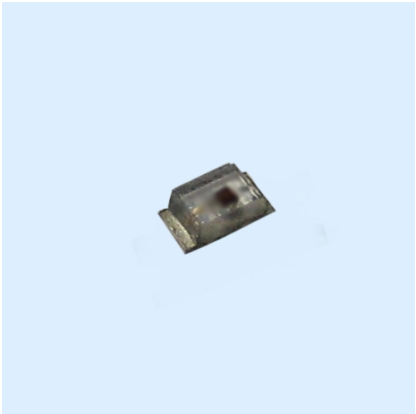
EVERLIGHT ELECTRONICS CO.,LTD.

Technical Data Sheet Preliminary

0603 Package Chip LED (0.6mm Height leadframe)

19-013/G6SC-AN1P2B/3T



Features

- Package in 8mm tape on 7″ diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Mono-color type.
- Pb-free.
- The product itself will remain within RoHS compliant version.

Descriptions

- The 19-013 SMD LED is much smaller than through hole type components, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.
- Besides, lightweight makes them ideal for miniature applications. etc.

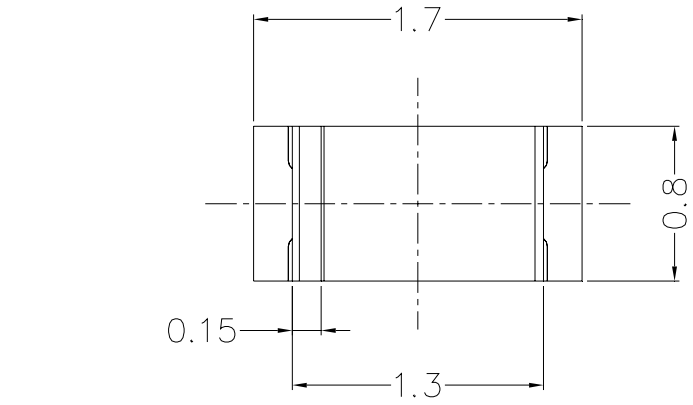
Applications

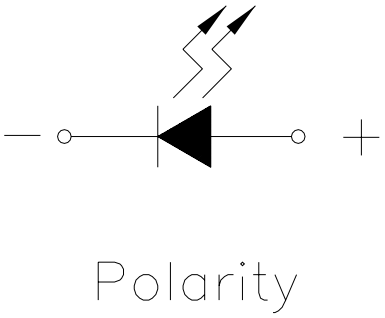
- outdoor displays
- flat backlighting(LCD,cellular phones,switches,displays)
- signal and symbol luminary
- marker light (e.g.steps,exit ways,etc.)

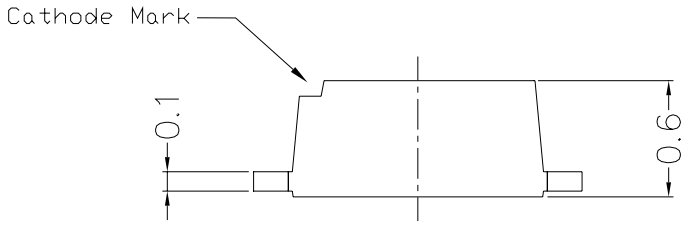
Device Selection Guide

Part No.	Chip		Resin Color
	Material	Emitted Color	
19-013/G6SC-AN1P2B/3T	AlGaInP	Brilliant Yellow Green	**Water Clear**

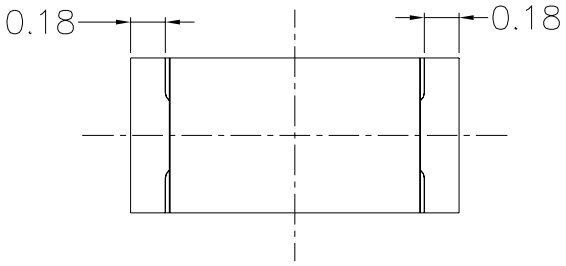
Package Outline Dimensions

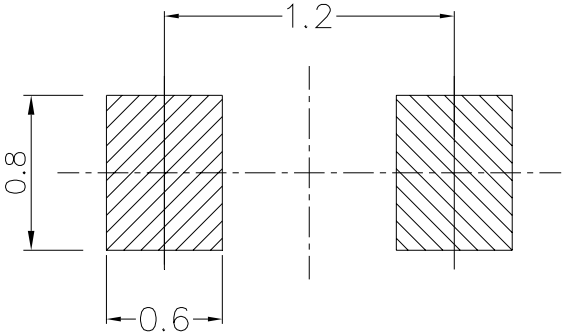






Recommended solder pad





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

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	12	V
Forward Current	I_F	40	mA
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	80	mA
Power Dissipation	Pd	100	mW
Electrostatic Discharge(HBM)	ESD	2000	V
Operating Temperature	Topr	-40 ~ +100	℃
Storage Temperature	Tstg	-40 ~ +100	℃
Soldering Temperature	Tsol	Reflow Soldering : 260 ℃ for 10 sec. Hand Soldering : 350 ℃ for 3 sec.	

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	28.5	-----	72.0	mcd	I_F=20mA
Viewing Angle	2θ 1/2	-----	140	-----	deg	
Peak Wavelength	λ p	-----	575	-----	nm	
Dominant Wavelength	λ d	569.5	-----	577.5	nm	
Spectrum Radiation Bandwidth	△λ	-----	20	-----	nm	
Forward Voltage	V_F	1.75	-----	2.35	V	
Reverse Current	I_R	-----	-----	10	μA	V_R=12V

Notes:

1.Tolerance of Luminous Intensity ±11%

2.Tolerance of Dominant Wavelength ±1nm

3.Tolerance of Forward Voltage ±0.1V

Bin Range Of Luminous Intensity

Bin	Min	Max	Unit	Condition
N1	28.5	36.0	mcd	IF=20mA
N2	36.0	45.0		
P1	45.0	57.0		
P2	57.0	72.0		

Bin Range Of Dom. Wavelength

Bin	Min	Max	Unit	Condition
C16	569.5	571.5	nm	IF=20mA
C17	571.5	573.5		
C18	573.5	575.5		
C19	575.5	577.5		

Bin Range Of Forward Voltage

Group	Bin	Min	Max	Unit	Condition
B	0	1.75	1.95	V	IF=20mA
	1	1.95	2.15		
	2	2.15	2.35		

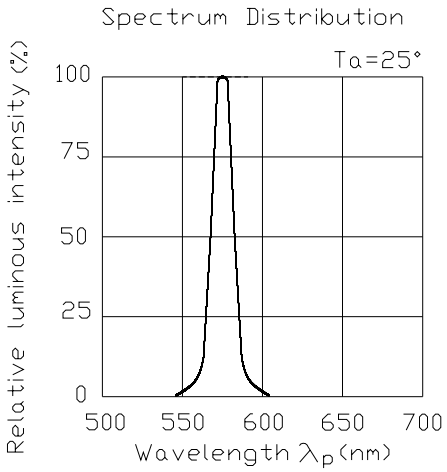
Notes:

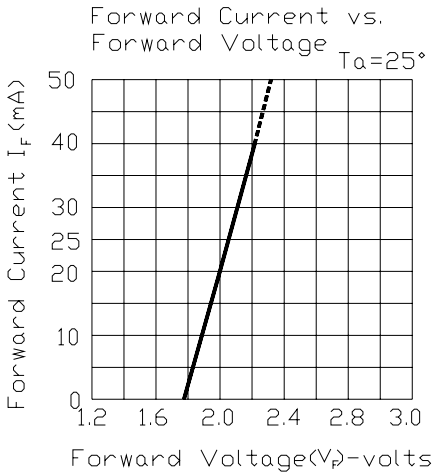
1.Tolerance of Luminous Intensity ±11%

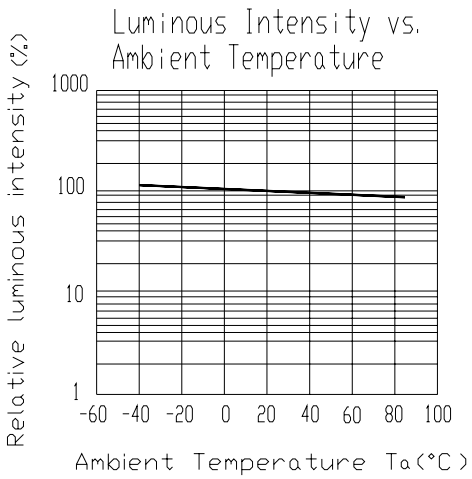
2.Tolerance of Dominant Wavelength ±1nm

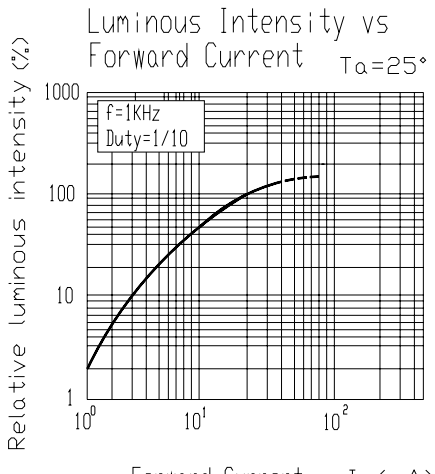
3.Tolerance of Forward Voltage ±0.1V

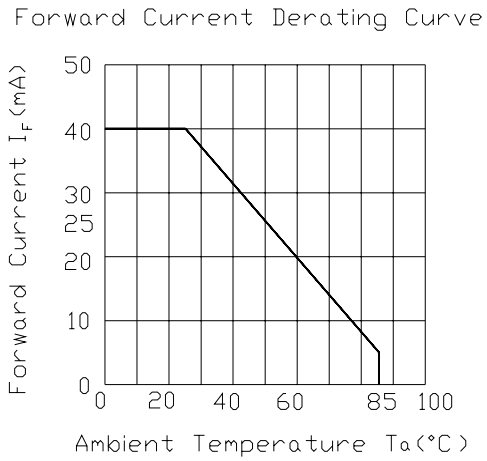
Typical Electro-Optical Characteristics Curves

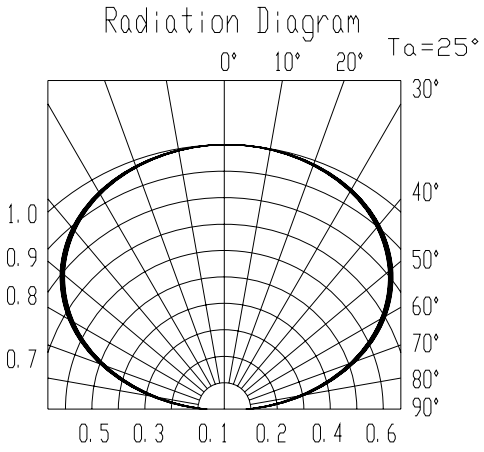










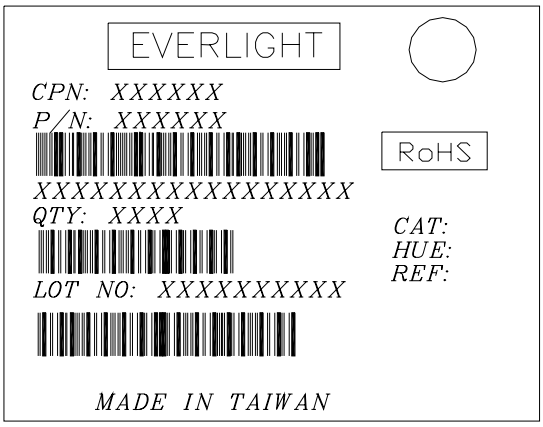


Label explanation

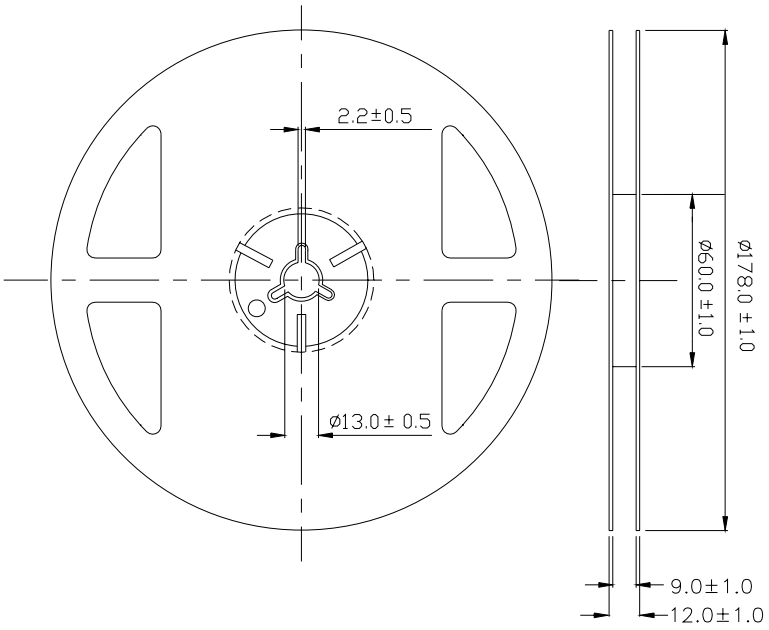
CAT: Luminous Intensity Rank

HUE: Dom. Wavelength Rank

REF: Forward Voltage Rank



Reel Dimensions



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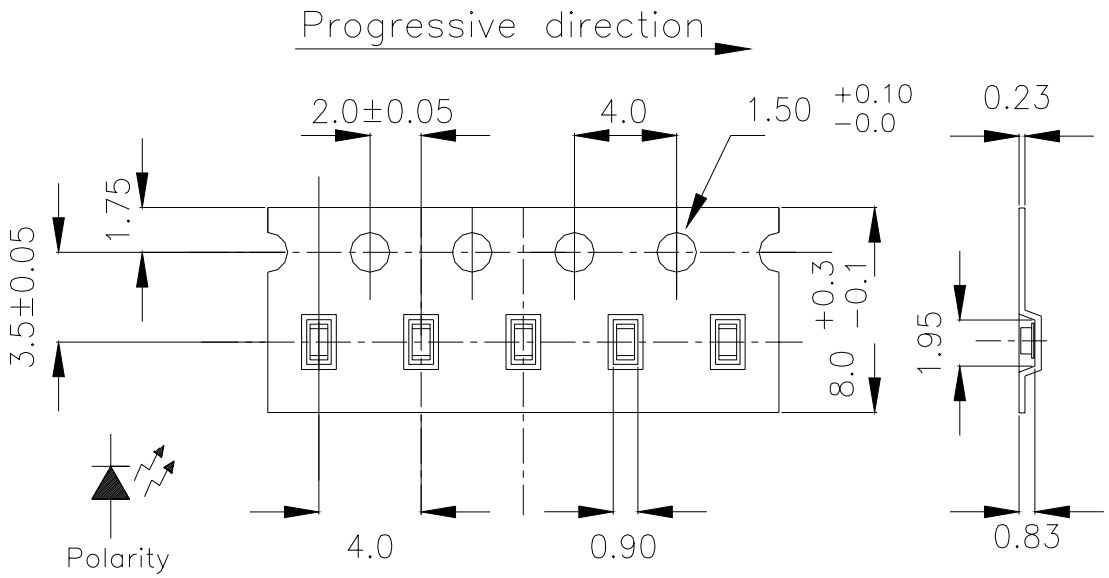
Carrier Tape Dimensions: Loaded quantity 3000 PCS per reel



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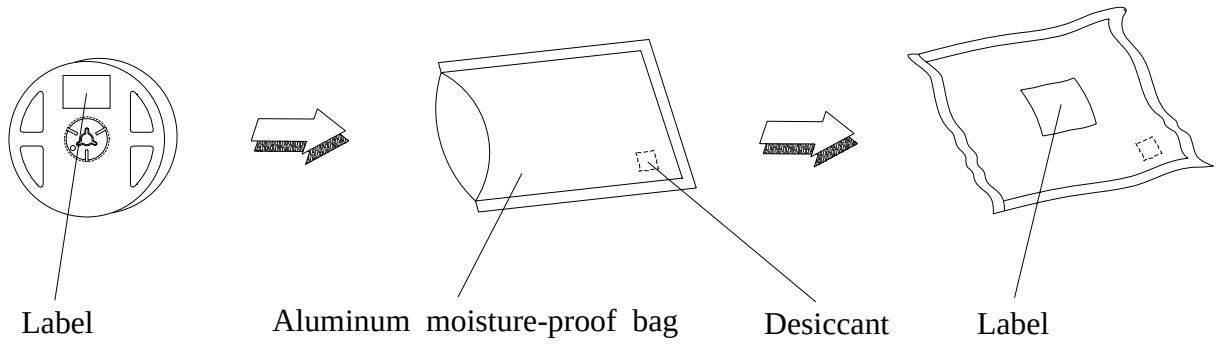
Moisture Resistant Packaging



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.

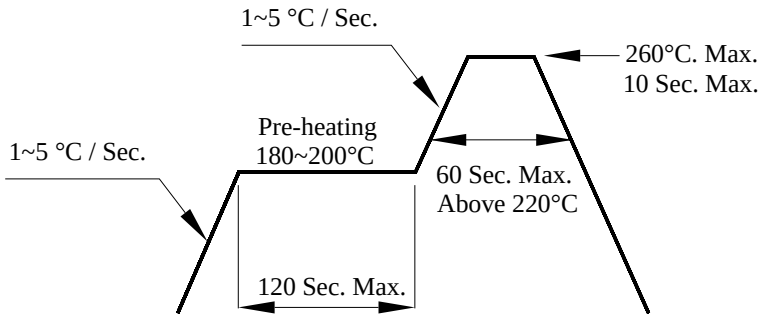
2.2 Before opening the package: The LEDs should be kept at 30℃ or less and 90%RH or less.

2.3 After opening the package: The LED's floor life is 1 year under 30℃ 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.

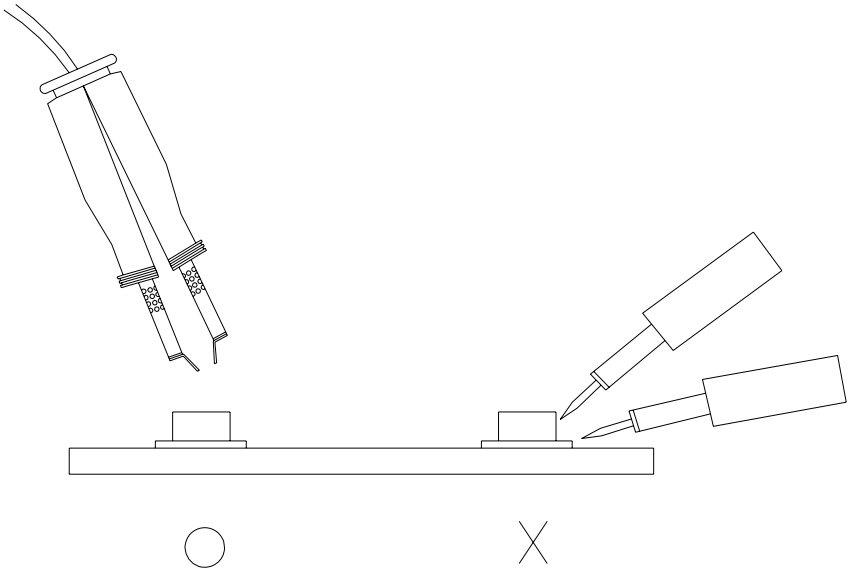
3.4 After soldering, do not warp the circuit board.

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.



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