



CIEL LIGHT CO., LTD.

PRODUCT SPECIFICATION

Model No.: CLSS-28A1AUW-21

Drawing No.: _____

Customer: _____

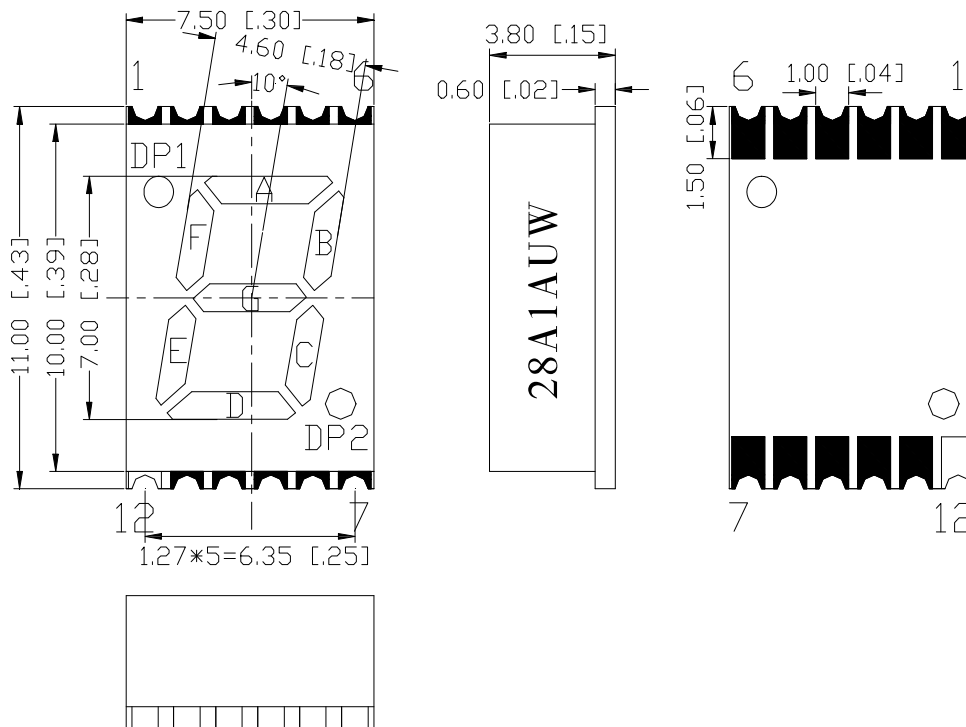
Customer's Model No.: _____

Customer's Drawing No.: _____

Descriptions

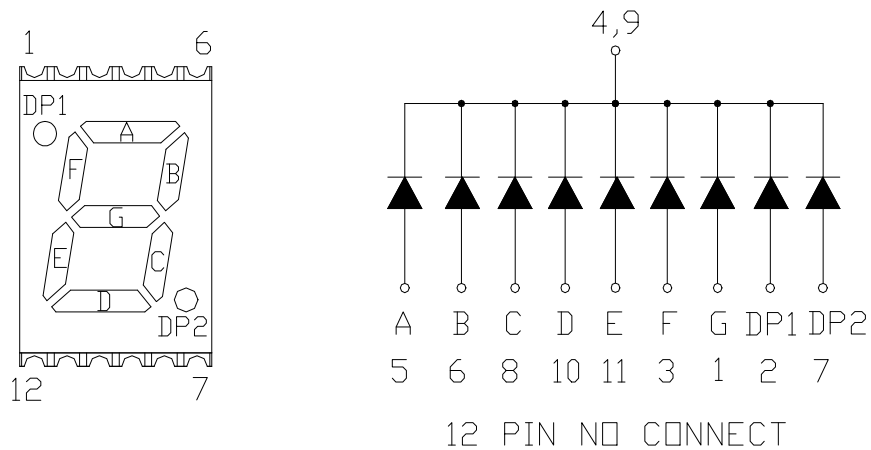
1. Emitting Color: White
2. Lens Color: White Diffused
3. Surface Black Color : Gray
4. Dice Material: InGaN/GaN

Outline Drawing



Tolerance is ± 0.25 mm unless otherwise noted, Unit=mm

Internal Circuit Diagram(C.C.)



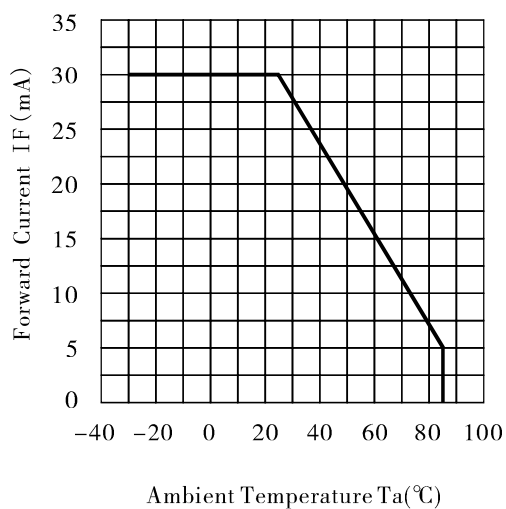
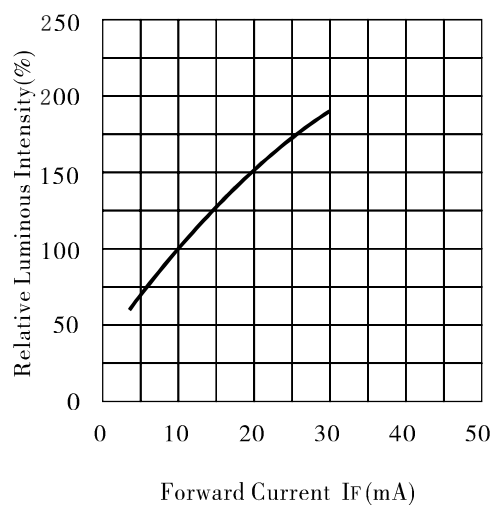
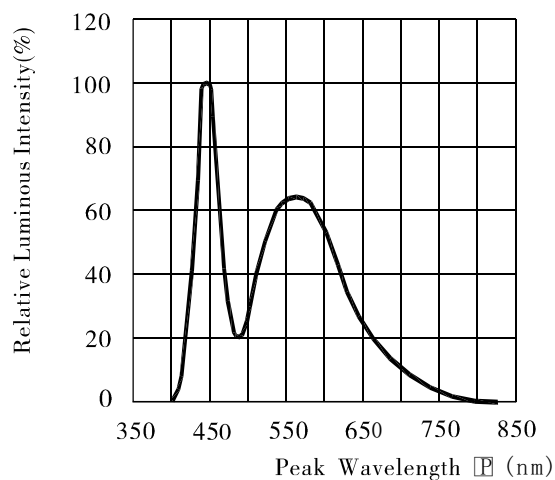
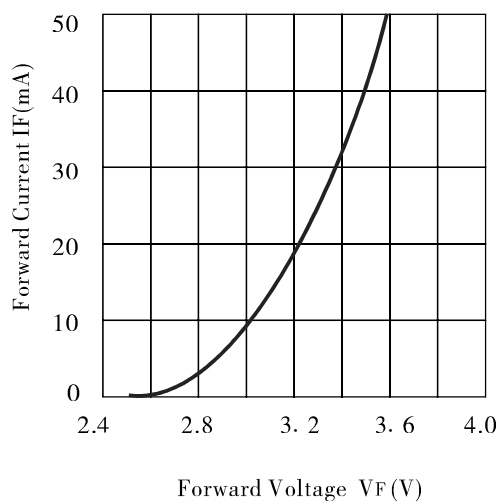
Electrical Optical Characteristics(Ta=25°C)

Parameter	Symbol	White			Unit	Test Condition
		Min	Typ	Max		
Forward Voltage	V _F	---	3.0	3.6	V	IF=20mA
Luminous Intensity	I _V	---	11	---	mcd	IF=10mA
Chromaticity Coordinates (Tolerance: ± 0.01)	X	---	0.27	---	nm	IF=20mA
	Y	---	0.25	---	nm	IF=20mA
Reverse Leakage Current	I _R	---	---	50	μA	VR=5V

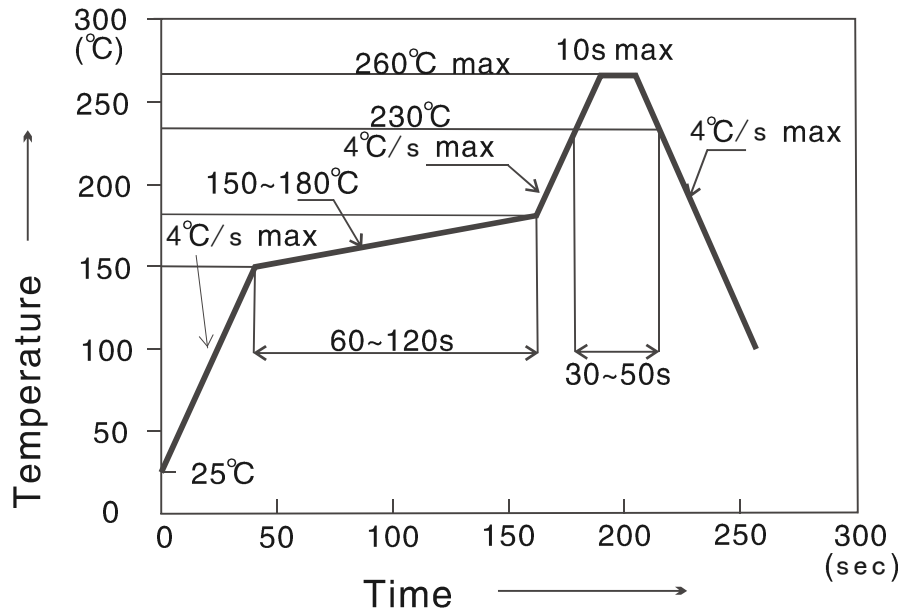
Absolute Maximum Parameters(Ta=25°C)

Parameter	Symbol	Condition	Rating	Unit
Power Dissipation	P _D	---	72	mW
Reverse Voltage	V _R	---	5	V
Forward Average Current	I _F	---	20	mA
Temperature Coefficient	I/C	---	0.25	mA/°C
Pulse Current	IFP	Duty=1/10,1kHz	100	mA
Operating Temperature Range	Topr	---	-25 ~ +85	°C
Storage Temperature Range	Tstg	---	-30 ~ +100	°C
Soldering Condition	Tsd	---	260°C/3sec	°C

Typical Electro/Optical Characteristic Curves($T_a=25^{\circ}\text{C}$)



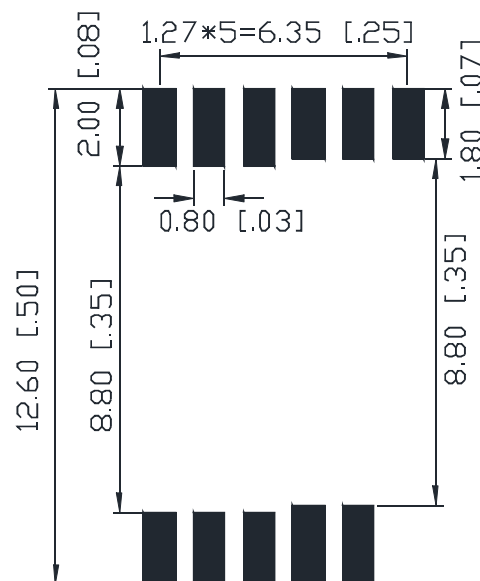
IR Reflow Temperature/Time



NOTES:

- 1、 We recommend the reflow temperature 245℃(+/-5℃).the maximum soldering temperature should be limited to 260V.
- 2、 Don' t cause stress to the epoxy resin while it is exposed to high temperature.
- 3、 Number of reflow process shall be 2 times or less

Soldering Pad Size



Reliability Test Conditions

Test Item	Test Condition	Result	Judgment Criteria
Consecutive operating life test	IF=20mA, T=25℃, t=168h	0/10	Forward Voltage $V_F(V) = \text{Upper Limit} \times 1.2$ Reverse Leakage Current $I_R(\mu A) = \text{Upper Limit} \times 2.0$ Luminous Intensity IV $(mcd) = \text{Lower Limit} \times 0.7$
High temperature storage life test	T=100℃, t=168h	0/10	
Low temperature storage life test	T=25℃, t=168h	0/10	
High temperature humidity storage life test	T=85 ± 2℃, RH=85% ± 3, t=168h	0/10	
Temperature cycle test	-25℃~25℃~100℃ 30min 5min 30min 10cycles	0/10	
Thermal shock test	100℃ 0℃ 5min 5min 20cycles	0/10	
Soldering heat test	T=260 ± 5℃, t=10s ± 1s	0/10	
Solderability test	T=235 ± 5℃, t=5s ± 0.5s	0/10	Steeped Part ≥ 95%
Fall test	h=100cm, 50times	0/10	Surface Appearance Photoelectric Properties Intact