



Data Sheet

Customer:

Part No:

Sample No:

Description:

Item No:

CL-5013UEC1Z-60(5mA)

5Ø Lamp Red Color

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: AlGaInP/GaAs

Emitting Color: Ultra Orange

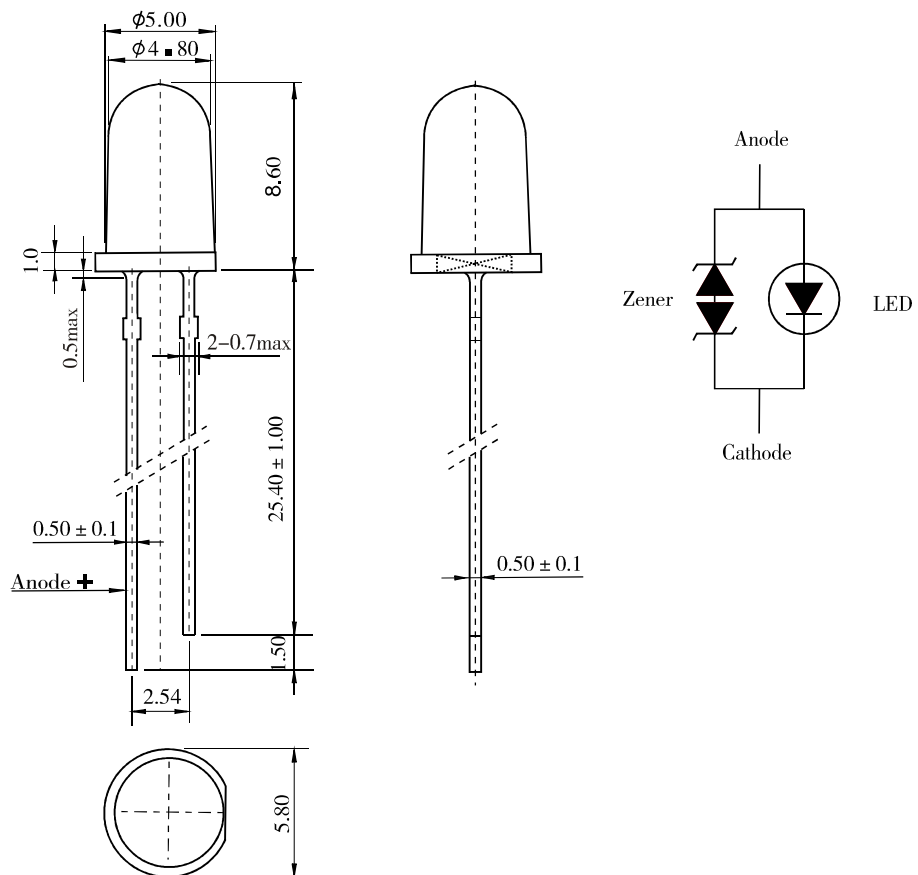
Lens Color: Water Clear

Outline Drawing

ATTENTION



OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE DEVICES



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

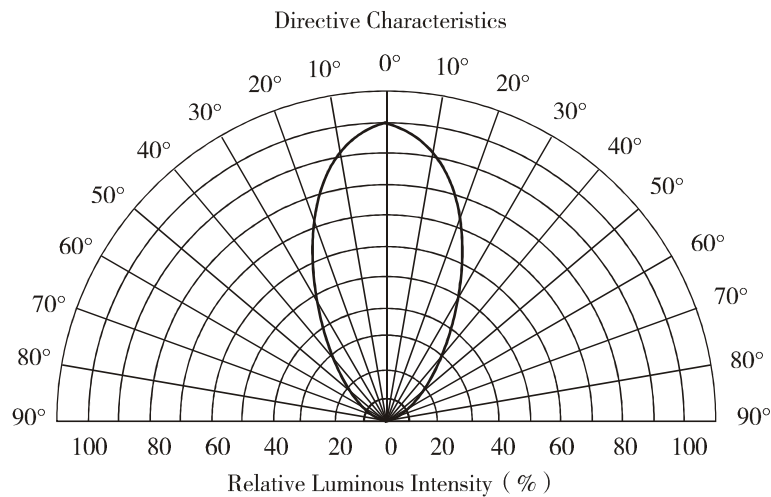
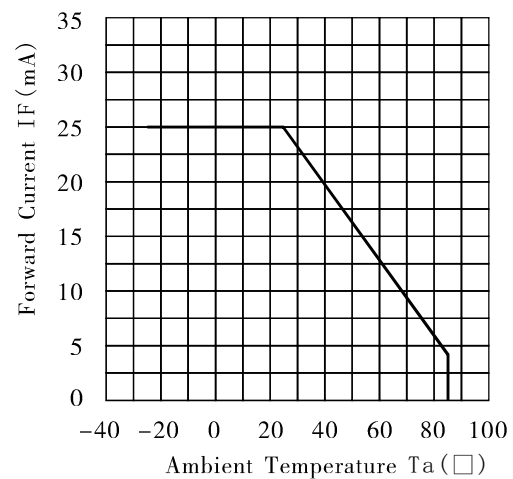
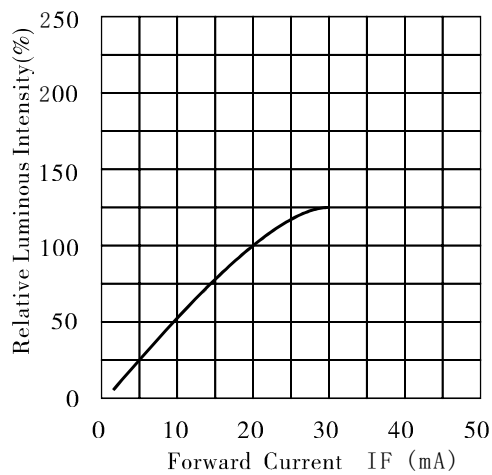
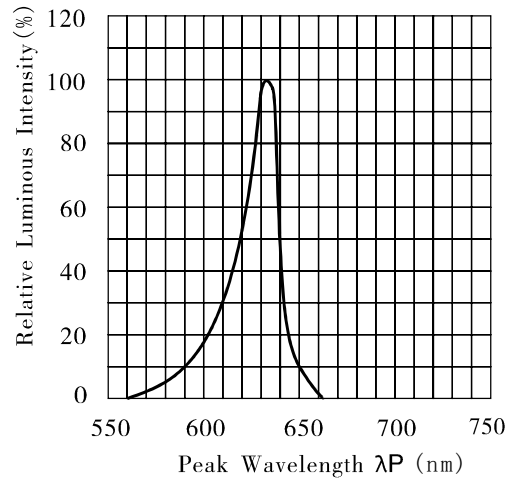
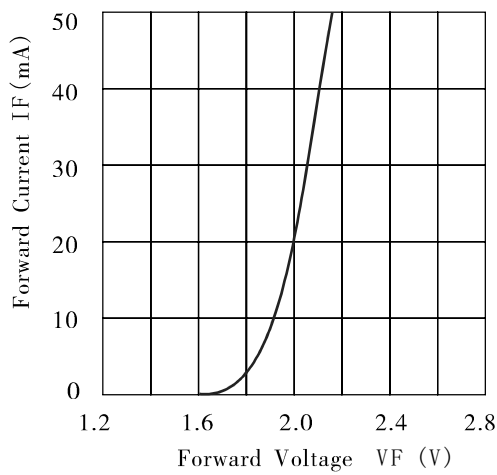
Electrical Optical Characteristics (Ta=25℃)

Parameter	Symbol	Ultra Orange			Unit	Test Condition
		Min	Typ	Max		
Forward Voltage	V_F	1.6	---	1.9	V	IF=5mA
Luminous Intensity	I_V	1500	---	2500	mcd	IF=5mA
Peak Wavelength	λ_P	---	632	---	nm	IF=5mA
Dominant Wavelength	λ_d	620	---	625	nm	IF=5mA
Spectral Line half-width	$\Delta \lambda$	---	30	---	nm	IF=5mA
Reverse Leakage Current	I_R	---	---	50	μA	VR=5V
Viewing Angle	$2\theta_{1/2}$	---	60	---	Deg	IF=5mA
Angle measurement error value $\pm 8^\circ$						

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}	---	-40 ~ +85	℃
Storage Temperature Range	T_{stg}	---	-40 ~ +85	℃
Soldering Condition	T_{sd}	---	260℃/5sec	℃

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



Lighting Intensity BIN Table

Luminous Intensity		Unit:mcđ @5mA
BIN Code	Min	Max
1	1500	2500

Forward Voltage BIN Table

Forward Voltage		Unit:V @5mA
BIN Code	Min	Max
A	1.8	1.9
B	1.7	1.8
C	1.6	1.7

Lighting Intensity BIN Table

Luminous Intensity		Unit:mcd @5mA
BIN Code	Min	Max
1	1500	2500

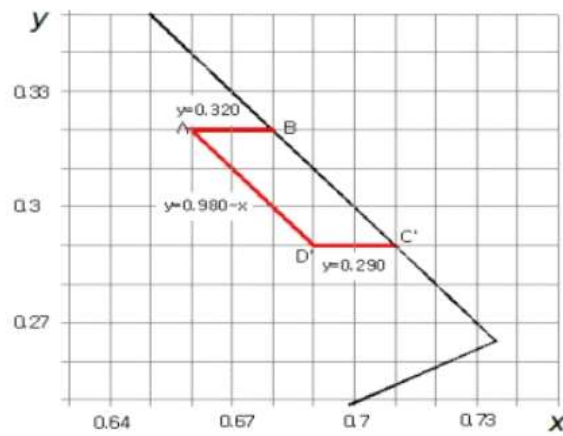
Dominant Wavelength BIN Table

Dominant Wavelength		Unit:nm @5mA
BIN Code	Min	Max
A	620	625

Forward Voltage BIN Table

Forward Voltage		Unit:V @5mA
BIN Code	Min	Max
A	1.9	2.0
B	1.8	1.9
C	1.7	1.8
D	1.6	1.7

Chromaticity coordinates @20mA



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	