



CIEL LIGHT CO., LTD.

PRODUCT SPECIFICATION

Model No.: CLSS-20A1AUR-21

Drawing No.: _____

Customer: _____

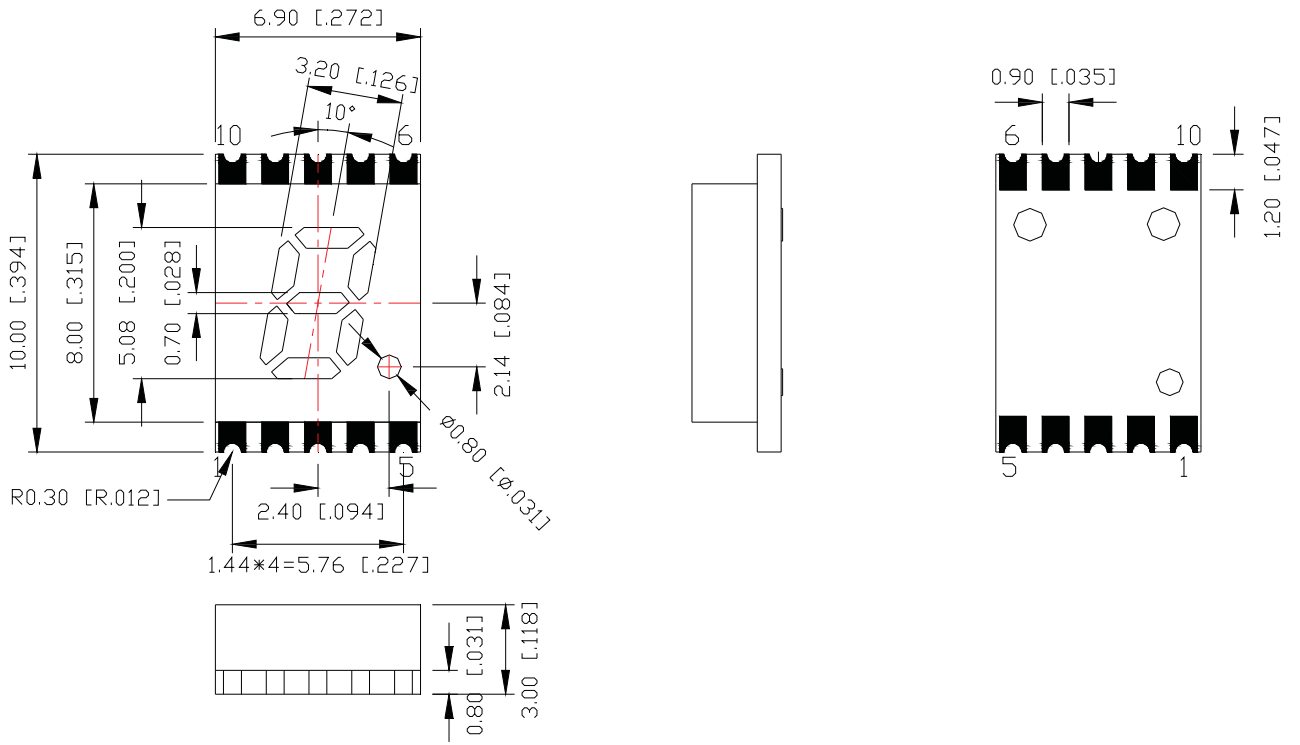
Customer's Model No.: _____

Customer's Drawing No.: _____

Descriptions

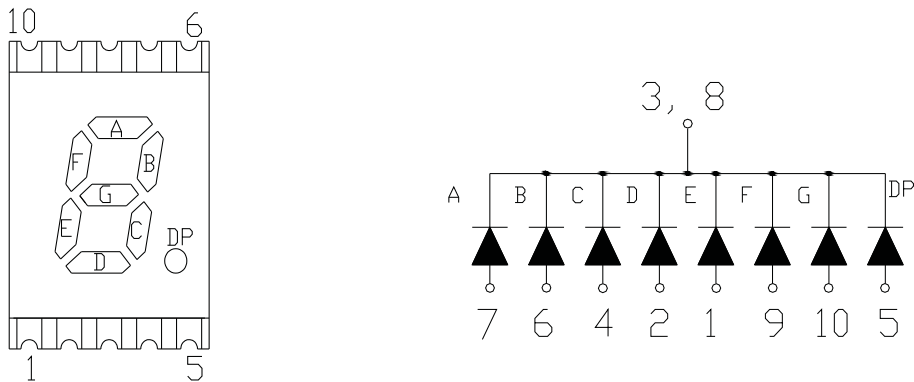
1. Emitting Color: Ultra Red
2. Lens Color: White Diffused
3. Surface Black Color : Gray
4. Dice Material: AlGaInP/GaAs

Outline Drawing



Tolerance is $\pm 0.25\text{mm}$ unless otherwise noted, Unit=mm
 Pin bending $\leq \text{length} * 1\%$

Internal Circuit Diagram(C.C.)



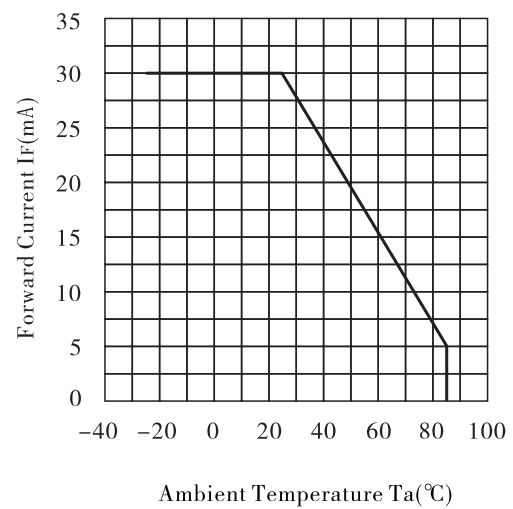
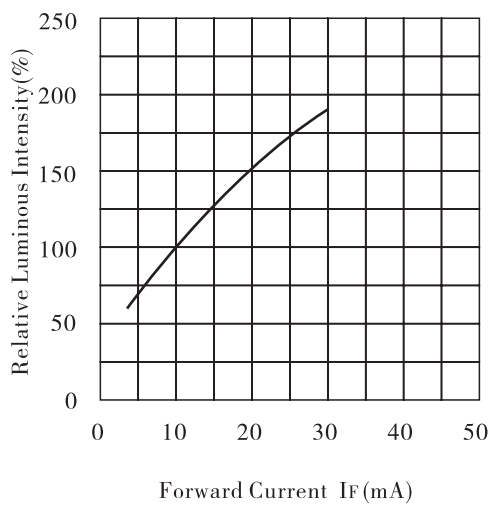
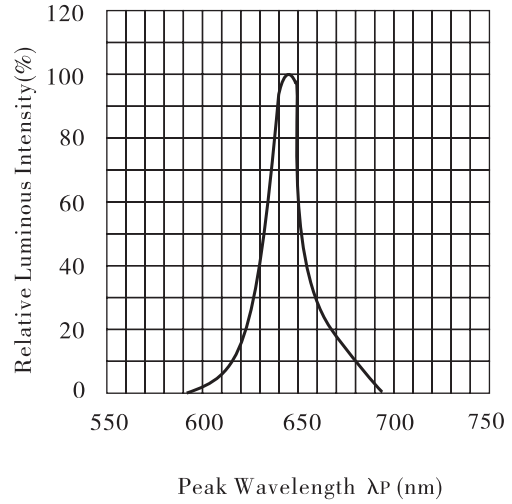
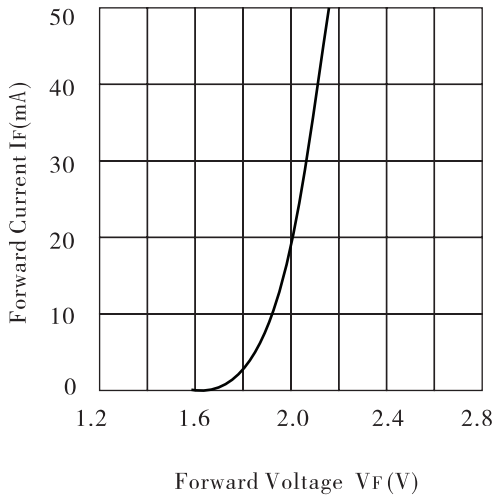
Electrical Optical Characteristics(Ta=25°C)

Parameter	Symbol	Ultra Red			Unit	Test Condition
		Min	Typ	Max		
Forward Voltage	V _F	---	2.00	2.40	V	IF=20mA
Luminous Intensity	I _V	---	3.5	---	mcd	IF=10mA
Peak Wavelength	λ _P	---	645	---	nm	IF=20mA
Dominant Wavelength	λ _d	---	635	---	nm	IF=20mA
Spectral Line half-width	Δλ	---	20	---	nm	IF=20mA
Reverse Leakage Current	I _R	---	---	50	μA	VR=5V

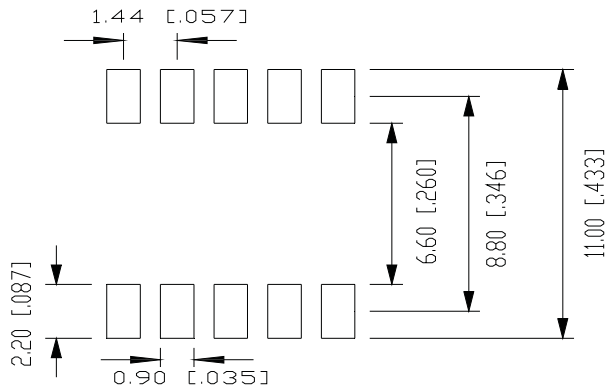
Absolute Maximum Parameters(Ta=25°C)

Parameter	Symbol	Condition	Rating	Unit
Power Dissipation	P _D	---	80	mW
Reverse Voltage	V _R	---	5	V
Forward Average Current	I _F	---	30	mA
Temperature Coefficient	I/C	---	0.33	mA/°C
Pulse Current	IFP	Duty=1/10,1kHz	100	mA
Operating Temperature Range	T _{opr}	---	-25 ~ +85	°C
Storage Temperature Range	T _{stg}	---	-30 ~ +100	°C
Lead Soldering Temperature 260°C at 1.6mm From Body For 3 Second				

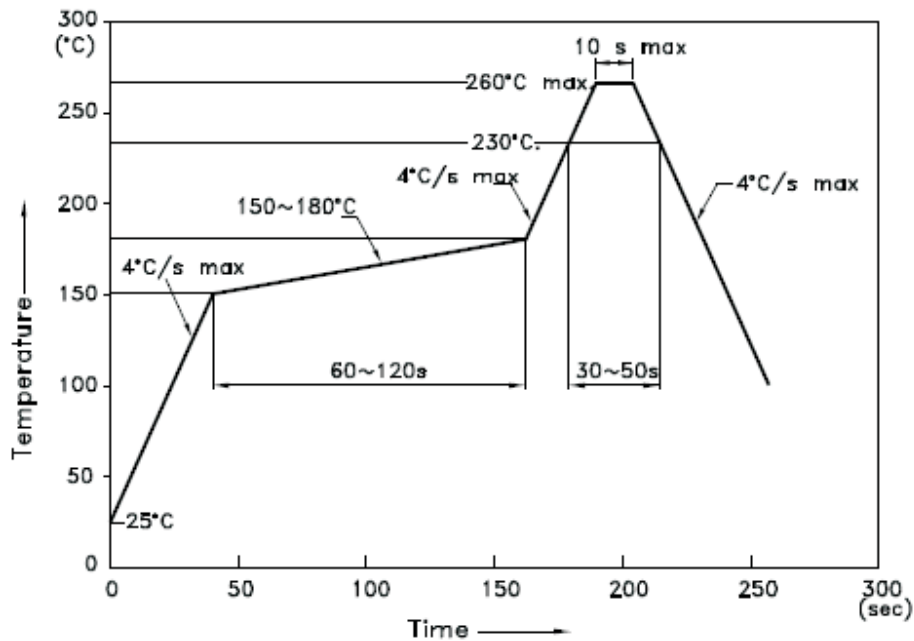
Typical Electro/Optical Characteristic Curves(Ta=25°C)



Recommended Soldering Pattern



Recommended SMT Condition



NOTES:

1. We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.
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.

Reliability Test Conditions

Test Item	Test Condition	Result	Judgment Criteria
Consecutive operating life test	IF=20mA, T=25°C, t=168h	0/10	Forward Voltage VF(V)= Upper Limit × 1.2 Reverse Leakage Current IR(μA)=Upper Limit × 2.0 Luminous Intensity IV (mcd)=Lower Limit × 0.7
High temperature storage life test	T=100°C, t=168h	0/10	
Low temperature storage life test	T=-25°C, t=168h	0/10	
High temperature humidity storage life test	T=85 ± 2°C, RH=85% ± 3, t=168h	0/10	
Temperature cycle test	-25°C~25°C~100°C 30min 5min 30min 10cycles	0/10	
Thermal shock test	100°C 0°C 5min 5min 20cycles	0/10	
Soldering heat test	T=260 ± 5°C, t=10s ± 1s	0/10	
Solderability test	T=235 ± 5°C, t=5s ± 0.5s	0/10	Steeped Part ≥ 95%
Fall test	h=100cm, 50times	0/10	Surface Appearance Photoelectric Properties Intact
Terminal strength test	W=9.8N, t=30 ± 5s	0/10	
Lead bending test	W=4.9N, 2times	0/10	