



Data Sheet

Customer:

Part No:

CL-4016RIRC1C-660,940

Sample No:

Description:

4Ø Lamp R+IR Color

Item No:

Customer			
Check	Inspection	Approval	Date

Features

Low Power Consumption

High Efficiency

Round Type

T1 (4.65mm) Diameter

With Flange

Solder Leads Without Stand-off

Compliant With RoHS

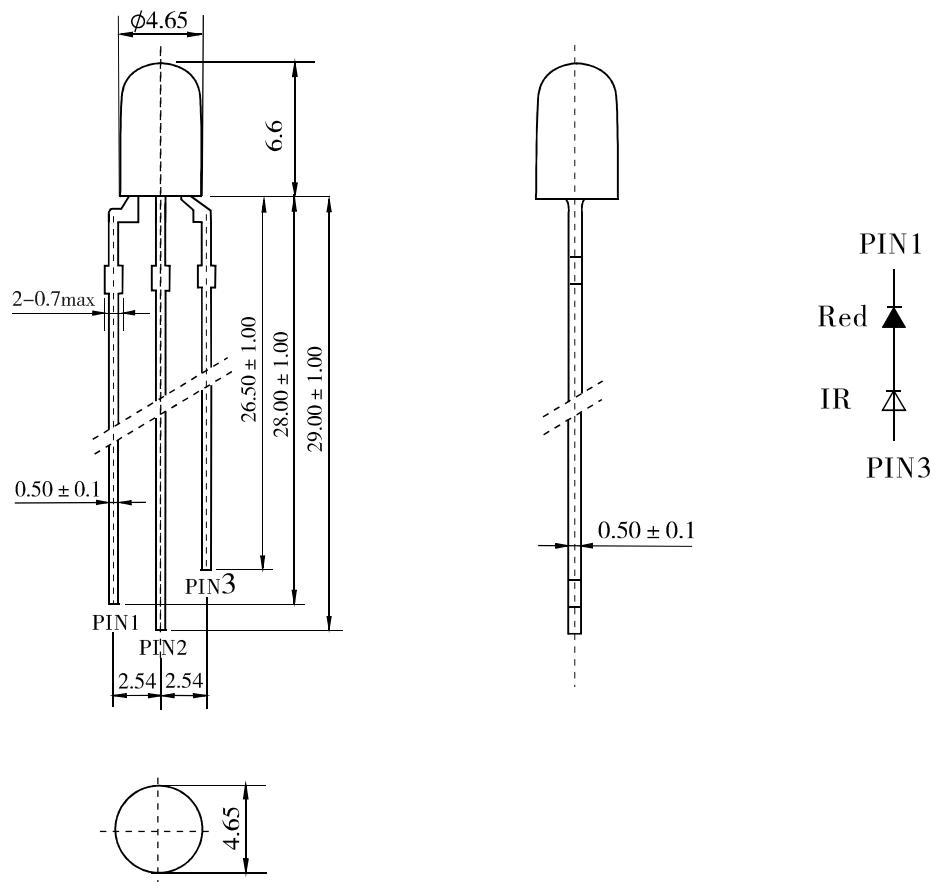
Descriptions

Chip Material: AlGaAs/GaAs+AlGaInP

Emitting Color: Infrared Emission + Red

Lens Color: Water Clear

Outline Drawing



ATTENTION



OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE DEVICES

Tolerance is $\pm 0.25\text{mm}$ unless otherwise noted, Unit=mm

Electrical Optical Characteristics (Ta=25℃)

Parameter	Symbol	Infrared Emission			Unit	Test Condition
		Min	Typ	Max		
Forward Voltage	V _F	1.2	---	1.4	V	IF=20mA
Radiant Intensity	I _V	6	---	12	mcd	IF=20mA
Peak Wavelength	λ _P	---	940	---	nm	IF=20mA
Spectral Line half-width	Δλ	---	50	---	nm	IF=20mA
Reverse Leakage Current	I _R	---	---	50	μA	VR=5V
Viewing Angle	2θ _{1/2}	---	20	---	Deg	IF=20mA

Absolute Maximum Parameters (Ta=25℃)

Parameter	Symbol	Condition	Rating	Unit
Power Dissipation	P _D	---	35	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	1000	mA
Operating Temperature Range	T _{opr}	---	-25 ~ +85	℃
Storage Temperature Range	T _{stg}	---	-30 ~ +100	℃
Soldering Condition	T _{sd}	---	260℃/5sec	℃

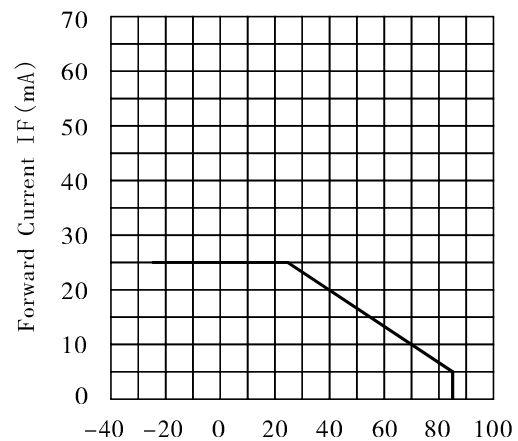
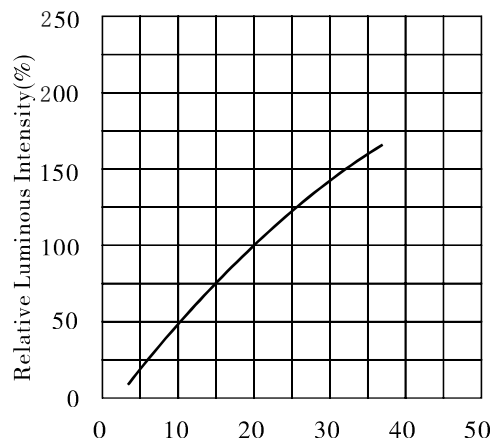
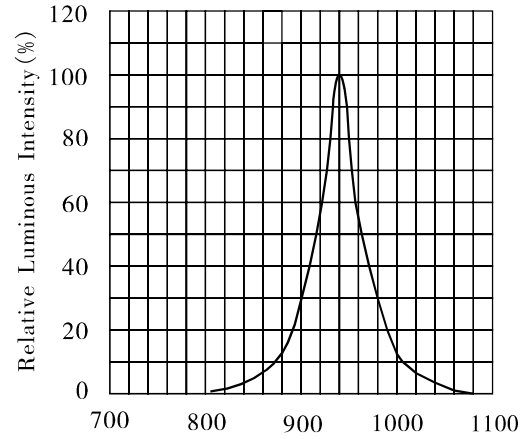
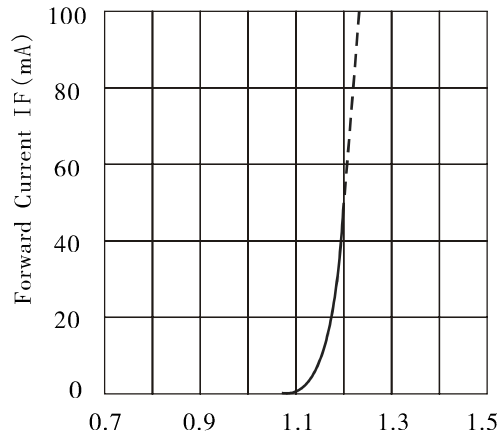
NOTE:

Luminous Intensity Measurement allowance is ± 10%.

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

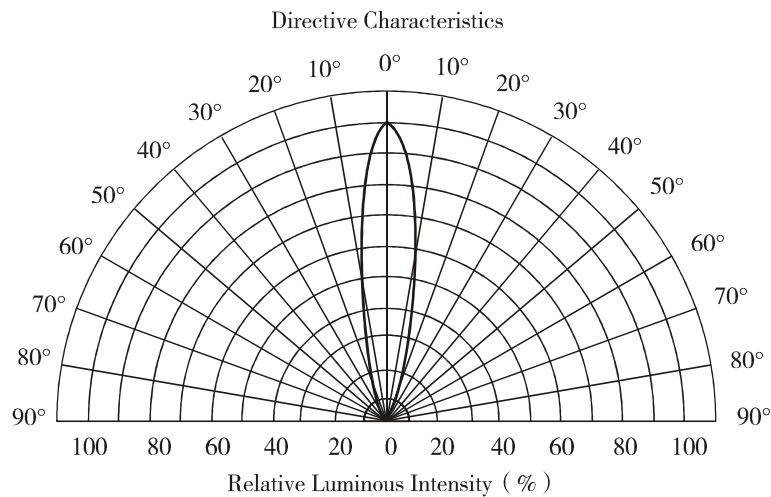
The dominant wavelength is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

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



Forward Current I_F (mA)

Ambient Temperature T_a (°C)



Electrical Optical Characteristics (Ta=25℃)

Parameter	Symbol	Red			Unit	Test Condition
		Min	Typ	Max		
Forward Voltage	V_F	1.80	---	2.40	V	IF=20mA
Luminous Intensity	I_V	400	---	600	med	IF=20mA
Peak Wavelength	λ_P	---	660	---	nm	IF=20mA
Dominant Wavelength	λ_d	---	644	---	nm	IF=20mA
Spectral Line half-width	$\Delta \lambda$	---	20	---	nm	IF=20mA
Reverse Leakage Current	I_R	---	---	50	μA	VR=5V
Viewing Angle	$2\theta_{1/2}$	---	20	---	Deg	IF=20mA

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	T_{opr}	---	-25 ~ +85	℃
Storage Temperature Range	T_{stg}	---	-30 ~ +100	℃
Soldering Condition	T_{sd}	---	260℃/5sec	℃

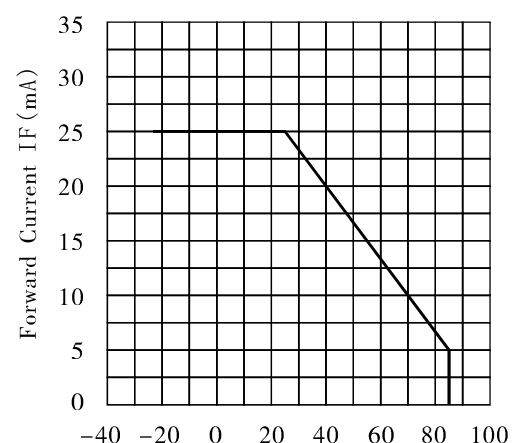
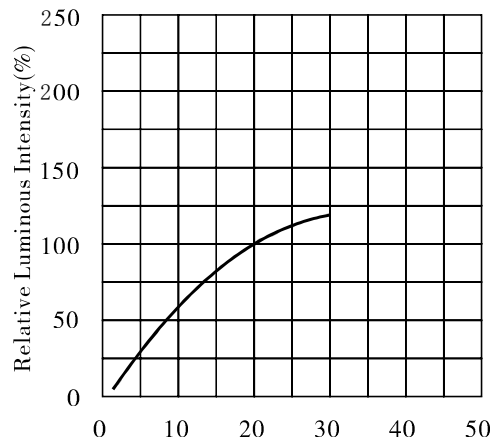
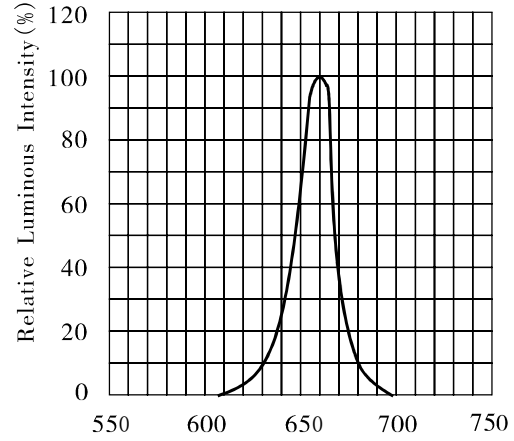
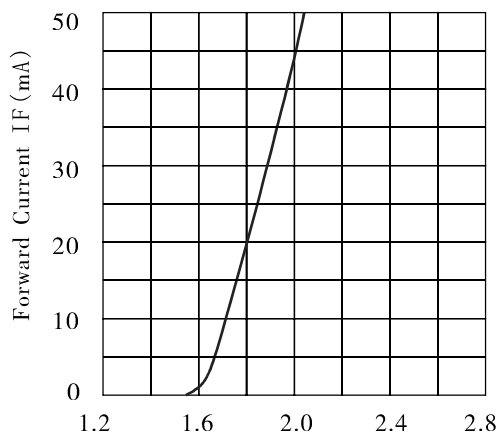
NOTE:

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

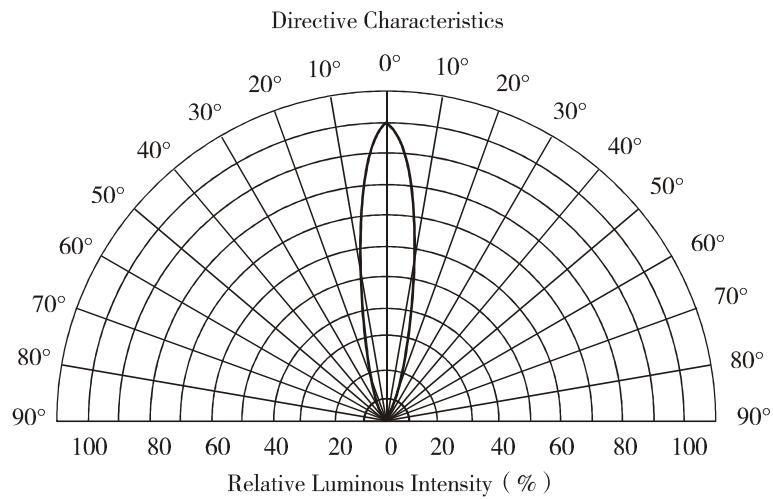
The dominant wavelength is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

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



Forward Current I_F (mA)

Ambient Temperature T_a (°C)



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	