



Data Sheet

Customer: _____

Part No: _____

CL-5019SGW1C-003-CA

Sample No: _____

Description: _____

5Ø Lamp R+YG Color

Item No: _____

Customer			
Check	Inspection	Approval	Date

Features

- Low Power Consumption
- High Efficiency
- Round Type
- T1 (5mm) Diameter
- With Flange
- Solder Leads Without Stand-off
- Compliant With RoHS

Descriptions

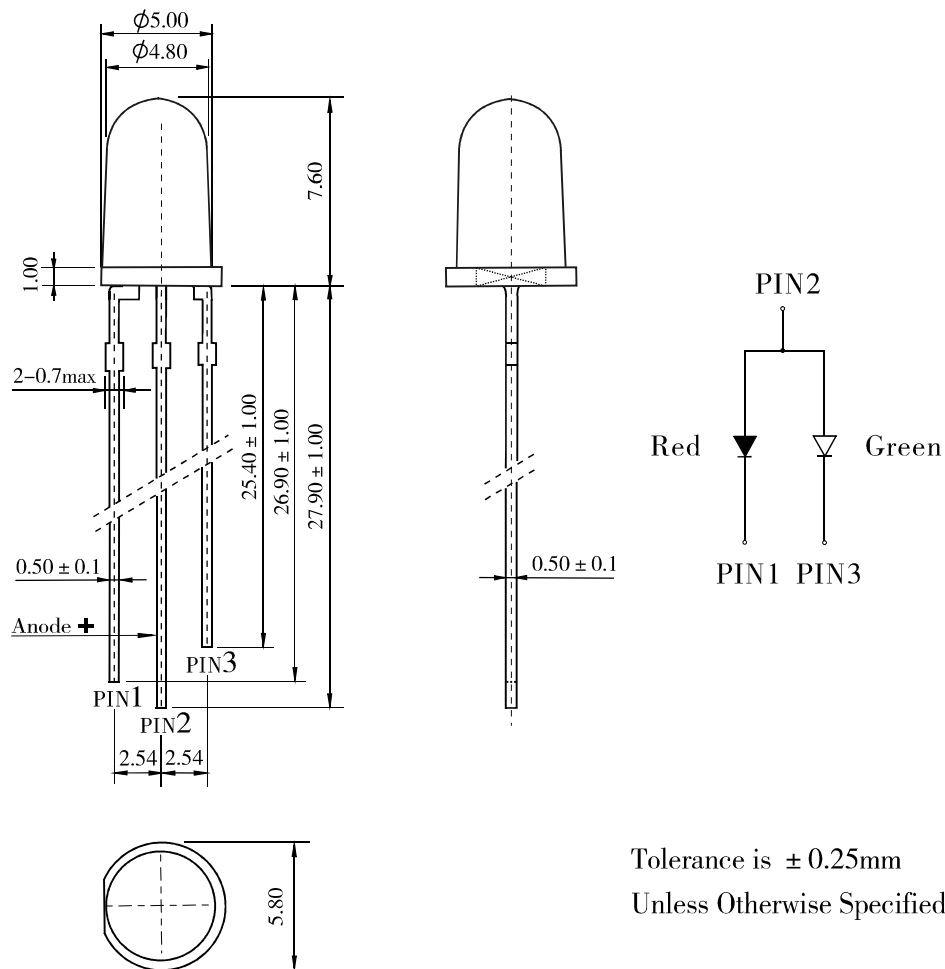
- Chip Material: AlGaAs/GaAs、 GaP/GaP
- Emitting Color: Red、 Green
- Lens Color: White Diffused

ATTENTION



OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE DEVICES

Outline Drawing



Tolerance is $\pm 0.25\text{mm}$
Unless Otherwise Specified.

Electrical Optical Characteristics (Ta=25°C)

Parameter	Symbol	Red			Unit	Test Condition
		Min	Typ	Max		
Forward Voltage	V _F	---	1.80	2.20	V	IF=20mA
Luminous Intensity	I _v	26.6	52.0	72.8	mcd	IF=20mA
Peak Wavelength	λ _p	---	660	---	nm	IF=20mA
Dominant Wavelength	λ _d	---	644	---	nm	IF=20mA
Spectral Line half-width	Δλ	---	20	---	nm	IF=20mA
Reverse Leakage Current	I _R	---	---	50	μA	VR=5V
Viewing Angle	2 θ _{1/2}	---	60	---	Deg	IF=20mA

Absolute Maximum Parameters (Ta=25°C)

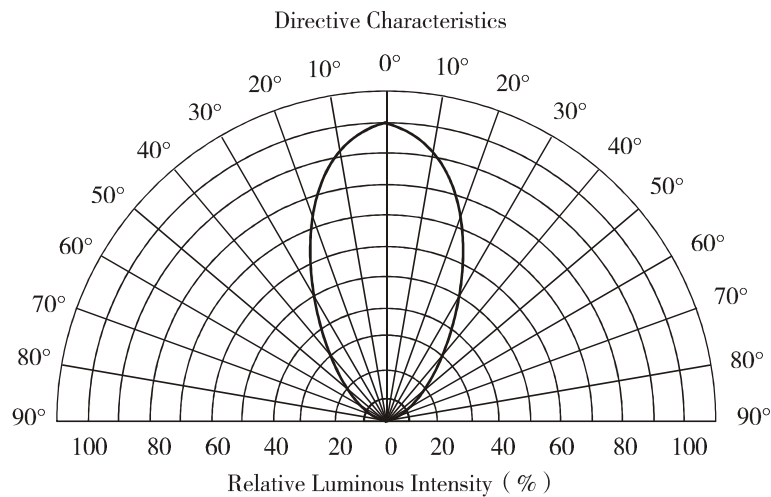
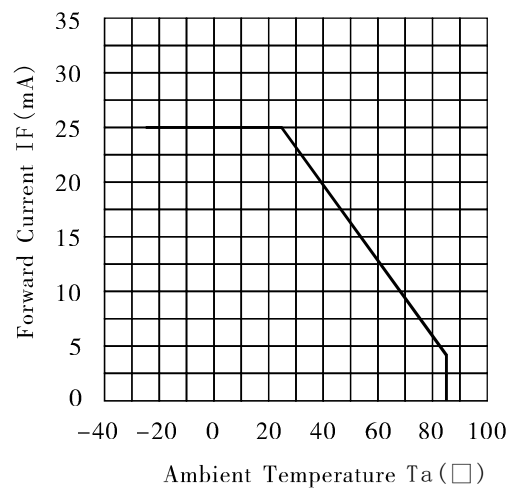
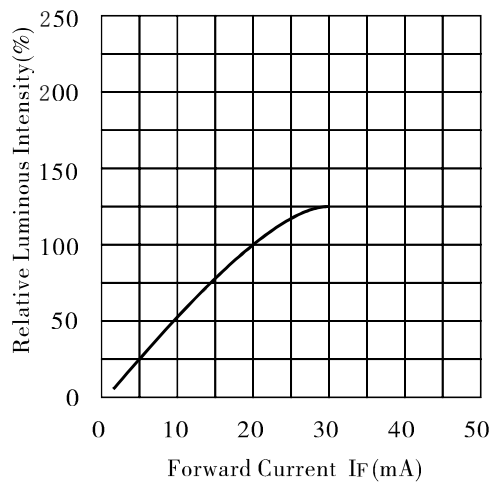
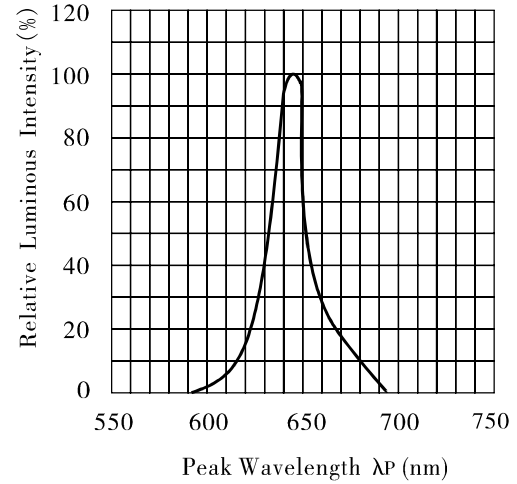
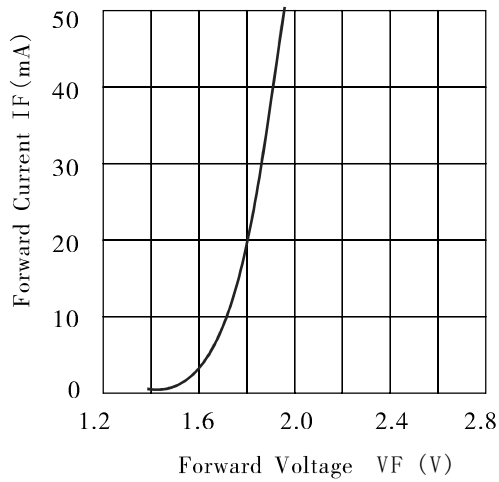
Parameter	Symbol	Condition	Rating	Unit
Power Dissipation	P _D	---	55	mW
Reverse Voltage	V _R	---	5	V
Forward Average Current	I _F	---	25	mA
Temperature coefficient	I/C	---	0.33	mA/ °C
Pulse Current	I _{FP}	Duty=1/10,1kHz	100	mA
Operating Temperature Range	T _{opr}	---	-25 ~ +85	°C
Storage Temperature Range	T _{stg}	---	-30 ~ +100	°C
Soldering Condition	T _{sd}	---	260°C/5sec	°C

NOTE:

Luminous Intensity Measurement allowance is ± 10%.

2 θ_{1/2} is the off-axis angle at which the luminous intensity is half the axial luminous intensity. The dominant wavelength is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

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



Electrical Optical Characteristics (Ta=25°C)

Parameter	Symbol	Green			Unit	Test Condition
		Min	Typ	Max		
Forward Voltage	V_F	---	2.20	2.60	V	IF=20mA
Luminous Intensity	I_V	26.6	52.0	72.8	mcd	IF=20mA
Peak Wavelength	λ_P	---	568	---	nm	IF=20mA
Dominant Wavelength	λ_d	---	572	---	nm	IF=20mA
Spectral Line half-width	$\Delta\lambda$	---	30	---	nm	IF=20mA
Reverse Leakage Current	I_R	---	---	50	μA	VR=5V
Viewing Angle	$2\theta_{1/2}$	---	60	---	Deg	IF=20mA

Absolute Maximum Parameters (Ta=25°C)

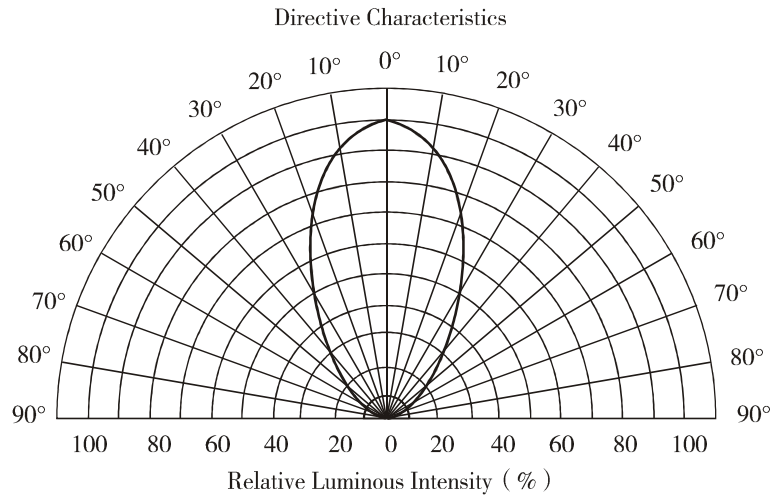
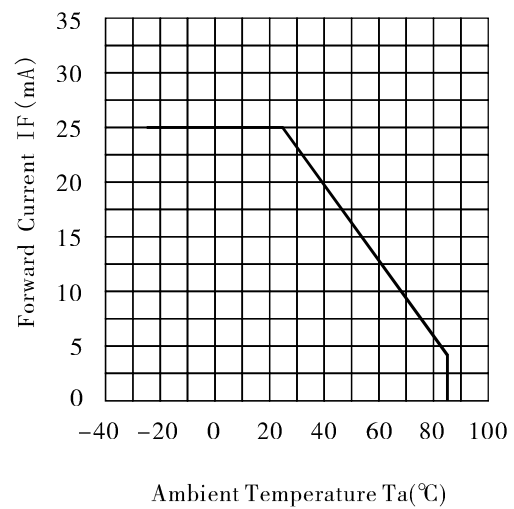
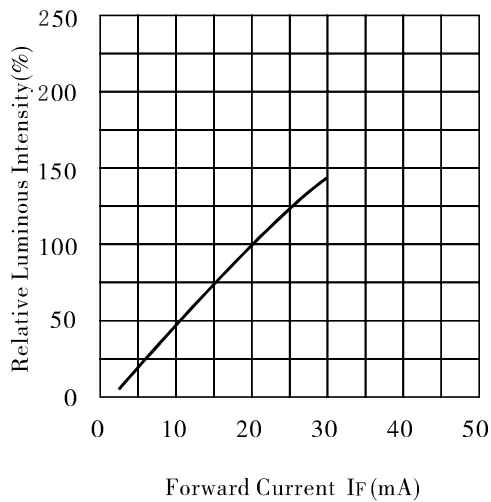
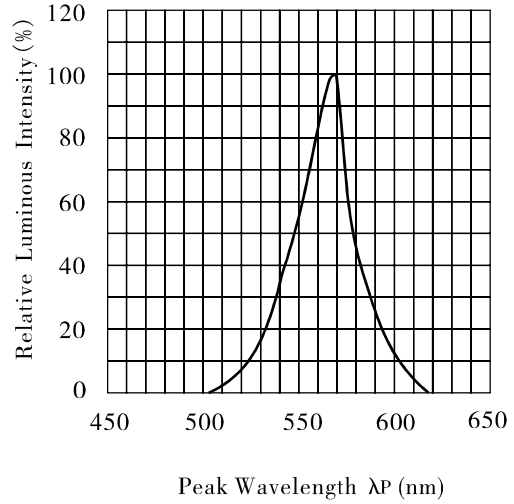
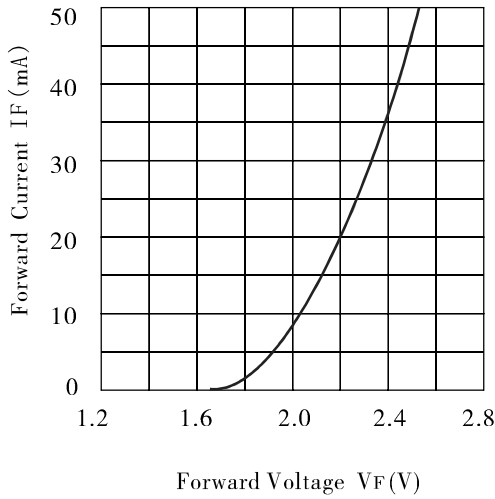
Parameter	Symbol	Condition	Rating	Unit
Power Dissipation	P_D	---	65	mW
Reverse Voltage	V_R	---	5	V
Forward Average Current	I_F	---	25	mA
Temperature coefficient	I/C	---	0.33	mA/ °C
Pulse Current	IFP	Duty=1/10,1kHz	100	mA
Operating Temperature Range	T_{opr}	---	-25 ~ +85	°C
Storage Temperature Range	T_{stg}	---	-30 ~ +100	°C
Soldering Condition	T_{sd}	---	260°C/5sec	°C

NOTE:

Luminous Intensity Measurement allowance is $\pm 10\%$.

$2\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

The dominant wavelength is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

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


BIN Sub-Scale

Unit: @20mA		Luminous Intensity		Dominant Wavelength	
BIN Code	Color	Min	Max	Min	Max
G	Red	26.6	37.2	640	650
H		37.2	52.0	640	650
J		52.0	72.8	640	650
G	Green	26.6	37.2	570	572.5
H		37.2	52.0	570	572.5
J		52.0	72.8	570	572.5

Note: Tolerance of each bin limit is $\pm 15\%$

Reliability Test Conditions

Test Item	Test Condition	Result	Judgment Criteria
Consecutive operating life test	IF=20mA, T=25℃, t=168h	0/100	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 $(\text{mcd}) = \text{Lower Limit} \times 0.7$
High temperature storage life test	T=100℃, t=168h	0/100	
Low temperature storage life test	T=25℃, t=168h	0/100	
High temperature humidity storage life test	T=85 ± 2℃, RH=85% ± 3, t=168h	0/100	
Temperature cycle test	-25℃~25℃~100℃ 30min 5min 30min 10cycles	0/100	
Thermal shock test	100℃ 0℃ 5min 5min 20cycles	0/100	
Soldering heat test	T=260 ± 5℃, t=10s ± 1s	0/100	
Solderability test	T=235 ± 5℃, t=5s ± 0.5s	0/100	Steeped Part ≥ 95%
Fall test	h=100cm, 50times	0/100	Surface Appearance Photoelectric Properties Intact
Terminal strength test	W=9.8N, t=30 ± 5s	0/100	
Lead bending test	W=4.9N, 2times	0/100	