

L830-03AU

Infrared LED Lamp

L830-03AU is an AlGaAs LED mounted on a lead frame with a clear epoxy lens. On forward bias it emits a spectral band of radiation, which peaks at 830nm.

Features

- High Power Infrared LED
- Peak wavelength typ. 830 nm
- Very High radiant Intensity
- Emission angle $\pm 10^\circ$

Applications

- Machine Vision
- Industrial Sensors



Safety Advices

Depending on the application, these devices which emit infrared light may exceed over Accessible Emission Limit and cause the damage to the human eye. Keep the safety precautions given in IEC 60825-1 and IEC 625471 before using.

Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	PD	170	mW	Ta=25°C
Forward Current	IF	100	mA	Ta=25°C
Pulse Forward Current	IFP	500	mA	Ta=25°C
Reverse Voltage	VR	5	V	Ta=25°C
Operating Temperature	TOPR	-30~ +85	°C	
Storage Temperature	TSTG	-40 ~ +100	°C	
Soldering Temperature	TSOL	265	°C	

‡Pulse Forward Current condition: Duty=1% and Pulse Width=10us.

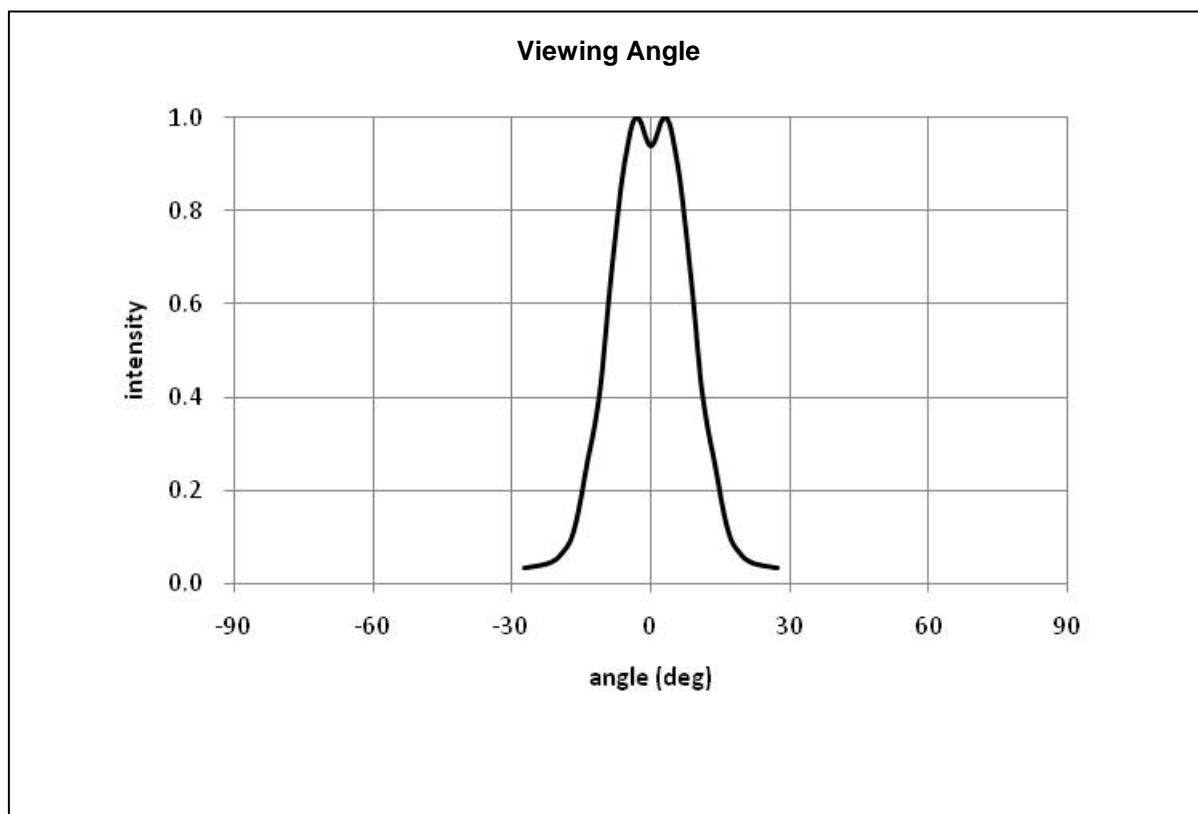
‡Soldering condition: Soldering condition must be completed within 3 seconds at 265°C

Electro-Optical Characteristics (Ta=25°C)

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=50mA		1.6	1.8	V
Reverse Current	IR	VR=5V			10	uA
Total Radiated Power	PO	IF=50mA	16	18		mW
Radiant Intensity	IE	IF=50mA		110		mW/sr
Peak Wavelength	λP	IF=50mA		830		nm
Half Width	$\Delta\lambda$	IF=50mA		35		nm
Viewing Half Angle	$\theta_{1/2}$	IF=50mA		± 10		deg.
Rise Time	tr	IF=50mA		50		ns
Fall Time	tr	IF=50mA		25		ns

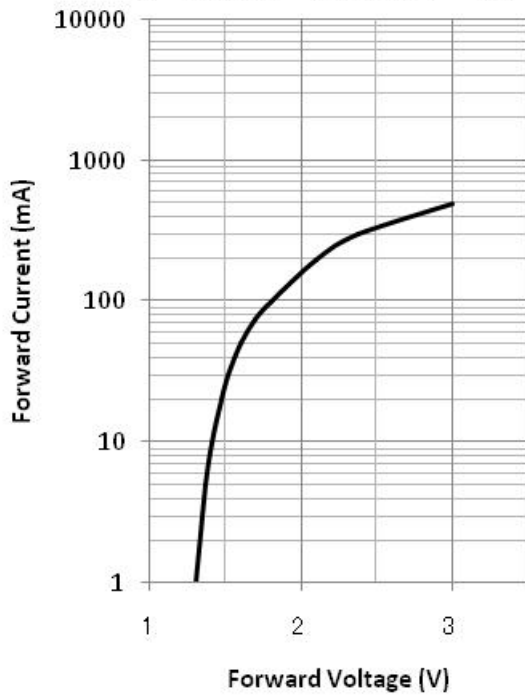
‡Total Radiated Power is measured by Photodyne #500.

‡Radiant Intensity is measured by Tektronix J-6512.



Forward current-Forward Voltage

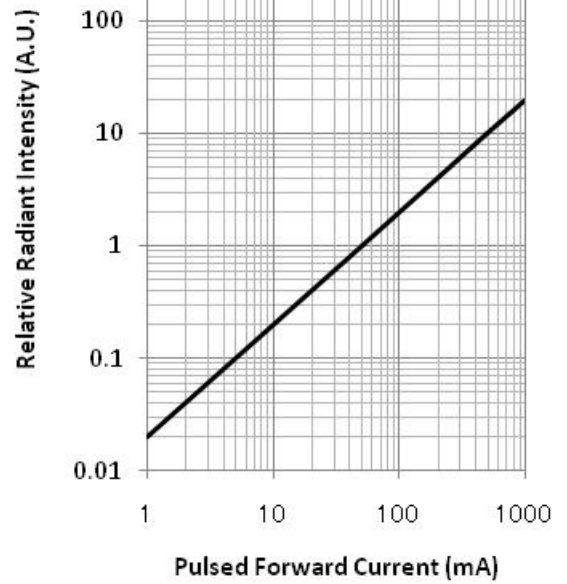
$T_a = 25^\circ\text{C}$, $t_w = 10\mu\text{s}$, Duty = 1%



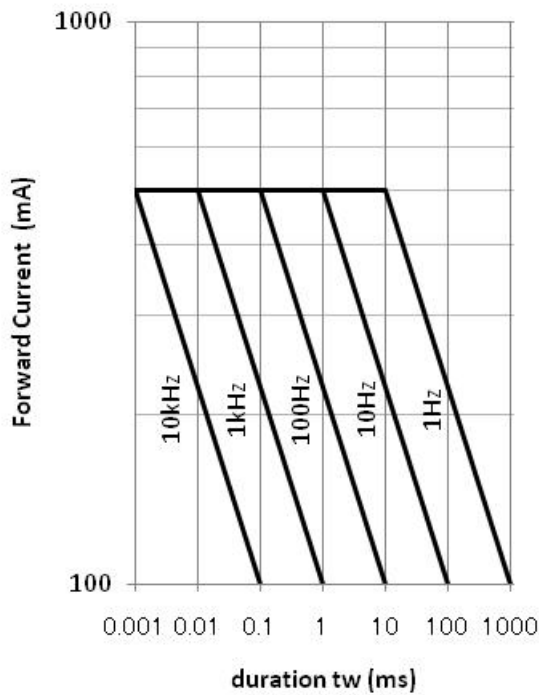
Relative Radiant Intensity - Pulsed Forward Current

$(T_a = 25^\circ\text{C}, t_w = 10\mu\text{s}, \text{Duty} = 1\%)$

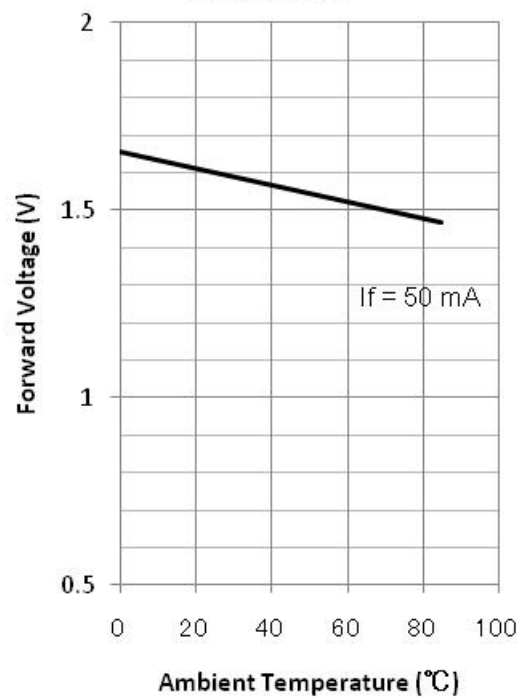
50mA standard

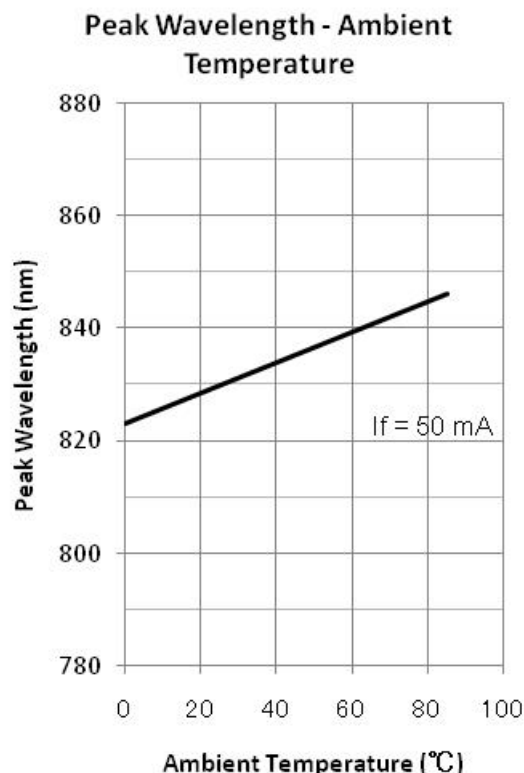
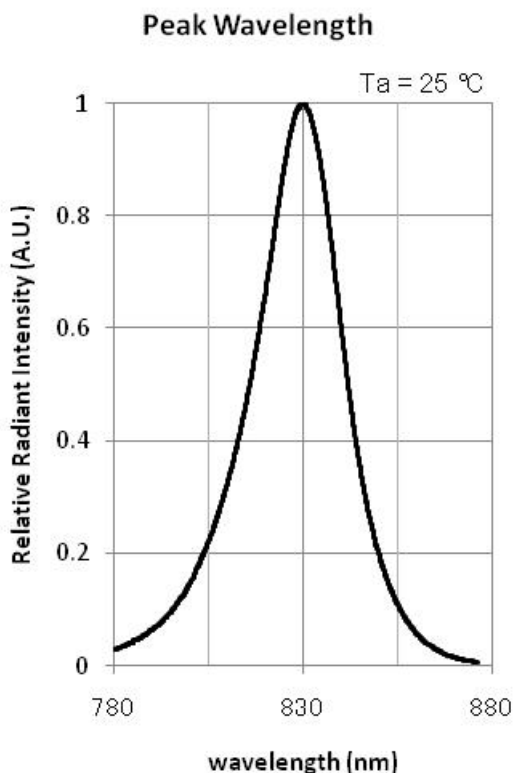
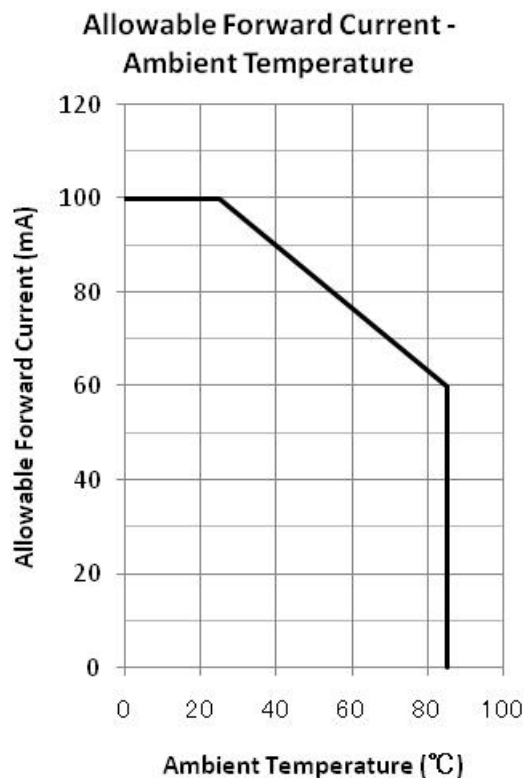
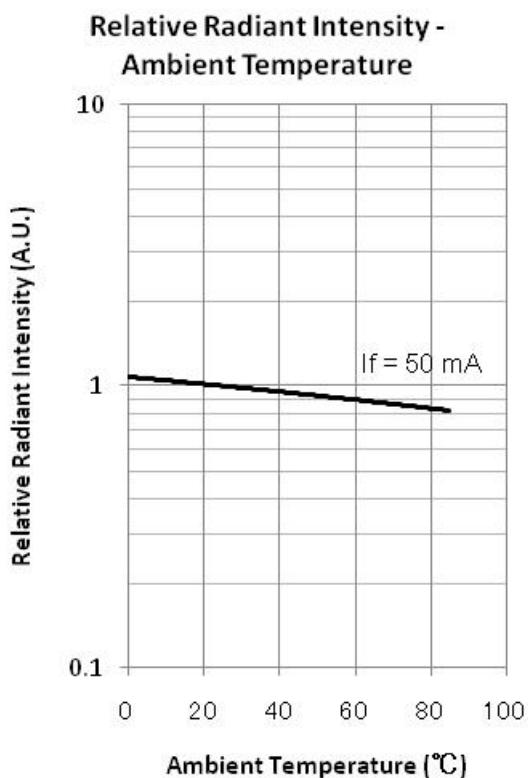


Forward Current - Pulse Duration

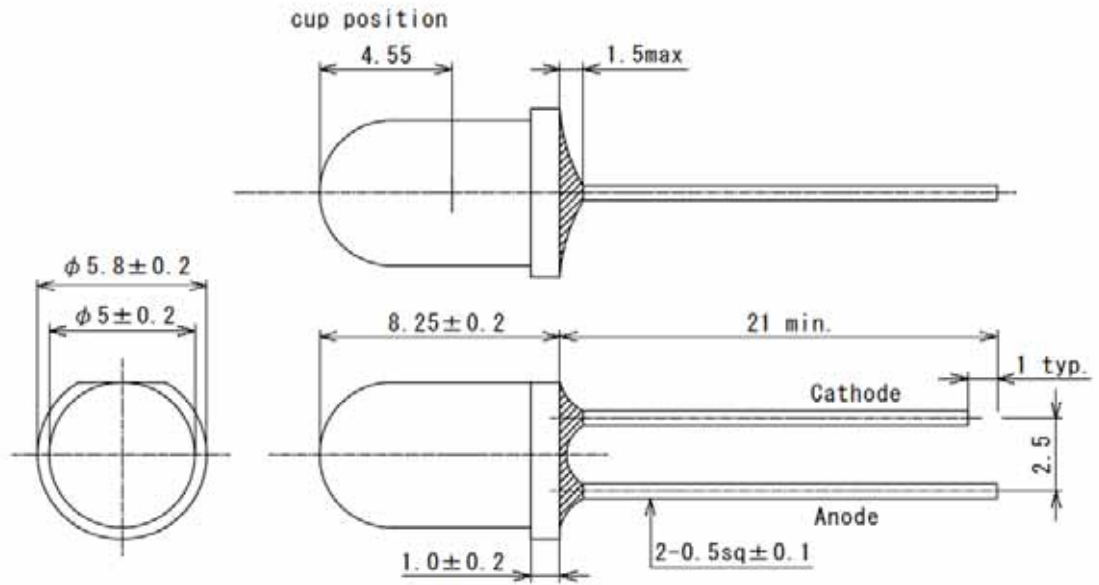


Forward Voltage - Ambient Temperature





Outer Dimension (Unit: mm)



Recommended Land Layout (unit: mm)

