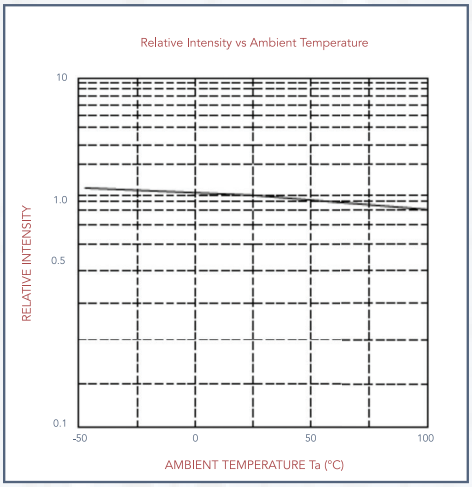
TYPICAL OPTICAL CHARACTERISTICS CURVES

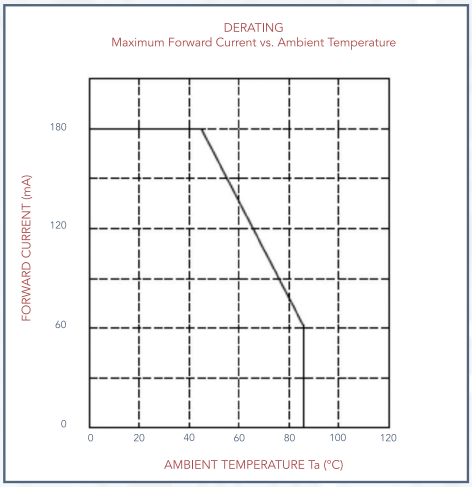


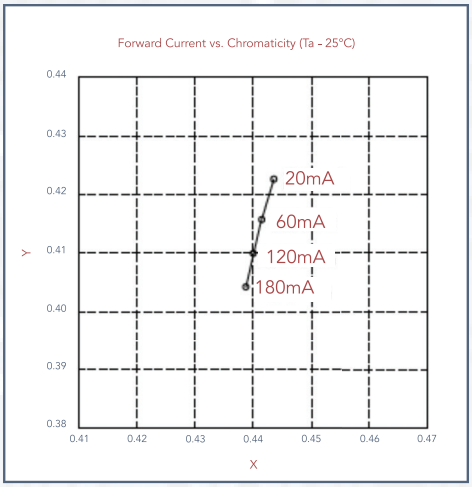


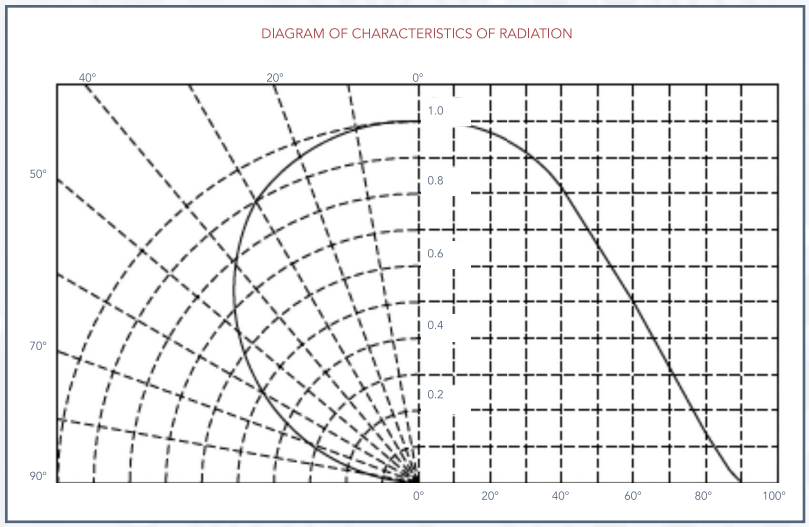


TYPICAL OPTICAL CHARACTERISTICS CURVES









- Soldering Condition

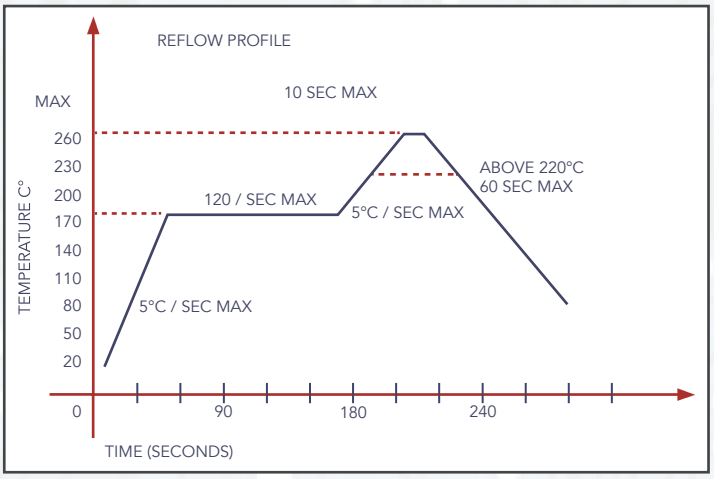
Recommended Soldering
After reflow soldering rapid cooling should be avoided

REFLOW SOLDERING		HAND SOLDERING	
Pre-Heat	160°C ~ 180°C	Temperature	300°C
Pre-Heat Time	120 Seconds Max.	Soldering Time	3 Second Max - One Time Only
Peak Temperature	260°C Max		
Soldering Time	10 Seconds Max		
Condition	Refer to Temperature-profile		

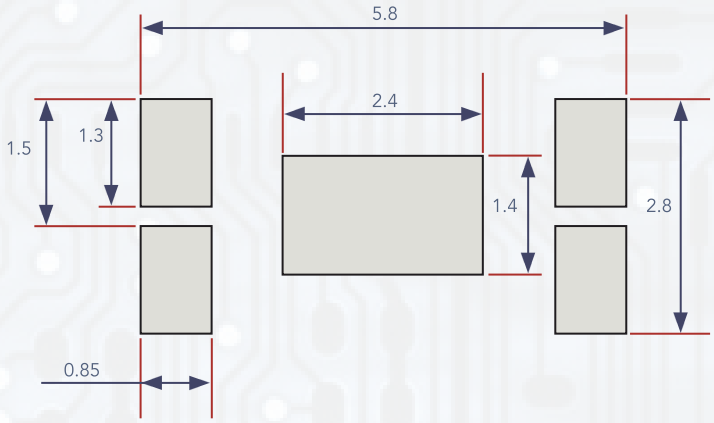
REFLOW PROFILE

- Temperature - profile (surface of circuit board)

Use the following conditions shown in the figure



- Recommend Pad Design (Units: mm)



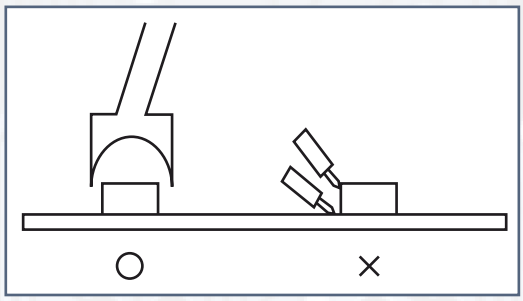
Reflow soldering should not be done more than two times
When soldering, do not put stress on the LEDs during heating

- Soldering Iron

When hand soldering, keep the temperature of the iron under 300°C, and at that temperature keep the time under 3 sec.
The hand soldering should be done only a time
The basic spec is ≤5 sec. when the temperature of 260°C, do not contact the resin when hand soldering.

- Rework

Customer must finish rework within 5 sec under 260°C
The head of iron can not touch the resin
Twin-head type is preferred



- CAUTIONS

The encapsulated material of the LEDs is silicone. Therefore the LEDs have a soft surface on the top of package. The pressure to the top surface will be influence to the reliability of the LEDs. Precautions should be taken to avoid the strong pressure on the encapsulated part. So when using the picking up nozzle, the pressure on the silicone resin should be proper.

RELIABILITY

- TEST ITEMS AND RESULTS

TYPE	TEST ITEM	REF STANDARD	TEST CONDITIONS	NOTE	NUMBER OF DAMAGED
Environmental Sequence	Resistance to Soldering Heat (Reflow Soldering)	JESD22 - B106	Tsld - 260°C, 10 sec	2 times	0/22
	Temperature Cycle	JESD22 - A104	-40°C 30 min ↑↓ 5 min 100°C 30 min	300 cycle	0/22
	Thermal Shock	JESD22 - A106	-40°C 15min ↑↓ 100°C 15 min	300 cycle	0/22
	High Temperature Storage	JESD22 - A103	T_a - 100°C	1000 hrs	0/22
	Low Temperature Storage	JESD22 - A119	T_a - 40°C	1000 hrs	0/22
Operation Sequence	Life Test	JESD22 - A108	T_a - 25°C I_F - 20mA	1000 hrs	0/22
	High Humidity Heat Life Test	JESD22 - A101	60°C RH-90% I_F - 20mA	1000 hrs	0/22

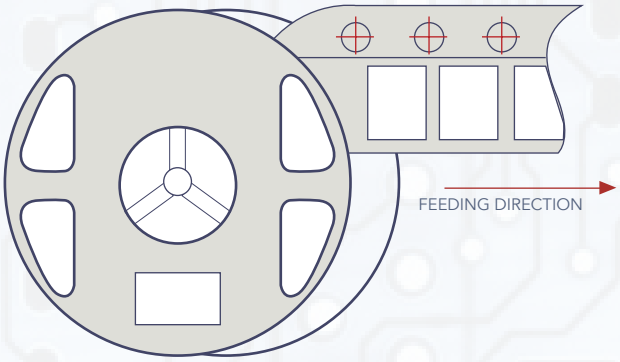
- CRITERIA FOR JUDGING THE DAMAGE

ITEM	SYMBOL	TEST CONDITIONS	CRITERIA FOR JUDGEMENT	
			MIN.	MAX.
Forward Voltage	VF	IF- 150mA	-	U.S.L *) x 1.1
Reverse Current	IR	VR - 5V	-	U.S.L*) x 2.0
Luminous Intensity	IV	IF - 150mA	L.S.L**) x 0.7	-

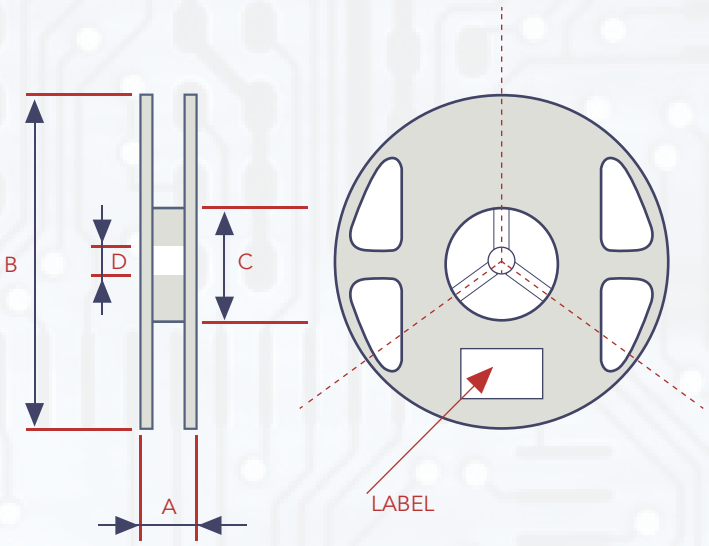
- U.S.L.: Upper Standard Level
- L.S.L.: Lower Standard Level

PACKAGING SPECIFICATIONS

- Feeding Direction



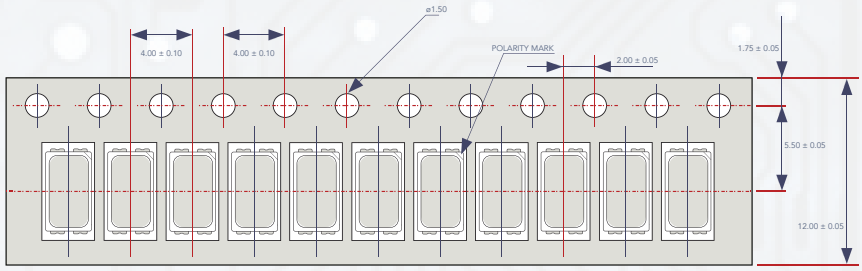
- Dimensions of Reel (Unit: mm)



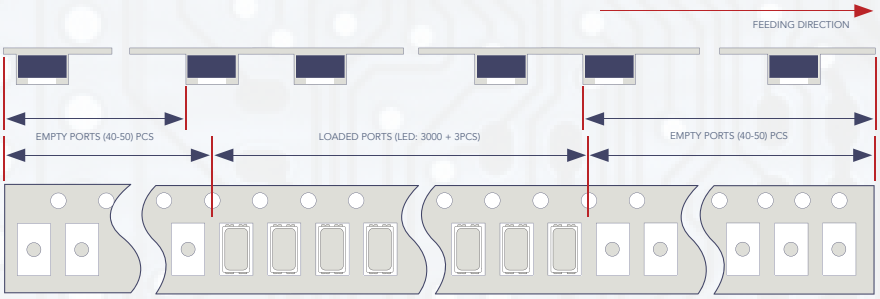
A	12 ± 0.1mm
B	179 ± 1mm
C	58 ± 1mm
D	13.5 ± 0.5mm

PACKAGING SPECIFICATIONS

- Dimensions of Tape (Unit: mm)

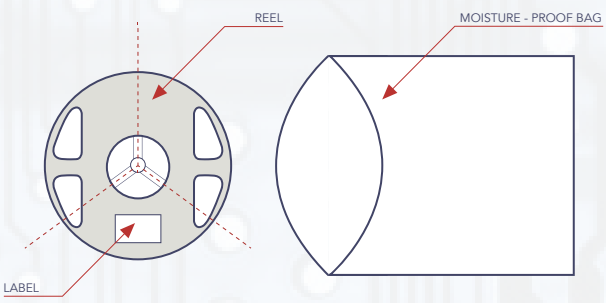


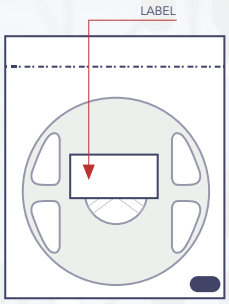
- Arrangement of Tape

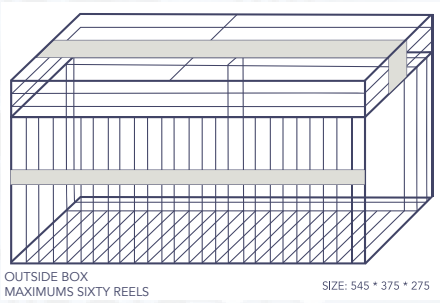


NOTE: Empty component pockets are sealed with top cover tape
The maximum number of missing lamps is two:
The cathode is oriented towards the tape sprocket hole in accordance with ANSI/EIA RS-481 specifications.
3,000 pcs / Reel

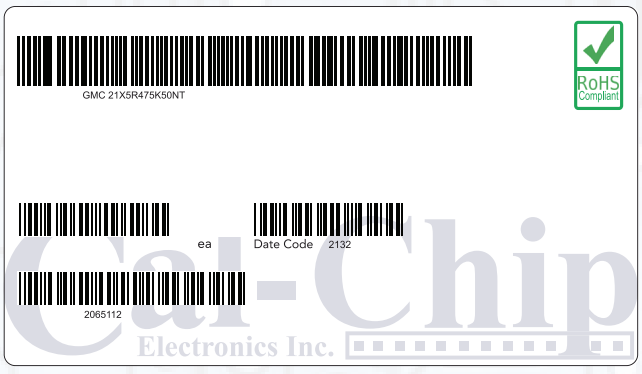
PACKAGING SPECIFICATIONS







- Label



- Cautions

- Packaging Specification

- Reeled products (3,000 pcs) packed in a sealed moisture-proof bags along with a desiccan. Sixty moisture proof bags maximum are put in each box (size: about 545mm x about 375mm x about 275mm) (Part No., Lot No., quantity should appear on the label on the moisture-proof bag, part No. And quantity should appear on the label on the cardboard box.

- Storage Conditions

- **Before Opening the Packaging** - The LEDs should be kept at 30°C or less and 90% RH or less. The LEDs should be used within a year. When storing the LEDs, moisture proof packaging with absorbant material is recommended.

- **After Opening the Packge** - The LEDs should be kept at 30°C or less and 70% RH or less. If unused LEDS remain, they should be stored in moisture proof packages, such as sealed containers with packages of moisture absorbent material (silica gel). It is also recommended to return the LEDs to the original moisture proof bag and to reseal the moisture proof bag again.