

SPECIFICATIONS FOR CHIP LED

MODEL: [GNL-2020UEUGUBC](#)

G-NOR ELECTRONICS

Part No.	GNL-2020UEUGUBC		
Emitted Color	Red	Green	Blue
Chip Materia	AlGaInP	InGaN/SiC	InGaN/SiC
Len's Color	Water Clear		

◆ Features:

Compatible with automatic placement equipment

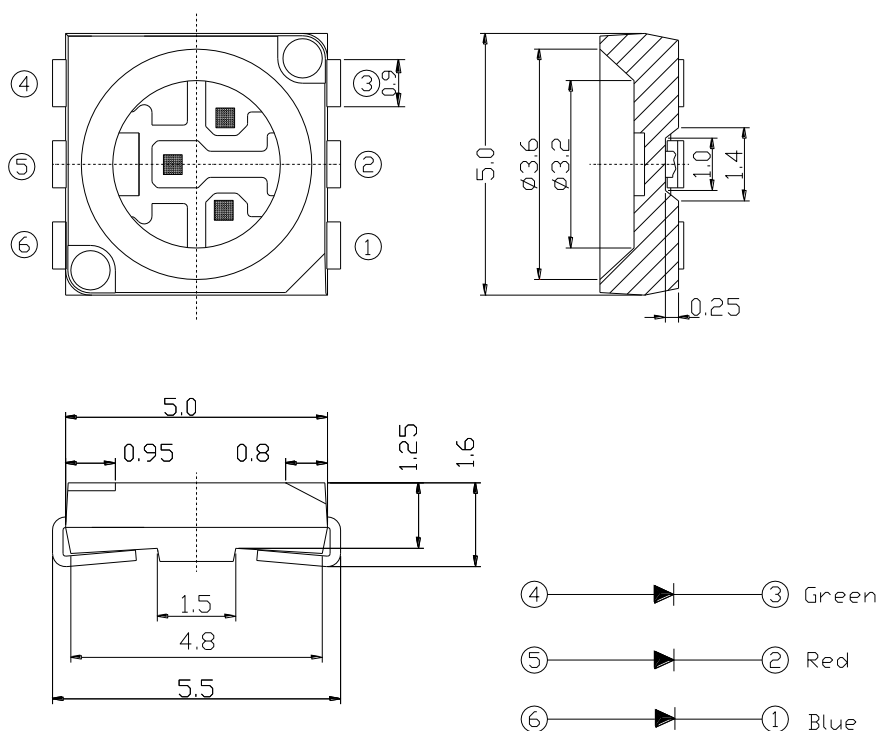
Compatible with reflow solder process

◆ Applications:

Automotive and Telecommunication

General use for indicators

◆ Package Dimensions:



Unit : mm

Toleranc : ± 0.2 mm unless otherwise noted

Electrodes: Ag Plating Copper Alloy

Encapsulating Resin: Epoxy Resin

◆ Absolute Maximum Rating (Ta=25°C)

Parameter	Symbol	Max.			Unit
		UE	UG	UB	
Pulse Forward Current (1/10 duty and 0.1msec width)	I _{FP}	120	120	120	mA
Continuous Forward Current	I _F	40	40	40	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) viewing angle 120 degree

	Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
UE	Luminous Intensity	I _V	125	160	--	mcd	I _F =30mA
	Forward Voltage	V _F	--	2.2	2.5	V	I _F =30mA
	Reverse Current	I _R	--		10	uA	V _R =5V
	Dominant Wavelength	λ _d	--	625	--	nm	I _F =30mA
	Spectral Line Half Width	Δλ	--	30	--	nm	I _F =30mA
UG	Luminous Intensity	I _V	500	800	--	mcd	I _F =30mA
	Forward Voltage	V _F	--	3.3	3.8	V	I _F =30mA
	Reverse Current	I _R	--		10	uA	V _R =5V
	Dominant Wavelength	λ _d	--	520	--	nm	I _F =30mA
	Spectral Line Half Width	Δλ	--	15	--	nm	I _F =30mA
UB	Luminous Intensity	I _V	160	300	--	mcd	I _F =30mA
	Forward Voltage	V _F	--	3.4	3.8	V	I _F =30mA
	Reverse Current	I _R	--		10	uA	V _R =5V
	Dominant Wavelength	λ _d	--	470	--	nm	I _F =30mA

	Spectral Line Half Width	$\Delta\lambda$	--	15	--	nm	$I_F=30\text{mA}$
Mix Luminous Intensity		I_V	--	800	--	mcd	$I_F=30\text{mA}$

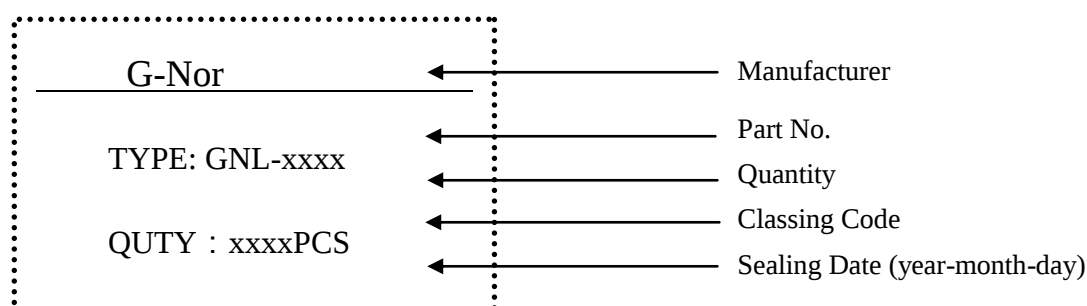
◆ Chromaticity Coordinates Ranks($T_a=25^\circ\text{C}$ UE、UG、UB each $I_F=30\text{mA}$)

CODE	X,Y							
	X_T	Y_T	X_R	Y_R	X_B	Y_B	X_L	Y_L
A	0.28	0.28	0.33	0.29	0.34	0.34	0.29	0.33
B	0.33	0.29	0.38	0.30	0.39	0.35	0.34	0.34
C	0.34	0.34	0.39	0.35	0.40	0.40	0.35	0.39
D	0.29	0.33	0.34	0.34	0.35	0.39	0.30	0.38
E	0.24	0.32	0.29	0.33	0.30	0.38	0.25	0.37
F	0.23	0.27	0.28	0.28	0.29	0.33	0.24	0.32
G	0.22	0.22	0.27	0.23	0.28	0.28	0.23	0.27
H	0.27	0.23	0.32	0.24	0.33	0.29	0.28	0.28
I	0.32	0.24	0.37	0.25	0.38	0.30	0.33	0.29

◆ Mix Intensity Ranks ($T_a=25^\circ\text{C}$)

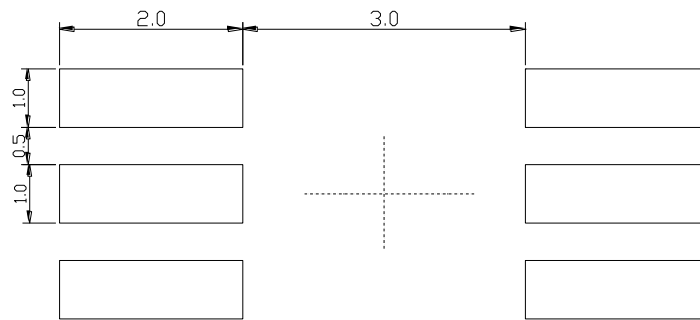
CODE	Luminous Intensity	Test Condition
A	400~900	UE、UG、UB $I_F=30\text{mA}$
B	500~1300	

◆ Package Lable:



Classing Code : Chip code—Chromaticity Coordinates—Luminous Intensity

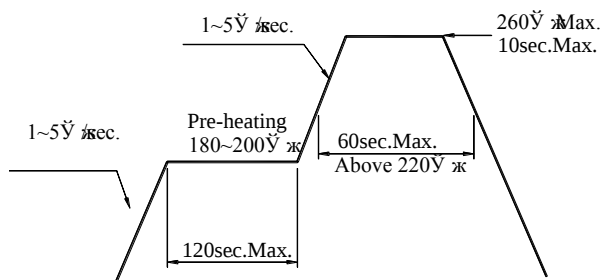
◆ Soldering Pad Dimensions:



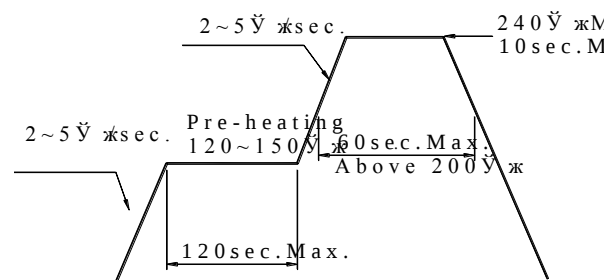
◆ Soldering Conditions (Maximum allowable soldering conditions)

1、Reflow soldering profile

<Lead-free solder>



<Lead solder>



2、Soldering Iron

Power dissipation should be smaller than 25W, and temperature controllable. The work must be finished within 3 seconds under 300

- Do not stress its resin while soldering.
- After soldering, do not warp the circuit board.

◆ 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 12 hours at $60 \pm 5^{\circ}\text{C}$.

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.