

SPECIFICATIONS FOR CHIP LED

MODEL: [GNL-0805UEC-UBC-PGC-IDS](#)

Special Design For Indoor Display Screen



G-NOR OPTOELECTRONIC

Part No	Chip		Lens Type
	Material	Emitting Color	
GNL-0805UEC-UBC-PGC-IDS	AlGaInP	High Super Red	Water Clear
	InGaN	Ultra SuperGreen	
	InGaN	Ultra Super Blue	

◆ Features:

Compatible with automatic placement equipment

Compatible with reflow solder process

Low power consumption and wide viewing angle

This product doesn't contain restriction Substance, comply ROHS standard.

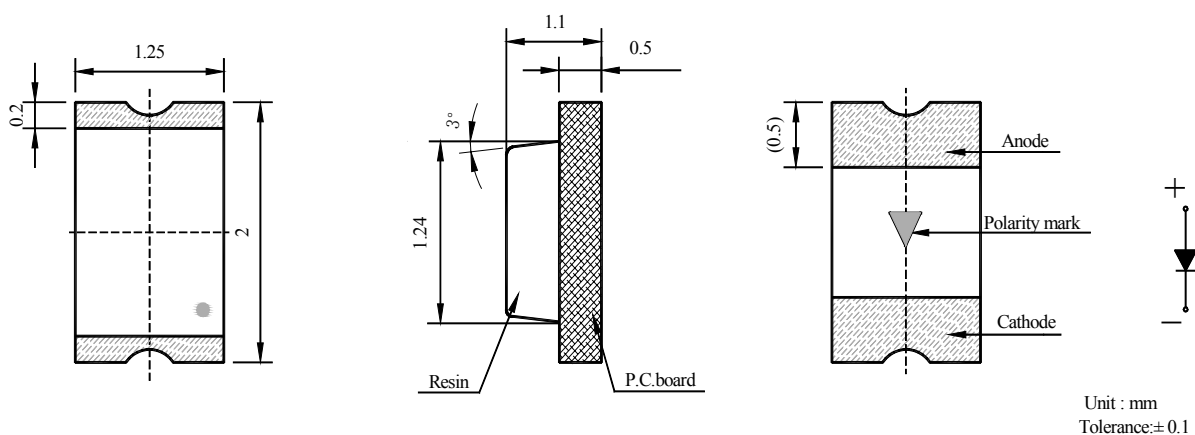
◆ Applications:

Automotive and Telecommunication

Flat backlight for LCD ,switch and symbol in telephone and fax

General use for indicators

◆ Package Dimensions:



Electrodes: Au Plating

Encapsulating Resin: Epoxy Resin

Package: BT Resin

◆ Absolute Maximum Rating (Ta=25°C)

Parameter	Symbol	Max.			Unit
		UE	UG	UB	
Power Dissipation	P _M	70	80	80	Mw
Pulse Forward Current (1/10 duty and 1msec width)	I _{FP}	80	70	70	mA
DC Forward Current	I _F	20	20	20	mA
Reverse Voltage	V _R	5	5	5	V
Operating Temperature Range	Topr	-20°C ~ 85°C			°C
Storage Temperature Range	Tstg	-30°C ~ 100°C			°C

◆ Electrical Optical Characteristics (Ta=25°C)

Parameter		Symbol	Min	Typ.	Max.	Unit	Test Condition
Luminous Intensity	UE	I _v	200	--	320	mcd	I _F =15mA
	UG		620	--	900		
	UB		100	--	160		
Forward Voltage	UE	V _F	1.9	--	2.3	V	I _F =15mA
	UG		2.9	--	3.8		
	UB		2.9	--	3.8		
Reverse Current		I _R	--	--	10	uA	V _R =5V
Dominant Wavelength	UE	λ _d	615	--	625	nm	I _F =15mA
	UG		520	--	532		
	UB		464	--	473		
Spectral Line Half Width		Δλ	--	30	--	nm	I _F =15mA
Viewing Angle		2θ _{1/2}	--	120	--	Deg.	I _F =15mA

◆ Parameter Classification: (UE)

Forward Voltage ($I_F=15\text{mA}$)		Dominant Wavelength ($I_F=15\text{mA}$)		Luminous Intensity ($I_F=15\text{mA}$)	
Code	Min~Max	Code	Min~Max	Code	Min~Max
G	1.9~2.1	H	615~620	Q	200~250
J	2.1~2.3	K	620~625	R	250~320

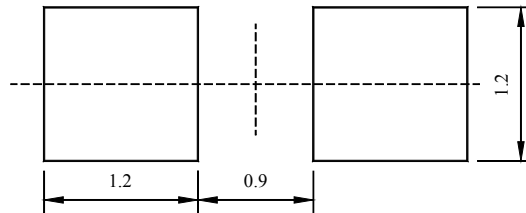
◆ Parameter Classification: (UG)

Forward Voltage ($I_F=15\text{mA}$)		Dominant Wavelength ($I_F=15\text{mA}$)		Luminous Intensity ($I_F=15\text{mA}$)	
Code	Min~Max	Code	Min~Max	Code	Min~Max
S	2.9~3.1	Q	520~523	V	620~750
U	3.1~3.3	S	523~526	W	750~900
W	3.3~3.5	T	526~529		
		V	529~532		

◆ Parameter Classification: (UB)

Forward Voltage ($I_F=15\text{mA}$)		Dominant Wavelength ($I_F=15\text{mA}$)		Luminous Intensity ($I_F=15\text{mA}$)	
Code	Min~Max	Code	Min~Max	Code	Min~Max
S	2.9~3.1	M	464~467	M	100~130
U	3.1~3.3	P	467~470	N	130~160
W	3.3~3.5	Q	470~473		

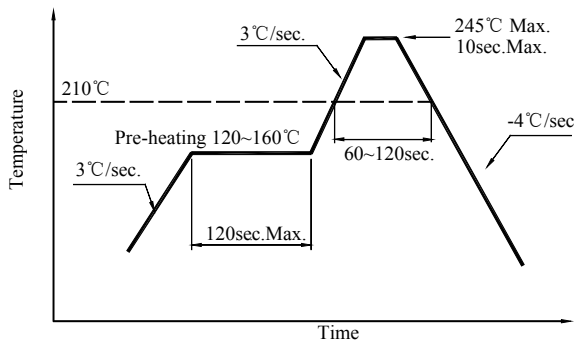
◆ Soldering Pad Dimensions:



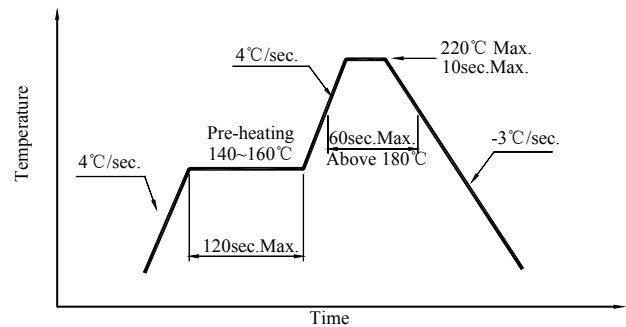
◆ Soldering Conditions (Maximum allowable soldering conditions)

1、Reflow soldering profile

<Pb-free solder>



<Lead solder>

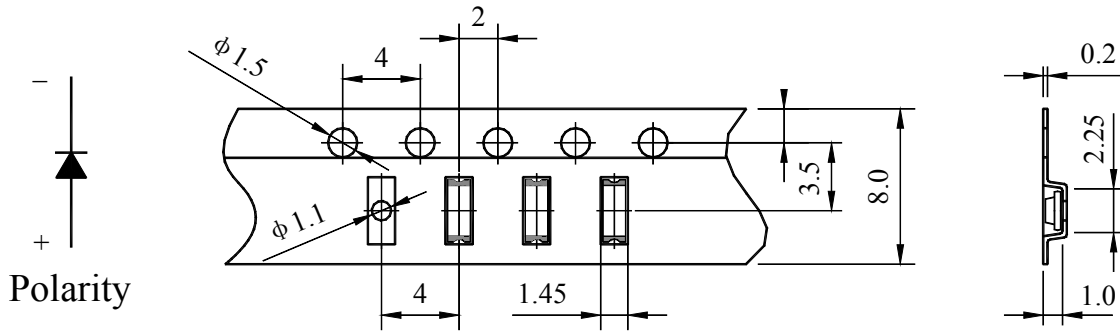
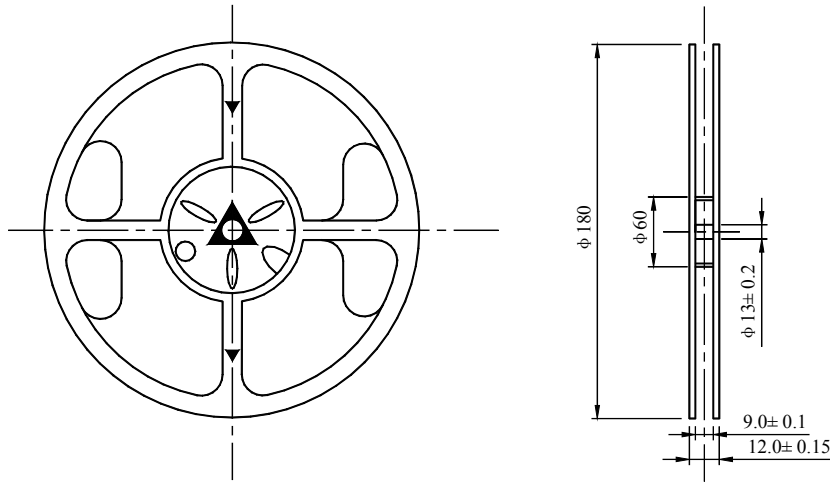


2、Soldering Iron

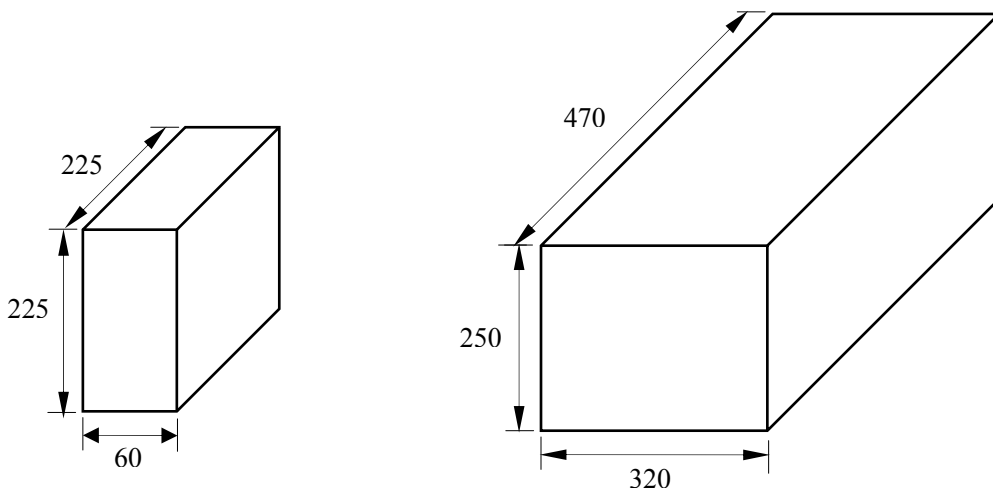
Power dissipation of Iron should be smaller than 15W, and temperature should be controllable. The work must be finished within 3sec under 300°C, only once.

- Do not stress its resin while soldering.
- After soldering, do not warp the circuit board.
- Pay attention to electrostatic (ESD).

◆ Package Tape Specifications: (2000~3000 pcs/Reel)



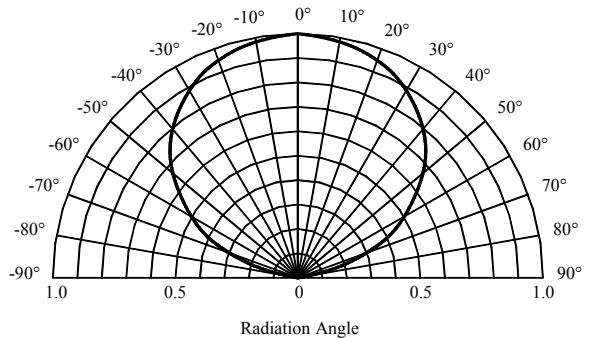
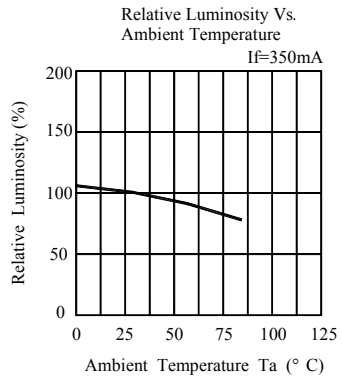
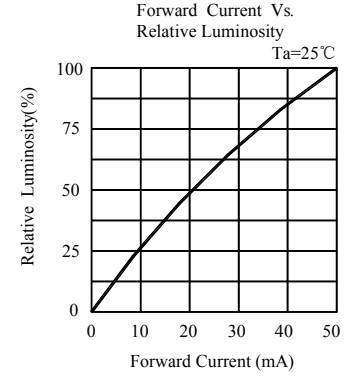
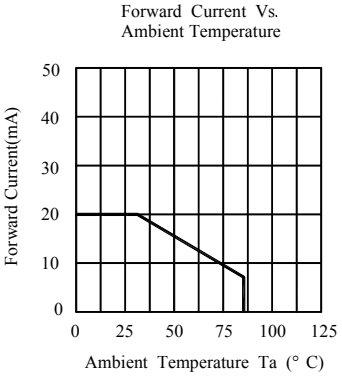
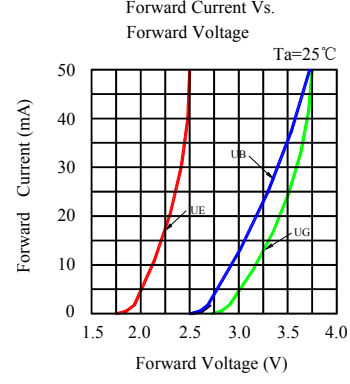
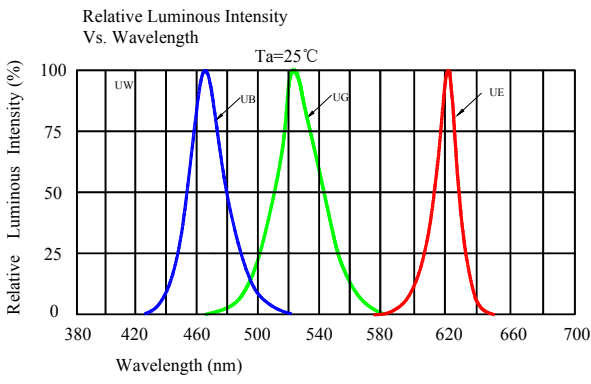
Reel Lead Min.60mm No LEDs



5 Reel in one Box

10 Box in one Carton

◆ Typical Electro-Optical Characteristics Curves:



◆ Reliability Test Items and Conditions

NO	Test Item	Test Conditions	Duration	Sample	Ac/Re
1	Temperature Cycle	-40°C ± 5°C ~ 25°C ± 5°C 30min 5min ↓ 100°C ± 5°C ~ 25°C ± 5°C 30min 5min	100cycles	20	0/1
2	High Temp. Storage	Ta=100°C ± 5°C	1000hours	20	0/1
3	Temp.& Humidity Test	Ta=85°C ± 5°C, RH=85% ± 5%	1000hours	20	0/1
4	Low Temp. Storage	Ta=-40°C ± 5°C	1000hours	20	0/1
5	Operating Life Test	Ta=25 ± 5°C, DC IF=20mA	1000hours	20	0/1
6	Thermal Shock	-40 ± 5°C → 100 ± 5°C 15min 15min	100cycles	20	0/1

◆ Cautions

1、Package

When moisture is absorbed into the package it may vaporize and expand during soldering. There is a possibility that this can cause exfoliation of the contacts and damage to the optical characteristics of the LEDs. So the moisture proof package is used to keep moisture to a minimum in the package.

2、Storage

Before opening the package: The LEDs should be kept at 5~30°C and 60%RH or less. The LEDs should be used within a year.

After opening the package: The LED must be used within 24 hours, else should be kept at 5~30°C and 30% RH or less. The LEDs should be used within 7days after opening the package. If unused LEDs remain, they should be stored in moisture proof packages, recommended to return the LEDs to the original moisture proof bag and to reseal the moisture proof bag again.

If the LEDs have exceeded the storage time, baking treatment should be performed more than 24 hours at 80 ± 5°C.

3、The LED electrode sections are comprised of a gold plated. The gold surface may be affected by environments which contain corrosive gases and so on. Please avoid conditions which may cause the LED to corrode or discolor. This corrosion or discoloration may cause difficulty during soldering operations. It is recommended that the User use the LEDs as soon as possible.

4、 Please avoid rapid transitions in ambient temperature, especially in high humidity environments where condensation can occur.

5、 Static Electricity

5.1、 These products are sensitive to static electricity charge, and users are required to handle with care. Particularly, if an current and or voltage which exceeds the Absolute Maximum Rating of Products is applied, the overflow in energy may cause damage to, or possibly result in electrical destruction of, the Products. The customer is requested to take adequate countermeasures against static electricity charge and surge when handling Products.

5.2、 Proper grounding of Products , use of conductive mat, conductive working uniform and shoes, and conductive containers are effective against static electricity and surge.

5.3、 Ground low-resistance areas where the product contacts, such as metal surfaces of the work platform, with a conductive mat (surface resistance 10^6 - $10^8 \Omega$).

5.4、 A tip of soldering iron is requested to be grounded. An ionizer should also be installed where risk of static generation is high.

◆ Notes:

1、 Above specification may be changed without notice. We will reserve authority on material change for above specification.

2、 When using this product, please observe the absolute maximum ratings and the instructions for the specification sheets. We assume no responsibility for any damage resulting from use of the product which does not comply with the instructions included in the specification sheets.