ARL2-0603PGC

Features:

1. Package: 1.6x0.8x0.75 mm
2. Emmited Color: Green
3. Mono-color type
4. Soldering method: All SMT assembly methods
5. Comply RoHS standard

Applications:

1. LCD black light
2. Illuminations

Absolute Maximum Ratings (Ta=25°C):

Parameter	Symbol	Rating	Unit
Power Dissipation	Pd	95	mW
Forward Current	I_F	25	mA
Peak Forward Current*1	I_{FP}	150	mA
Reverse Voltage	V_R	5	V
Soldering Temperature	Tsol	260 (for 10 seconds) Hand soldering (300 for 3 seconds)	°C
Operating Temperature	Topr	-35°C~+85°C	-
Storage Temperature	Tstg	-40°C~+100°C	-
Electrostatic Discharge	ESD	2000(HBM)	V

**IFP condition: pulse width ≤0.1msec, duty cycle ≤1/10.*

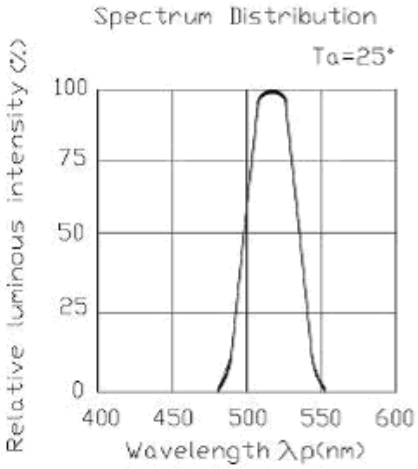
Electrical-Optical Characteristics (Ta=25°C)

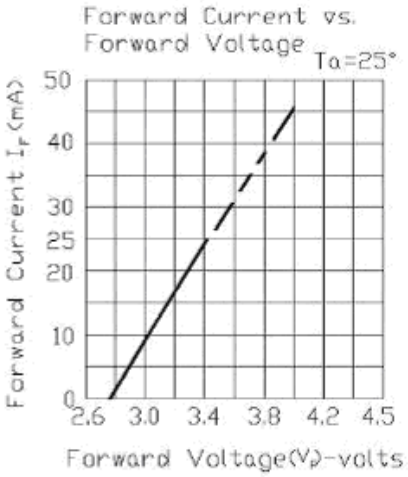
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage	Vf	2.8	3.2	-	V	IF=20mA
Luminous Intensity	Iv	120	210	-	mcd	
Viewing Angle	$2\theta_{1/2}$	-	120	-	deg	
Dominant Wavelength	λd	515		530	nm	
Peak Wavelength	λp		520		nm	
Spectral Line Half-width	Δλ	-	24	-	nm	
Reverse Current	IR	-	-	10	μA	VR=5V

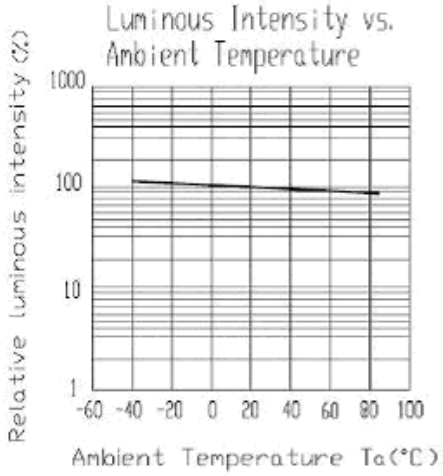
Note:

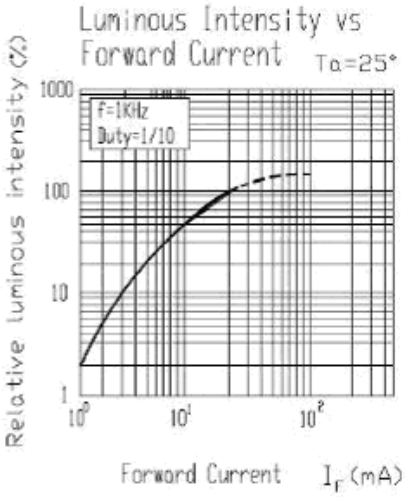
1. *Tolerance of luminous intensity is ±5%.*
2. *Tolerance of forward voltage is ±0.03V.*

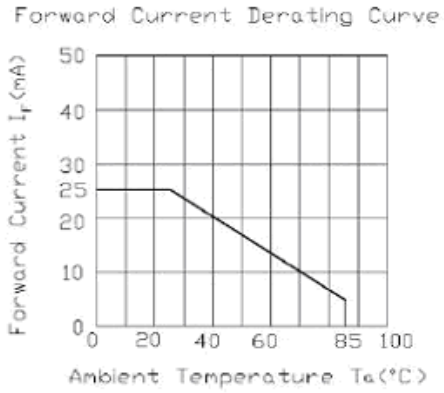
Typical Electro-Optical Characteristics Curves:

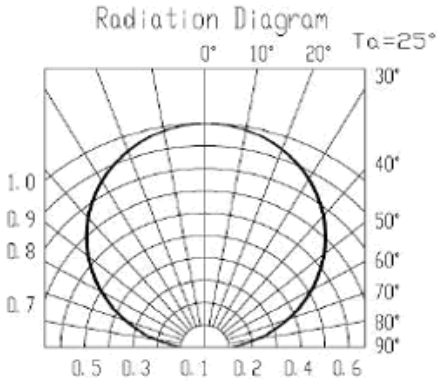




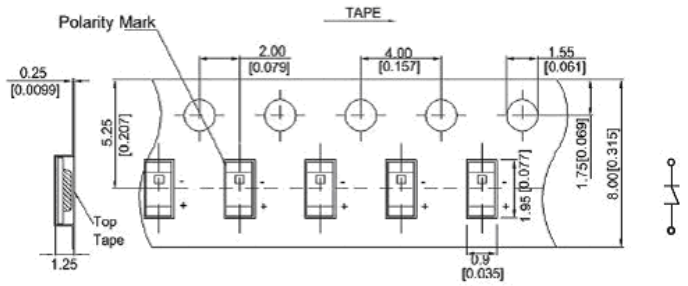








Tapping specifications (Units: mm)
Loaded quantity: 4000 pcs/reel



Such as:

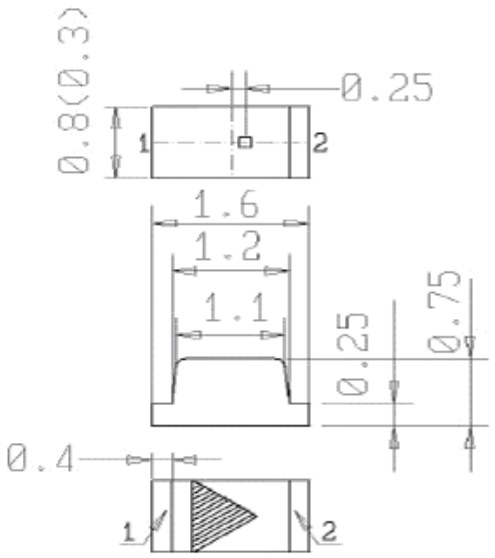
BIN: 8/6a/7-1

8 show luminous intensity BIN CODE

6a show dominant Wavelength BIN CODE

7-1 show forward voltage BIN CODE

Package Outline Dimensions:



Notes:

1. *All dimensions are in millimeters (inches).*
2. *Tolerance is ±0.10mm unless otherwise specified.*

BIN range:

Luminous intensity (tolerance is ±5% If=20mA):

20 mA		
BIN CODE	**Min. (mcd)**	**Max. (mcd)**
1	120	130
2	130	140
3	140	150
4	150	160
5	160	170
6	170	180
7	180	190
8	190	200
9	200	210
10	210	220
11	220	230

Forward voltage (tolerance is ±0.03V If=20mA):

20 mA		
BIN CODE	**Min. (mcd)**	**Max. (mcd)**
6-1	2.8	3.0
6-2	3.0	3.1
7-1	3.1	3.2
7-2	3.2	3.3
8-1	3.3	3.4
8-2	3.4	3.6

Reliability Test Items and Conditions:

No.	Test Item	Test Conditions	Sample Size	Ac/Re
1	Operatoin Life	Test If=DC20mA Temp: Room temperature Test Time=1000hrs	20	0/1
2	High Temperature High Humidity	Temp.=+65°C RH=90%HR Test Time=240hrs	20	0/1
3	Thermal Shock	-40°C~+100°C 20min 10s 20min Test Time=100cycles	20	0/1
4	High Temperature Storage	High Temp.=+100°C Test Time=1000hrs	20	0/1
5	Low Temperature Storage	Low Ta=-40°C Test Time=1000hrs	20	0/1
6	Temperature Cycle	-40°C~+100°C 60min 20min 60min Test Time=20cycles	20	0/1
7	Reflow Soldering	Operation heating: 260°C(Max.), within 10seconds (Max.)	20	0/1

Judgment criteria of failure for the reliability:

- Iv: Below 70% of initial values;
- Vf: Over 20% of upper limit value.

Note:

1. *Measurement shall be taken within 2 hours;*
2. *The tested LED have been returned to normal ambient conditions before testing.*

Precautons for Use:

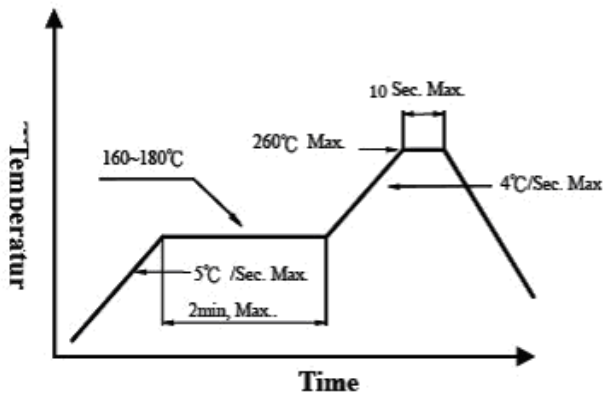
1. Soldering:

SMD LED encapsulation gumwater is very flexible, outside force easily demolish radiant surface and plastic, as soldering. Please handle with care!

a. With No-clean Flux, according to refiow soldering cure condition when soldering, Reflow soldering should not be done more than two times, simultaneity you must insure clean on the radiant surface. Otherwise, foreign objects can affect radiant color.

b. Don't process manual soldering except repair. Recommended to be soldered with 25W Anti-static iron. The temp. of the iron should be lower than 300°C and soldering time should not be done more than three seconds, at the same time iron can't touch radiant surface and plastic.

c. Don't twist LED in course of manual soldering and experiment, otherwise the lights will not work possibly.



2. Cleaning:
   a. Don't be cleaned with ultrasonic. Recommended to be wiped with isopropyl alcohol or pure alcohol, wiping time should not be more than one minute. LED must be placed at room temperature for fifteen minutes before using after cleaning, you must insure clean on the radiant surface. Otherwise, foreign objects can affect radiant color.
   b. LED can not be in contact with isoamyl acetate, trichloroethylene, acetone, sulfud, nitride, acid, alkali, salt. These matter can destroy LED.
3. Sealing:
   a. Sealing glue can not contain sodium ion, sulfid, because this matter can affect fluorescence powder poisoning.
   b. When using normal sealing glue, recommended to be operated life for 168hrs under normal temperature.
4. Storage:
   a. Don't open the moisture proof bag before ready to use the LEDs.
   b. The LEDs should be kept at 30°C or less and 60%RH or less before opening the package. The max. storage period before opening the package is 1 year.
   c. After opening the package, the LEDs should be kept at 30-35%RH or less, and it should be used within 7 days.
   d. If the LEDs be kept over the conditions of c., baking is required before mounting. Baking condition as below: 60±5°C for 12 his for bulk goods, 105±5°C for 1 hrs for roll goods.
   e. The environment have no acid, alkali, corrosive gas, intensively shake and high magnetic field.
5. Static:
   a. Static and Peak surge voltage can destroy LED. Avoiding Instantaneous voltage when turn on or turn off the lights.
   b. Please wear Anti-static wrist band, Anti-static glove, Anti-static shoes in the course of operation, and the equipment must be grounded.
   c. After LED is be destroyed, leakage current increase obviously, and it will be forward voltage falling or failure lamp in the case of low current.
6. Test:
   a. Customer must apply the current limiting resistor in the circuit so as to drive the LEDs within the rated current. Otherwise slight voltage shift maybe will cause big current change and burn out will happen.
   b. Also, caution should be taken not to overload the LEDs with instantaneous high voltage at the turning ON and OFF of the circuit. Otherwise LED will be destroyed, testing methods as follows:

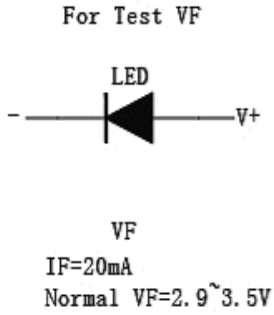


Fig.1

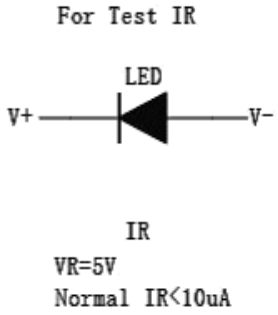


Fig.2

7. Else:
   Radiant color of LEDs have a little change with the current, recommended that LED is used in series and resistance, when lighting, please don't see directly radiant surface of LED, otherwise LED will burn eyes.