Technical Data Sheet

Reverse Package Top View LEDs

67-11UWC/S400-XX/TR10

Features

- Fluorescence Type
- High Luminous Intensity
- High Efficiency
- Emission Color:x=0.29,y=0.30
- Pb-free.
- The product itself will remain within RoHS compliant version.

Descriptions

The white LED which was fabricated using a blue LED and a phosphor, and the phosphor is excited by blue light and emits yellow fluorescence. The mixture of blue light and yellow light results in a white emission.

Applications

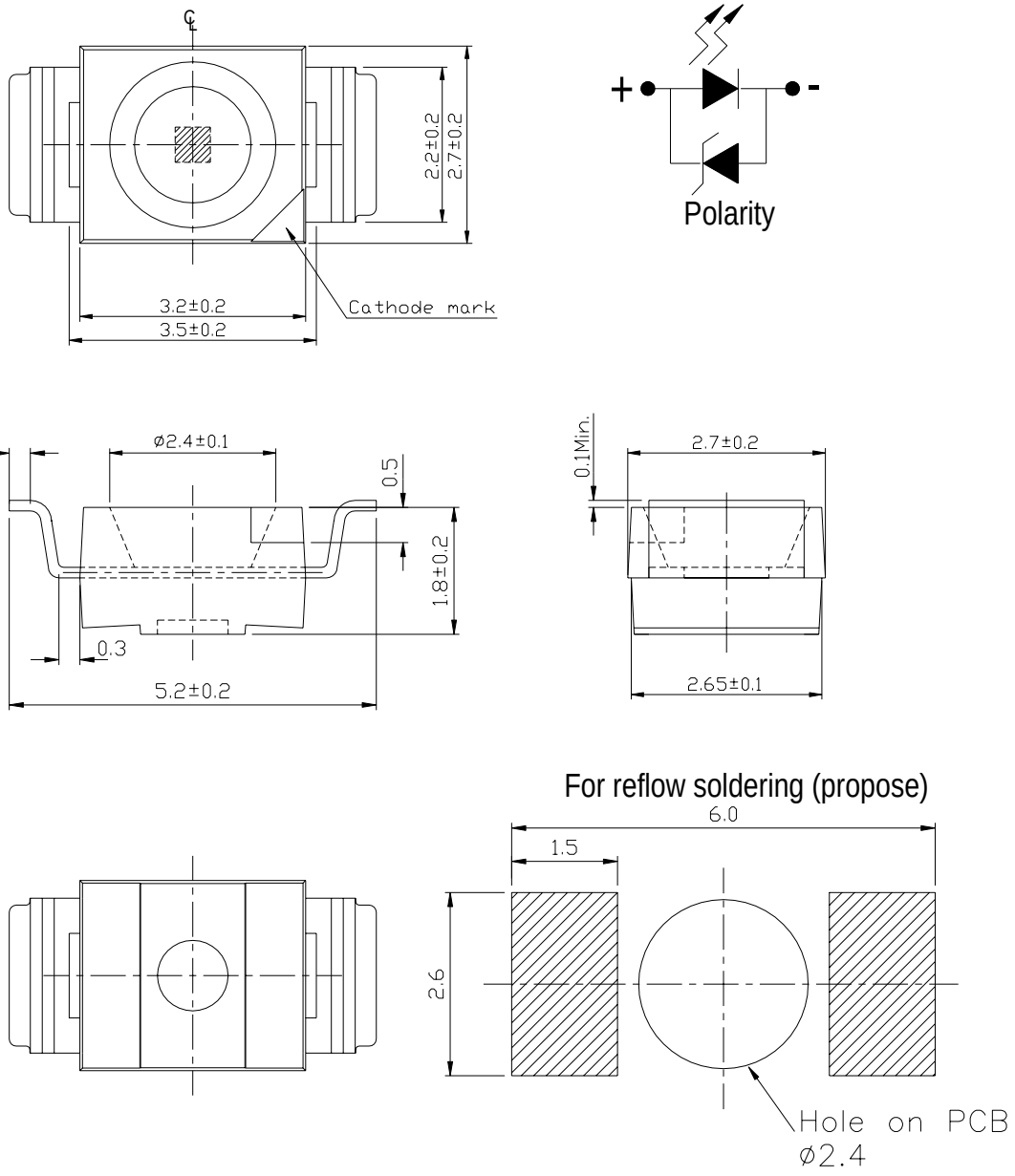
- OA Equipment
- Backlighting of Full Color LCD
- Automotive Equipment
- Replacement of Conventional Light Bulbs and Fluorescent Lamps

Device Selection Guide

Chip		Lens Color
Material	**Emitted Color**	
InGaN	White	Water Clear

67-11UWC/S400-XX/TR10

Package Dimensions



Note: The tolerances unless mentioned is ±0.1mm;Unit = mm

67-11UWC/S400-XX/TR10

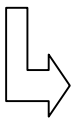
Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	5	V
Forward Current	I_F	25	mA
Operating Temperature	Topr	-40 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +90	℃
Electrostatic Discharge	ESD	2000	V
Power Dissipation	Pd	110	mW
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	100	mA
Soldering Temperature	Tsol	Reflow Soldering : 260 ℃ for 10 sec. Hand Soldering : 350 ℃ for 3 sec.	

Electro-Optical Characteristics (Ta=25℃)

Parameter	**Symbol**	*Chip Rank	**Min.**	**Typ.**	**Max.**	**Units**	**Condition**
Luminous Intensity	I_V	A4	100	290	--	mcd	I_F=20mA
		A5	200	360	--		
		A6	240	450	--		
		X7	400	630	--		
		X8	500	750	--		
		X9	600	900	--		
Forward Voltage	V_F	--	--	3.50	4.30	V	I_F=20mA
Viewing Angle	2θ 1/2	--	--	120	--	deg	I_F=20mA

*67-11UWC/S400-XX/TR10



Chip Rank

67-11UWC/S400-XX/TR10

Color Ranks

	Rank A0			
x	0.280	0.264	0.283	0.296
y	0.248	0.267	0.305	0.276

	B3			
x	0.287	0.283	0.304	0.307
y	0.295	0.305	0.33	0.315

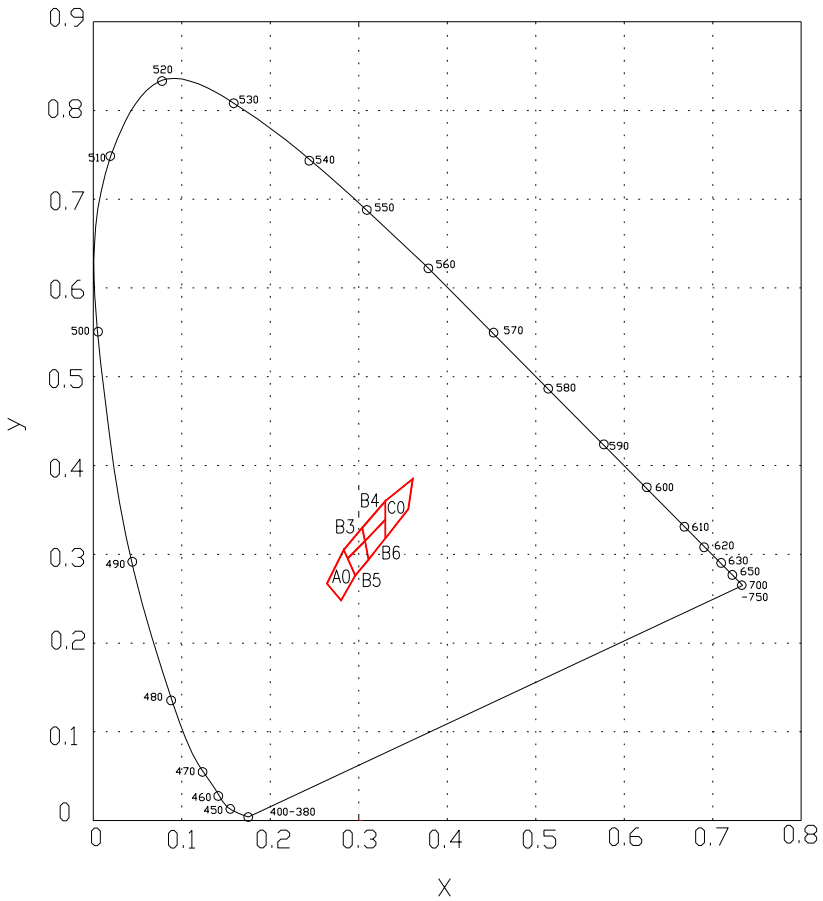
	B4			
x	0.307	0.304	0.330	0.330
y	0.315	0.330	0.360	0.339

	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

	Rank C0			
x	0.330	0.330	0.361	0.356
y	0.318	0.360	0.385	0.351

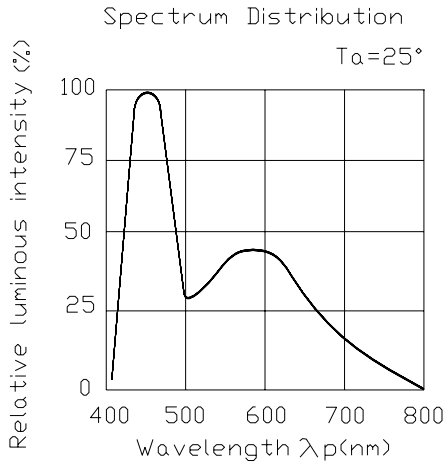
CIE Chromaticity Diagram

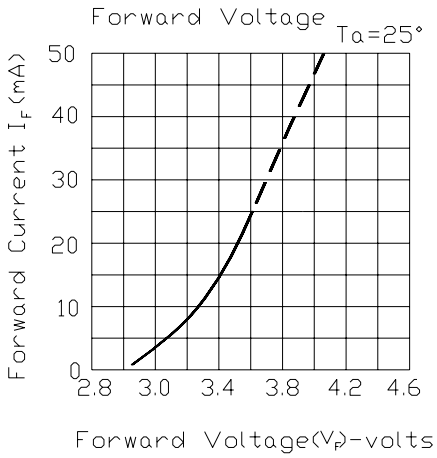


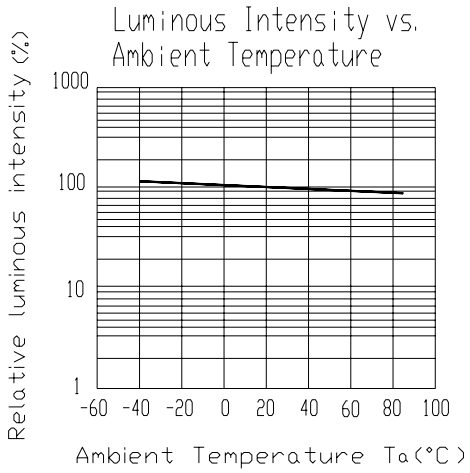
*The C.I.E. 1931 chromaticity diagram (Tolerance ±0.02).

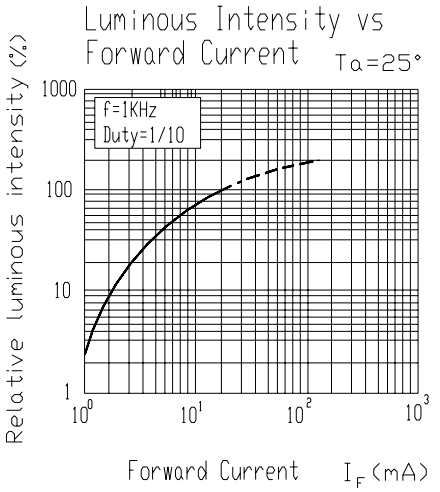
67-11UWC/S400-XX/TR10

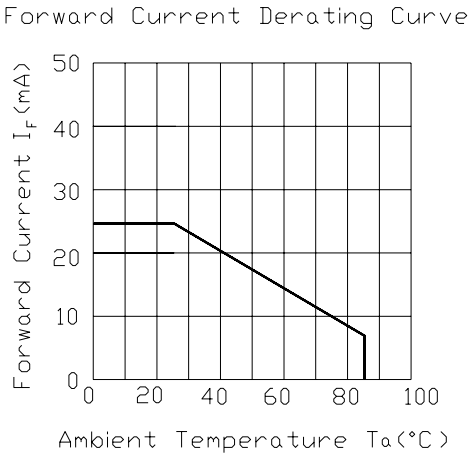
Typical Electro-Optical Characteristics Curves

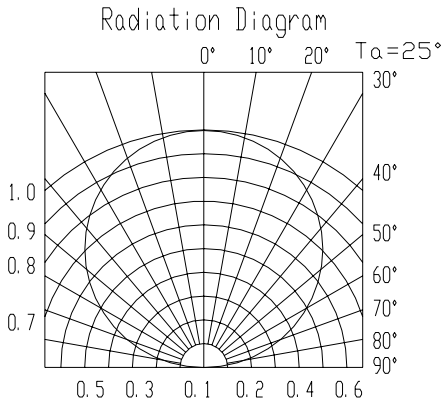












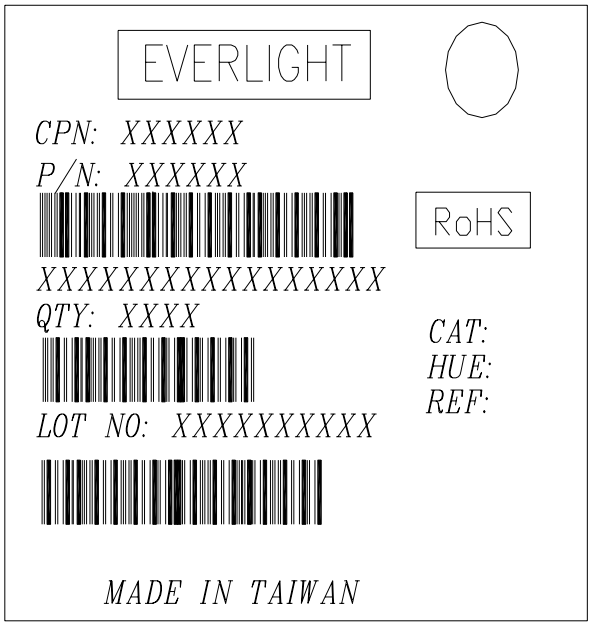
67-11UWC/S400-XX/TR10

Label explanation

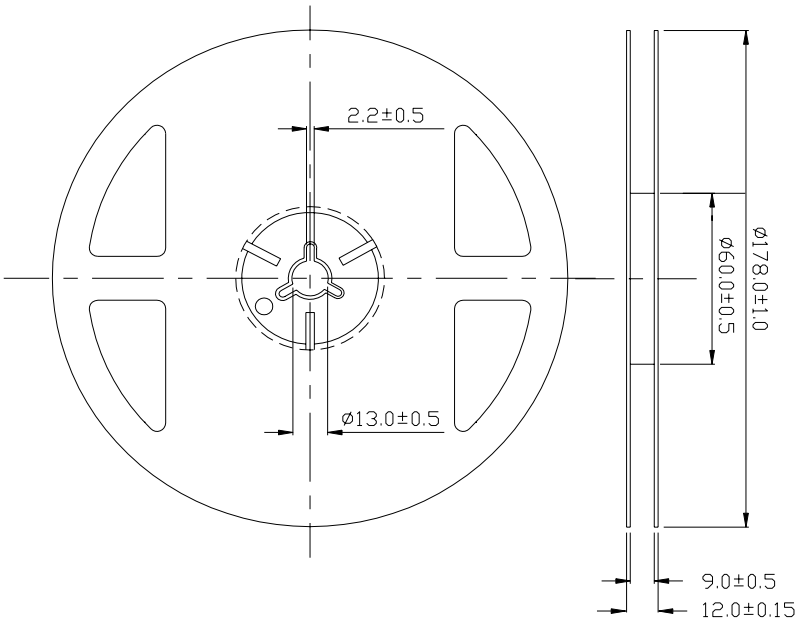
CAT: Luminous Intensity Rank

HUE: Chromaticity Coordinates

REF: Forward Voltage Rank

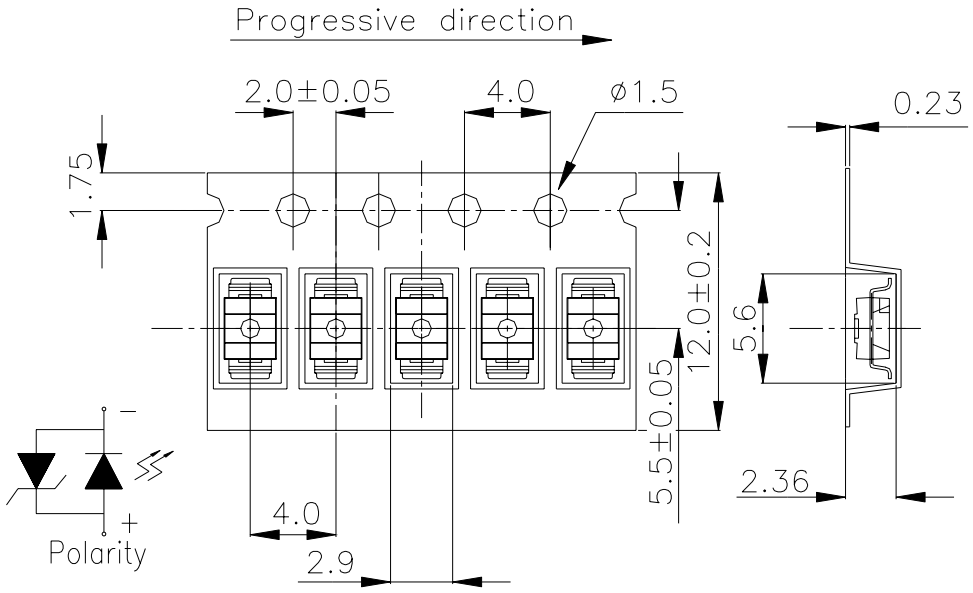


Reel Dimensions



Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Carrier Tape Dimensions: Loaded quantity 2000 PCS per reel.



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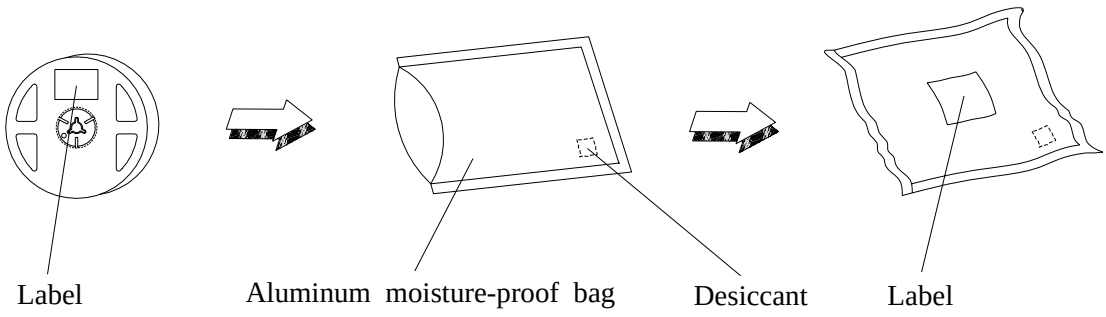
Moisture Resistant Packaging



67-11UWC/S400-XX/TR10

Reliability Test Items And Conditions

The reliability of products shall be satisfied with items listed below.

Confidence level：90%

LTPD：10%

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Re
1	Reflow Soldering	Temp. : 260℃±5℃ Min. 5sec.	6 min	22 PCS.	0/1
2	Temperature Cycle	H : +100℃ 15min ∫ 5 min L : -40℃ 15min	300 Cycles	22 PCS.	0/1
3	Thermal Shock	H : +100℃ 5min ∫ 10 sec L : -10℃ 5min	300 Cycles	22 PCS.	0/1
4	High Temperature Storage	Temp. : 100℃	1000 Hrs.	22 PCS.	0/1
5	Low Temperature Storage	Temp. : -40℃	1000 Hrs.	22 PCS.	0/1
6	DC Operating Life	I_F = 20 mA	1000 Hrs.	22 PCS.	0/1
7	High Temperature / High Humidity	85℃/ 85%RH	1000 Hrs.	22 PCS.	0/1

67-11UWC/S400-XX/TR10

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

2.1 Do not open moisture proof bag before the products are ready to use.

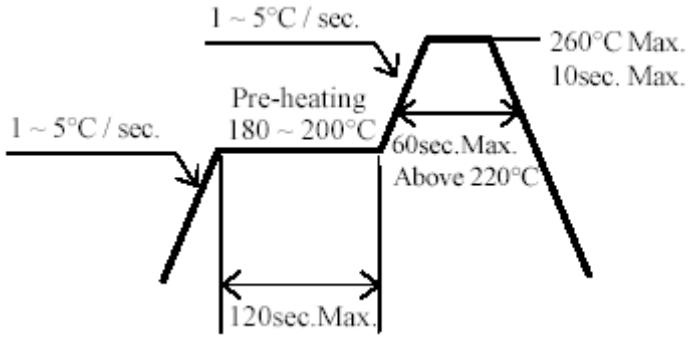
2.2 Before opening the package: The LEDs should be kept at 30℃ or less and 90%RH or less.

2.3 After opening the package: The LED's floor life is 1 year under 30 deg C or less and 60% RH or less. If unused LEDs remain, it should be stored in moisture proof packages.

2.4 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

3.1 Pb-free solder temperature profile



3.2 Reflow soldering should not be done more than two times.

3.3 When soldering, do not put stress on the LEDs during heating.

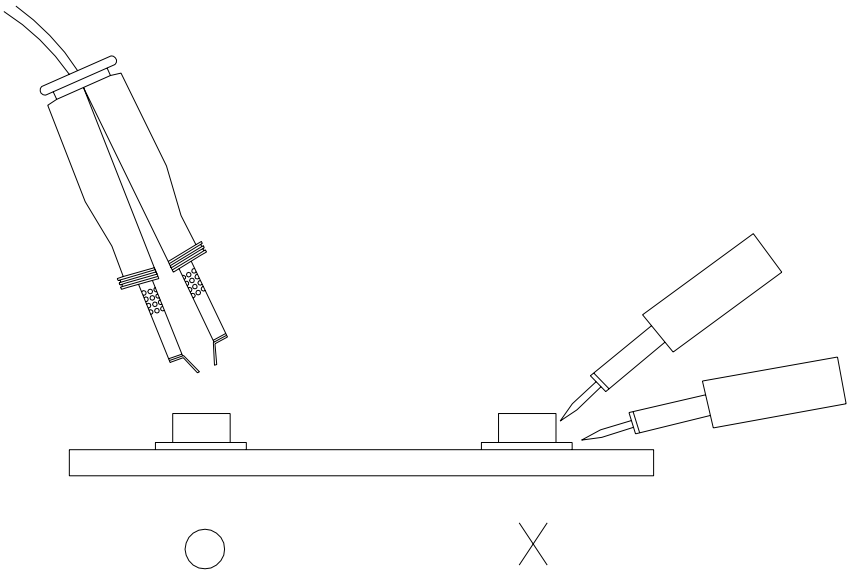
3.4 After soldering, do not warp the circuit board.

4.Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350℃ for 3 seconds within once in less than the 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.

5.Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



EVERLIGHT ELECTRONICS CO., LTD.
Office: No 25, Lane 76, Sec 3, Chung Yang Rd,
Tucheng, Taipei 236, Taiwan, R.O.C

Tel: 886-2-2267-2000, 2267-9936
Fax: 886-2267-6244, 2267-6189, 2267-6306
http://www.everlight.com