



CIEL LIGHT CO.,LTD.

PRODUCT SPECIFICATION

Model No.: CLA-1012YGAR-444

Drawing No.: _____

Customer: _____

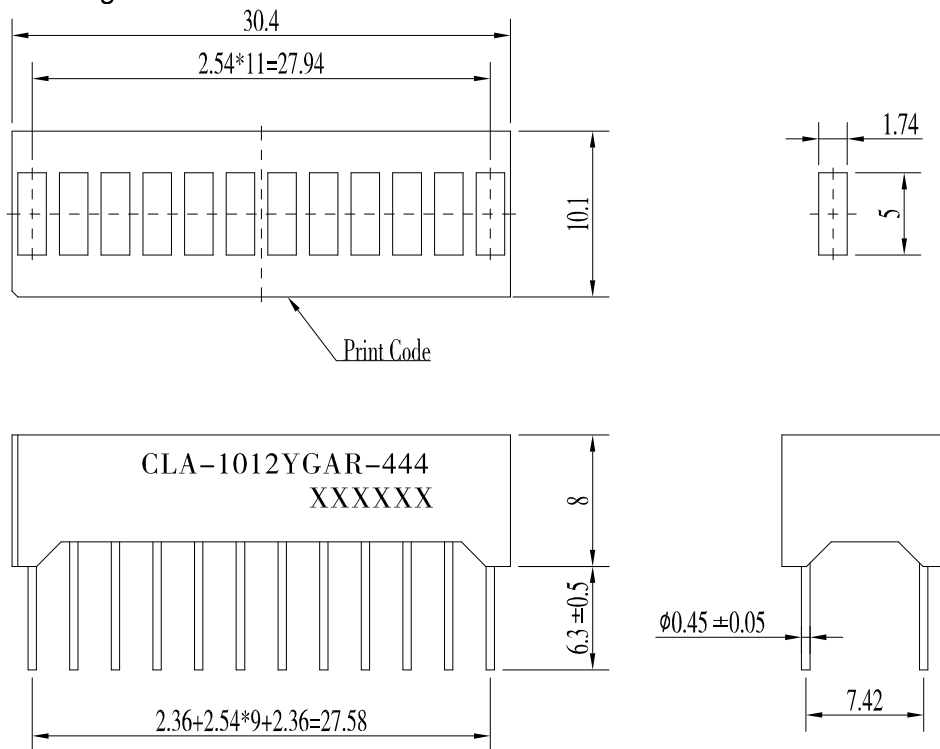
Customer's Model No.: _____

Customer's Drawing No.: _____

Descriptions

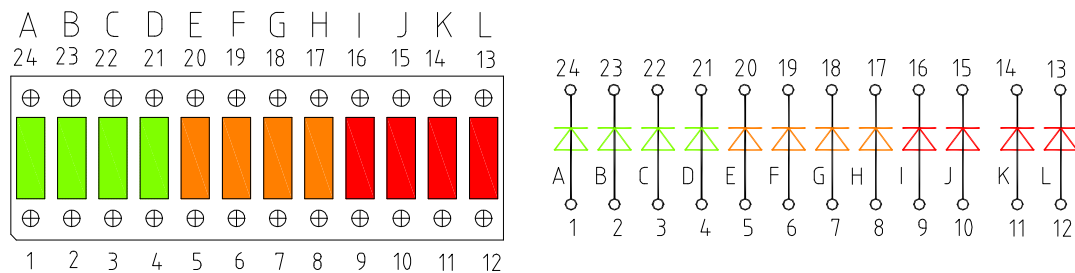
1. Emitting Color: Yellow Green Amber Red
2. Lens Color: White Diffused
3. Surface Ink Color :Black
4. Dice Material: AlGaInP/GaAs

Outline Drawing



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

Internal Circuit Diagram



Yellow Green:A-D; Amber:E-H; Red:I-L

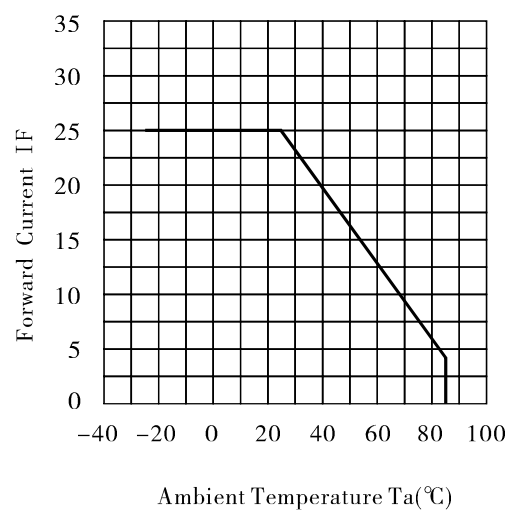
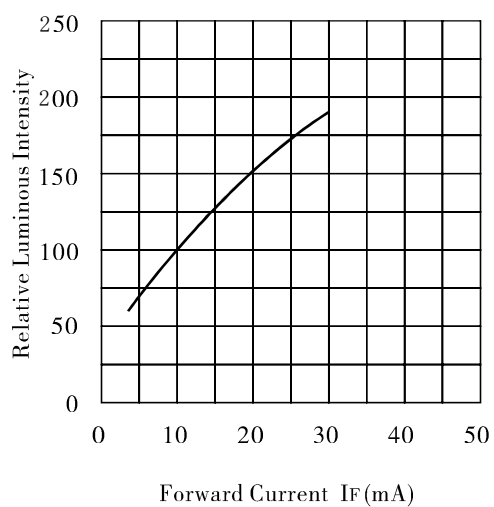
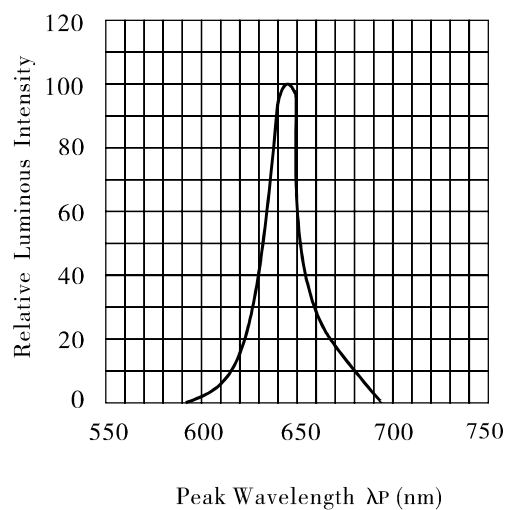
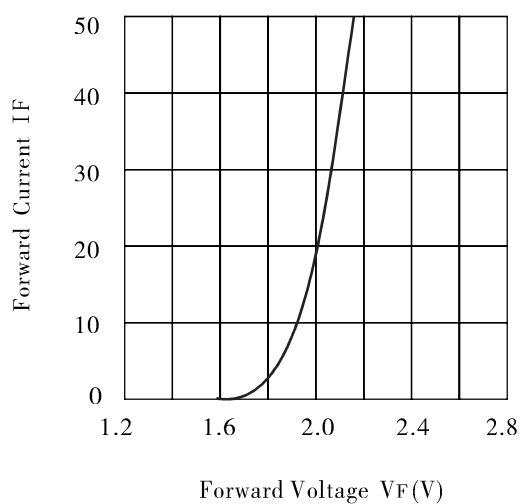
Electrical optical characteristics (Ta=25℃)

Parameter	Symbol	Red			Unit	Test Condition
		Min	Typ	Max		
Forward Voltage	V_F	---	2.0	2.4	V	IF=20mA
Luminous Intensity	I_V	7.0	13.7	---	mcd	IF=20mA
Peak Wavelength	λ_P	---	645	---	nm	IF=20mA
Dominant Wavelength	λ_d	---	639	---	nm	IF=20mA
Spectral Line half-width	$\Delta\lambda$	---	20	---	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 ($T_a=25^{\circ}\text{C}$)



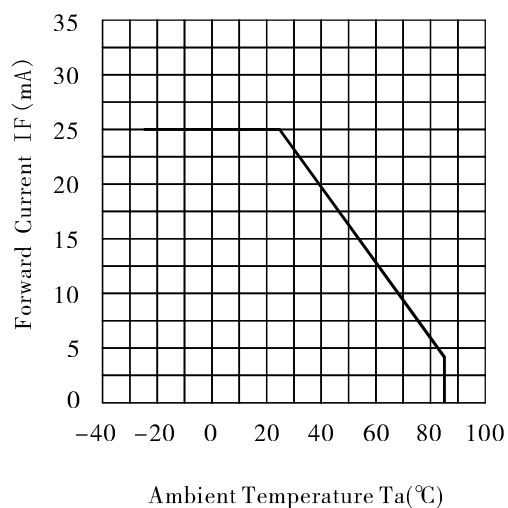
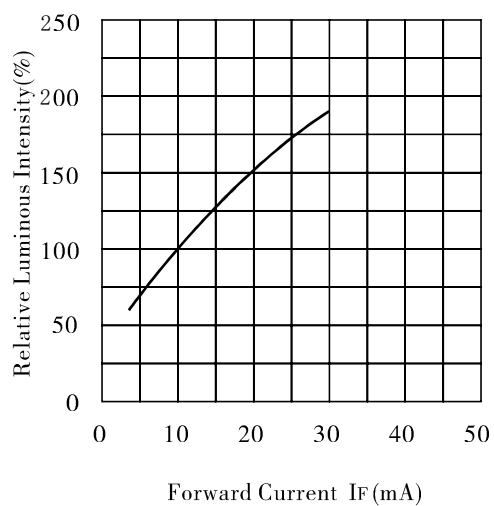
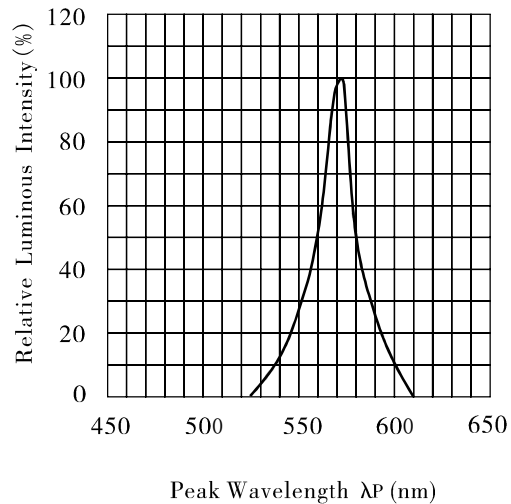
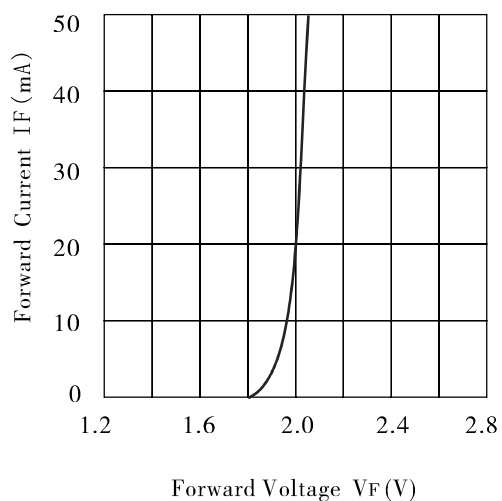
Electrical optical characteristics (Ta=25℃)

Parameter	Symbol	Yellow green			Unit	Test Condition
		Min	Typ	Max		
Forward Voltage	V_F	---	2.00	2.40	V	IF=20mA
Luminous Intensity	I_V	7.0	13.7	---	mcd	IF=10mA
Peak Wavelength	λ_P	---	572	---	nm	IF=20mA
Dominant Wavelength	λ_d	---	570	---	nm	IF=20mA
Spectral Line half-width	$\Delta\lambda$	---	20	---	nm	IF=20mA
Reverse Leakage Current	I_R	---	---	50	μA	VR=5V

Absolute Maximum Parameters(Ta=25℃)

Parameter	Symbol	Condition	Rating	Unit
Power Dissipation	P_D	---	60	mW
Reverse Voltage	V_R	---	5	V
Forward Average Current	I_F	---	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 ($T_a=25^{\circ}\text{C}$)



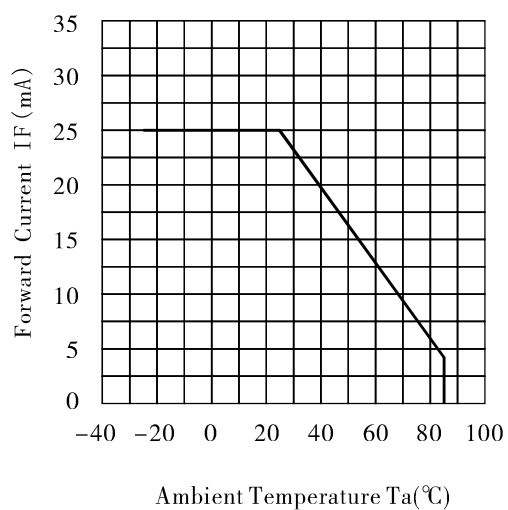
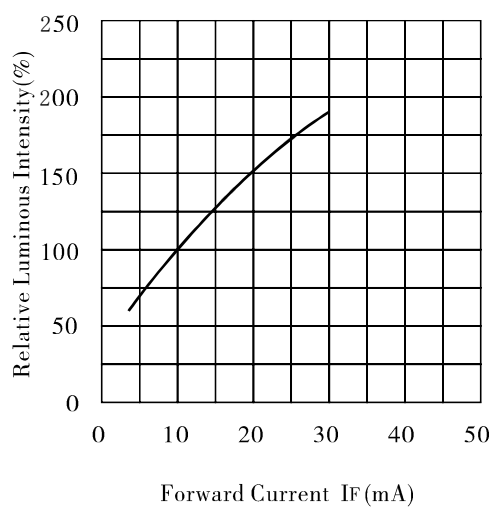
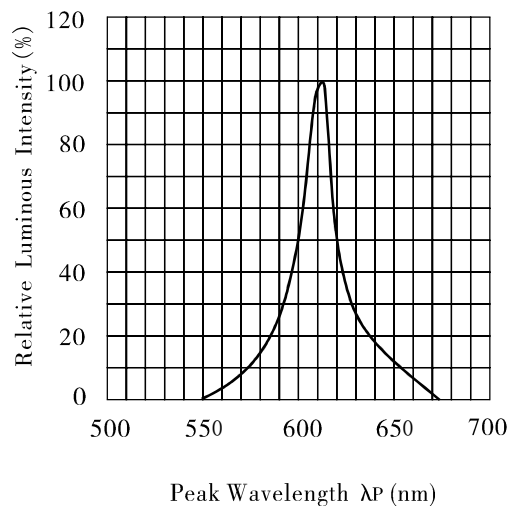
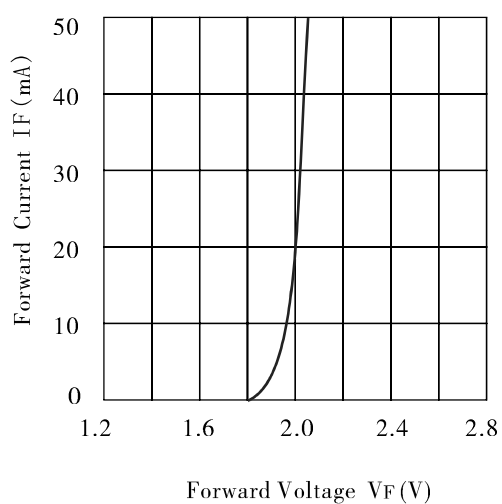
Electrical And Optical Characteristics (Ta=25℃)

Parameter	Symbol	Amber			Unit	Test Condition
		Min	Typ	Max		
Forward Voltage	V _F	---	2.0	2.4	V	IF=20mA
Luminous Intensity	I _V	7.0	13.7	---	med	IF=10mA
Peak Wavelength	λ _P	---	612	---	nm	IF=20mA
Dominant Wavelength	λ _d	---	605	---	nm	IF=20mA
Spectral Line half-width	Δλ	---	30	---	nm	IF=20mA
Reverse Leakage Current	I _R	---	---	50	μA	V _R =5V

Absolute Maximum Parameters (Ta=25℃)

Parameter	Symbol	Test Condition	Rating	Unit
Power Dissipation	P _D	---	60	mW
Reverse Voltage	V _R	---	5	V
Forward Average Current	I _F	---	25	mA
Temperature Coefficient	I/C	---	0.33	mA/℃
Pulse Current	I _{FP}	Duty=1/10,1kHz	100	mA
Operating Temperature Range	T _{opr}	---	-25 ~ +85	℃
Storage Temperature Range	T _{stg}	---	-30 ~ +100	℃
Soldering Temperature	T _{sd}	---	260℃/5sec	℃

Typical Electro-Optical characteristic curves (Ta=25°C)



CLA-1010BGYR-1432(9.5MM)- F

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	