



CIEL LIGHT CO., LTD.

PRODUCT SPECIFICATION

Model No.: CLS-40011DUR-11

Drawing No.: _____

Customer: _____

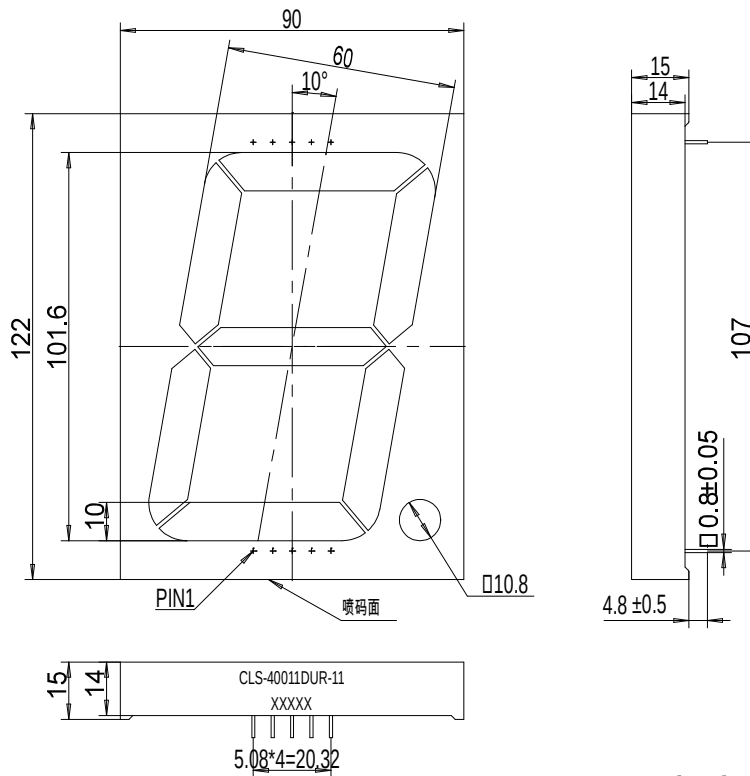
Customer's Model No.: _____

Customer's Drawing No.: _____

Descriptions

1. Emitting color: Ultra Red
2. Lens color: White Diffused
3. Surface Ink color :Black
4. Dice material: GaAsP/GaP

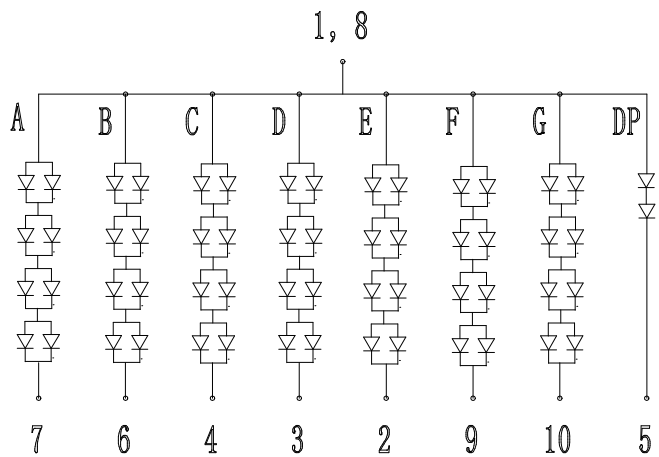
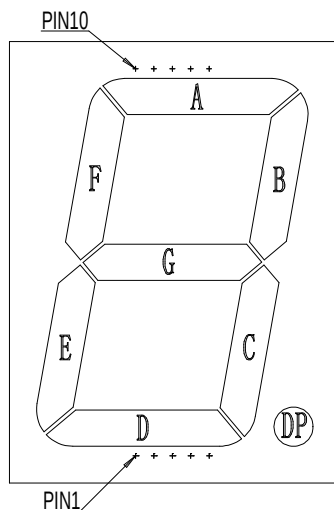
Outline drawing



Pin bending $\leq$ length * 1%

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

Internal Circuit Diagram(C.A.)



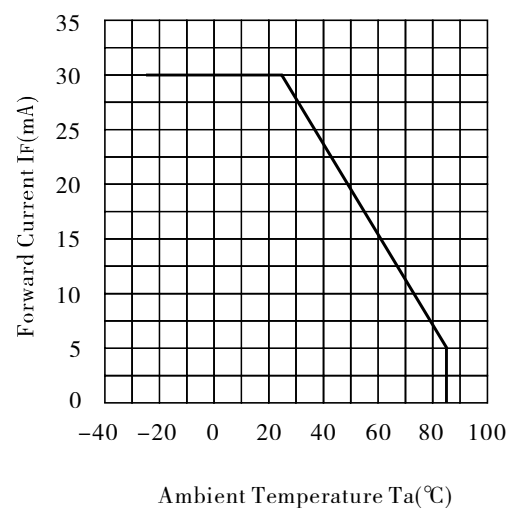
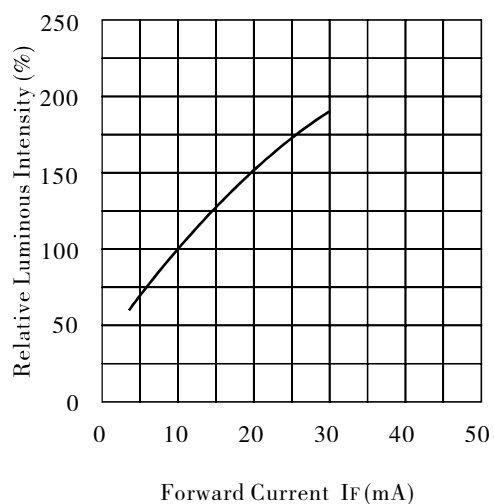
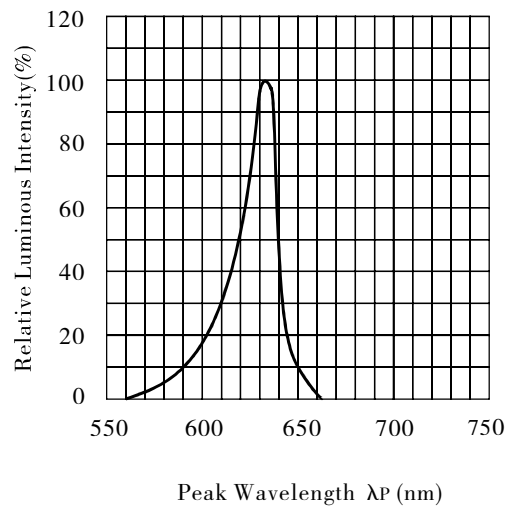
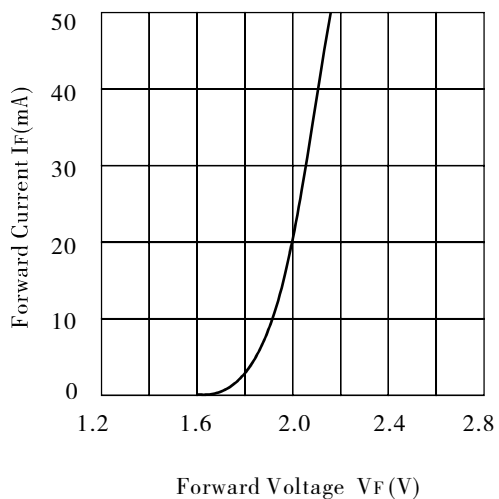
Electrical optical characteristics (Ta=25℃)

Parameter	Symbol	Ultra Red			Unit	Test Condition
		Min	Typ	Max		
Forward Voltage	V_F	---	2.1	2.5	V	IF=20mA
Luminous Intensity	I_V	390	770	---	mcd	IF=10mA
Peak Wavelength	λ_P	---	632	---	nm	IF=20mA
Dominant Wavelength	λ_d	---	624	---	nm	IF=20mA
Spectral Line half-width	$\Delta\lambda$	---	35	---	nm	IF=20mA
Reverse Leakage Current	I_R	---	---	50	μA	$V_R=5V$

Absolute maximum parameters (Ta=25℃)

Parameter	Symbol	Condition	Rating	Unit
Power Dissipation	PD	---	60	mW
Reverse Voltage	VR	---	5	V
Forward Average Current	IF	---	25	mA
Temperature coefficient	I/C	---	0.33	mA/℃
Pulse Current	IFP	Duty=1/10,1kHz	100	mA
Operating Temperature Range	Topr	---	-25 ~ +85	℃
Storage Temperature Range	Tstg	---	-30 ~ +100	℃
Soldering Condition	Tsd	---	260/5sec	℃

Typical Electro-Optical characteristic curves ($T_a=25^{\circ}\text{C}$)



Reliability test conditions

Test Item	Test Condition	Result	Judgment criteria
Consecutive operating life test	IF=20mA, T=25℃, t=168h	0/12	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 I_v (mcd)=Lower Limit $\times 0.7$
High temperature storage life test	T=100℃, t=168h	0/12	
Low temperature storage life test	T=-25℃, t=168h	0/12	
high Temperature humidity storage life test	T=85 ± 2℃, RH=85% ± 3, t=168h	0/12	
Temperature cycle test	-25℃~25℃~100℃, 30min 5min 30min 10cycles	0/12	
Thermal shock test	100℃ 0℃ 5min 5min 20 cycles	0/12	
Soldering heat test	T=260 ± 5℃, t=10s ± 1s	0/12	
Solderability test	T=230 ± 5℃, t=5s ± 0.5s	0/12	Steeped Part ≥ 95%
Fall test	h=100cm, Free fall, 3times	0/12	Intact
Terminal strength test	W=9.8N, t=30 ± 5s	0/12	
Lead Bending test	W=4.9N, 2times	0/12	