**Lead ( Pb ) Free Product – RoHS Compliant**

# L810-02AU

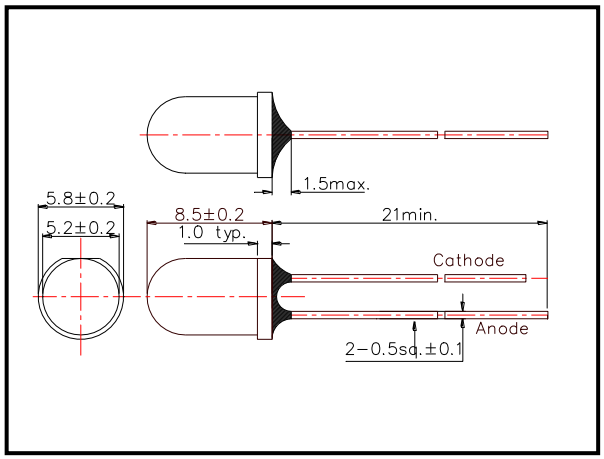
## Infrared LED Lamp

L810-02AU 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 810nm.

Specifications

| | |
|---|---|
| 1) Product Name | Infrared LED Lamp |
| 2) Type No. | L810-02AU |
| 3) Chip | |
| (1) Chip Material | AlGaAs |
| (2) Peak Wavelength | 810nm typ. |
| 4) Package | |
| (1) Type | Φ 5mm clear molding |
| (2) Resin Material | Epoxy Resin |
| (3) Lead Frame | Soldered (Lead Frame) |

Outer dimension (Unit: mm)




Absolute Maximum Ratings [Ta=25°C]

| Item | Symbol | Maximum Rated Value | Unit |
|---|---|---|---|
| Power Dissipation | $P_D$ | 200 | mW |
| Forward Current | $I_F$ | 100 | mA |
| Pulse Forward Current | $I_{FP}$ | 500 | mA |
| Reverse Voltage | $V_R$ | 5 | V |
| Thermal Resistance | $R_{thja}$ | 250 | K/W |
| Junction Temperature | $T_j$ | 120 | °C |
| Operating Temperature | $T_{OPR}$ | -40 ~ +100 | °C |
| Storage Temperature | $T_{STG}$ | -40 ~ +100 | °C |
| Soldering Temperature | $T_{SOL}$ | 250 | °C |

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

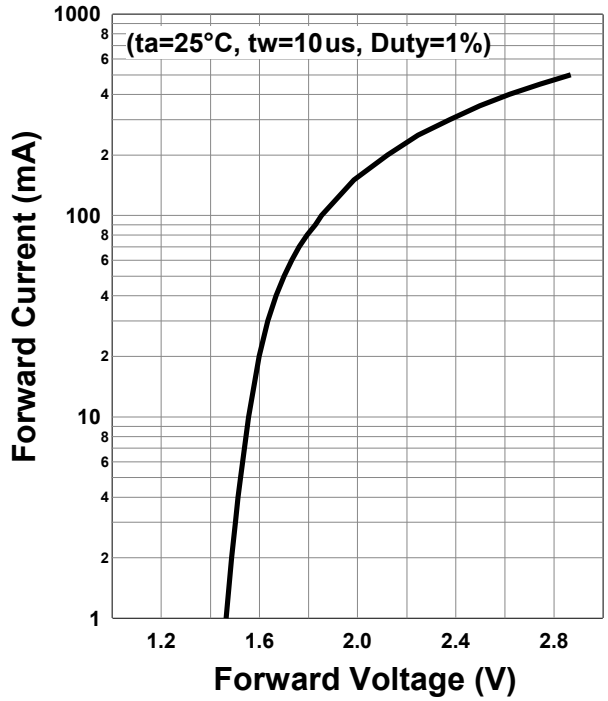
‡Soldering condition: Soldering condition must be completed within 5 seconds at 250°C

Electro-Optical Characteristics [Ta=25°C typ.]

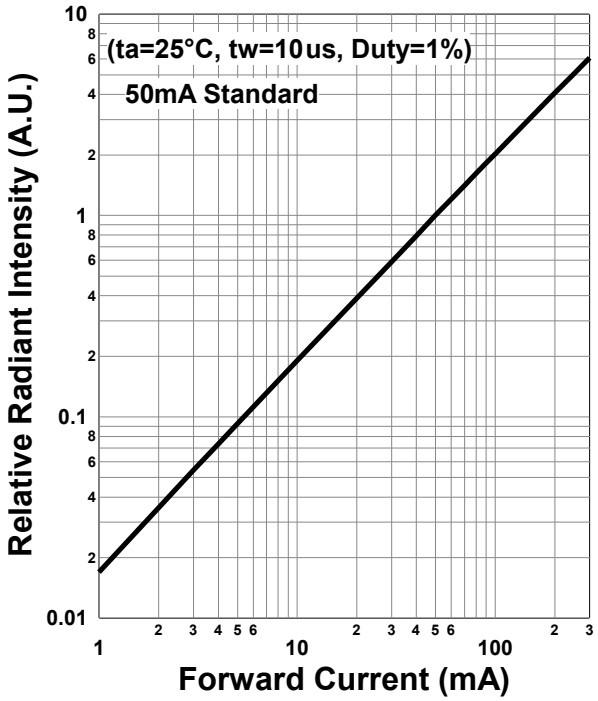
| Item | Symbol | Condition | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|---|---|
| Forward Voltage | $V_F$ | $I_F$=50mA | | 1.7 | 2.0 | V |
| | $V_{FP}$ | $I_{FP}$=500mA | | 2.9 | | |
| Radiated Power | $P_O$ | $I_F$=50mA | | 27 | | mW |
| | | $I_{FP}$=500mA | | 260 | | |
| Radiant Intensity | $I_E$ | $I_F$=50mA | | 160 | | mW/sr |
| | | $I_{FP}$=500mA | | 1550 | | |
| Peak Wavelength | $\lambda_P$ | $I_F$=50mA | 800 | 810 | 820 | nm |
| Half Width | $\Delta\lambda$ | $I_F$=50mA | | 29 | | nm |
| Viewing Half Angle | $\theta 1/2$ | $I_F$=50mA | | ±7 | | deg. |
| Rise Time | tr | $I_F$=50mA | | 35 | | ns |
| Fall Time | tf | $I_F$=50mA | | 30 | | ns |

‡Radiated Power is measured by S.3584-08
‡Radiant Intensity is measured by CIE127-2007 Condition B.

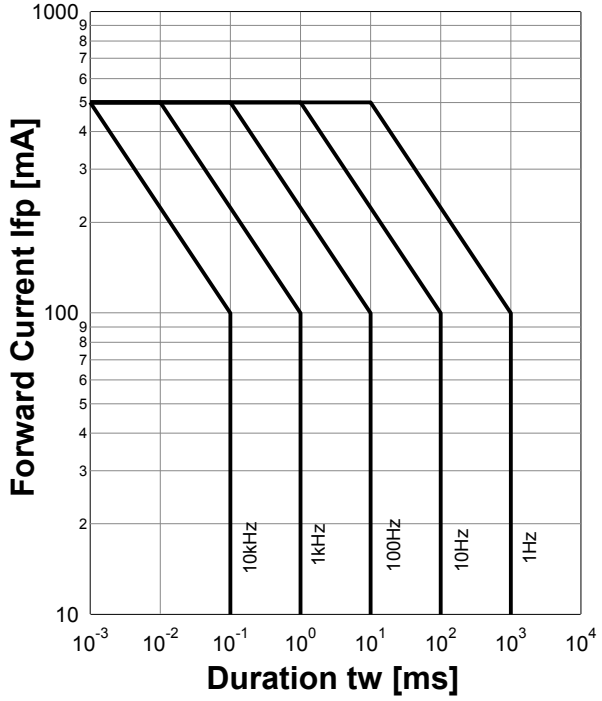
## Forward Curent - Forward Voltage



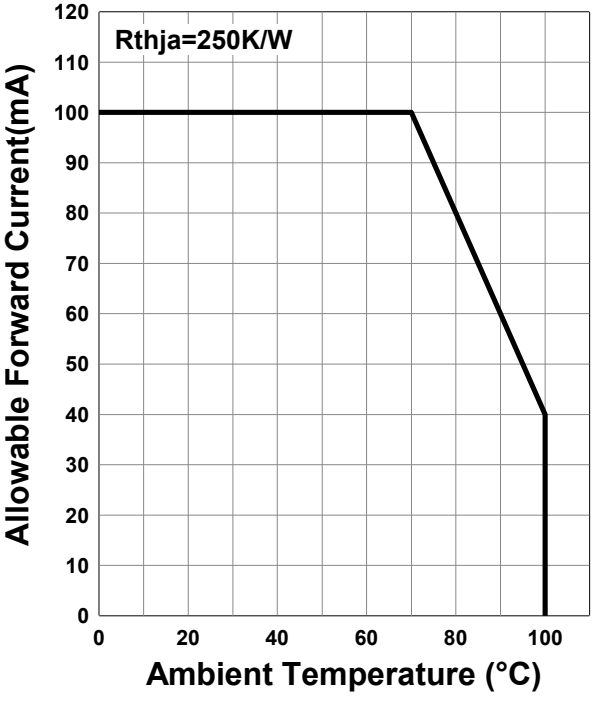

## Relative Radiant Intensity - Forward Current



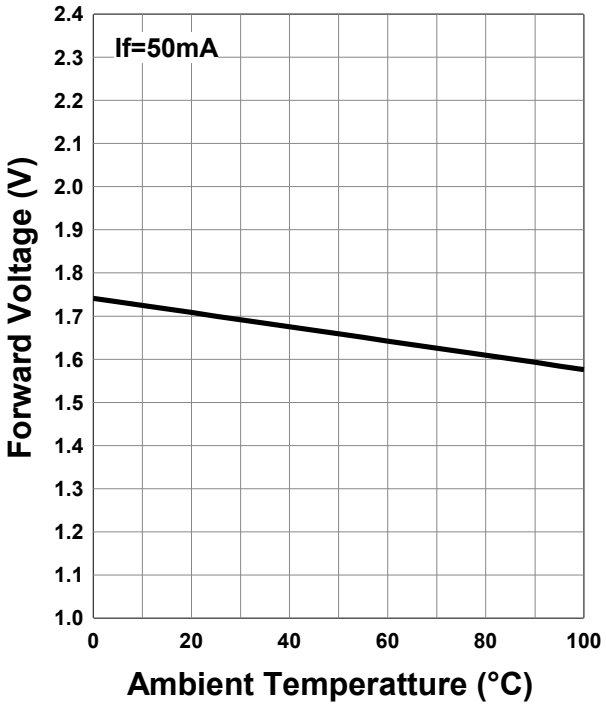

## Forward Current - Pulse Duration



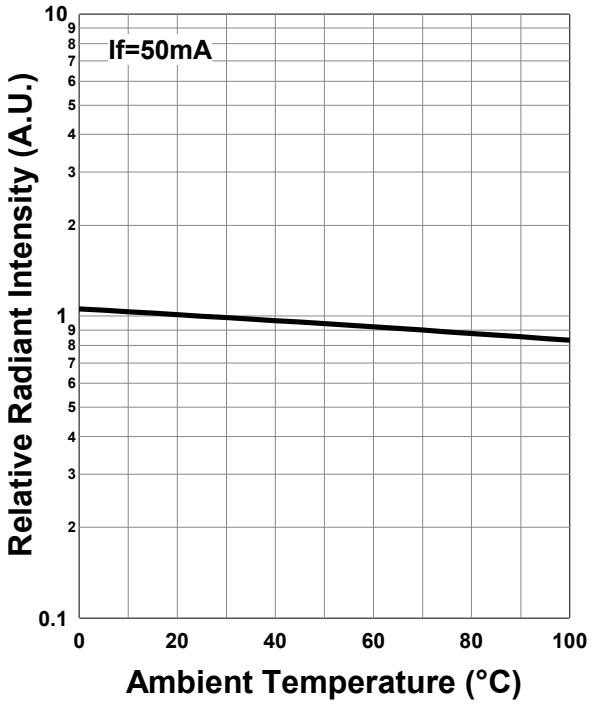

## Allowable Forward Current - Ambient Temperature



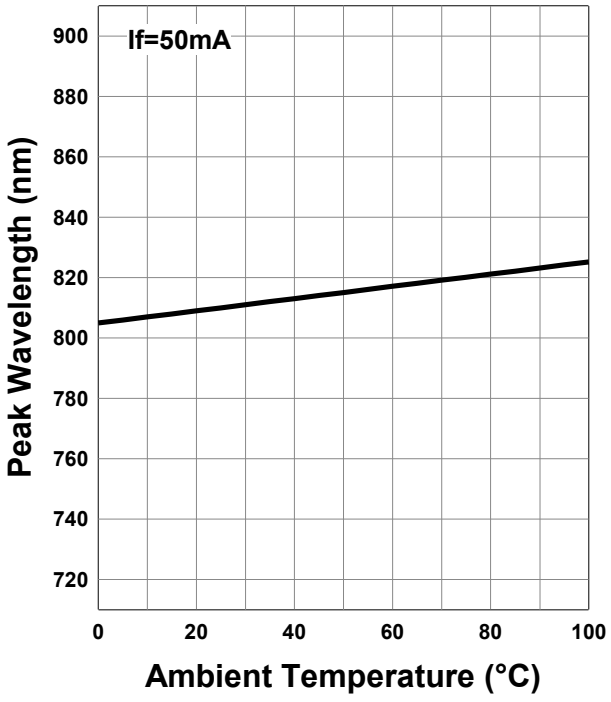
**Forward Voltage - Ambient Temperture**



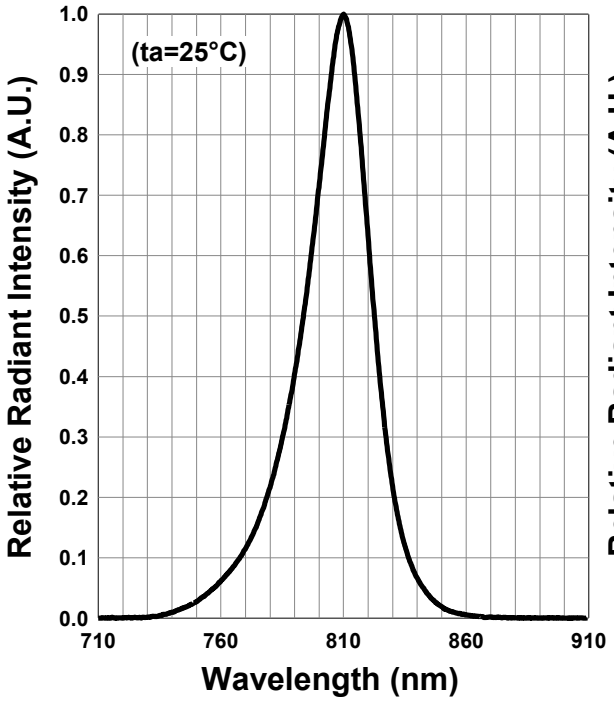

**Relative Radiant Intensity - Ambient Temperature**



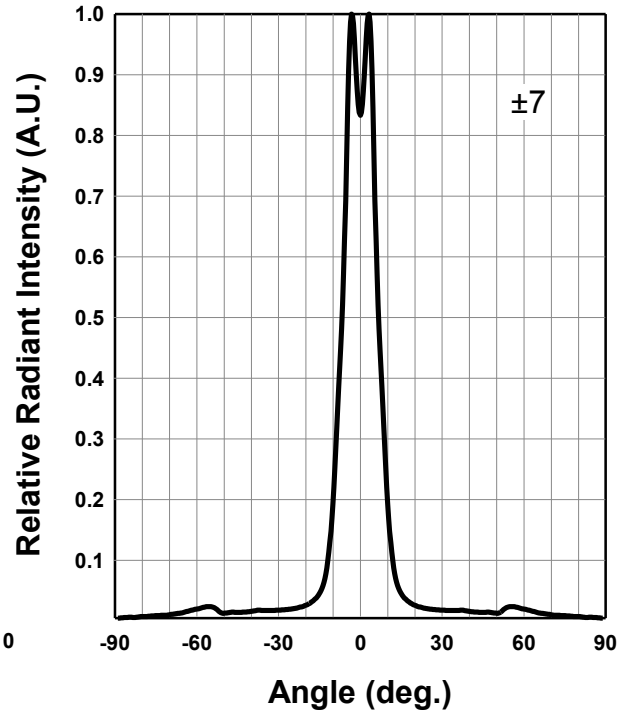

**Peak Wavelength - Ambient Temperature**



**Relative Spectral Emission**




**Radiation Characteristics**

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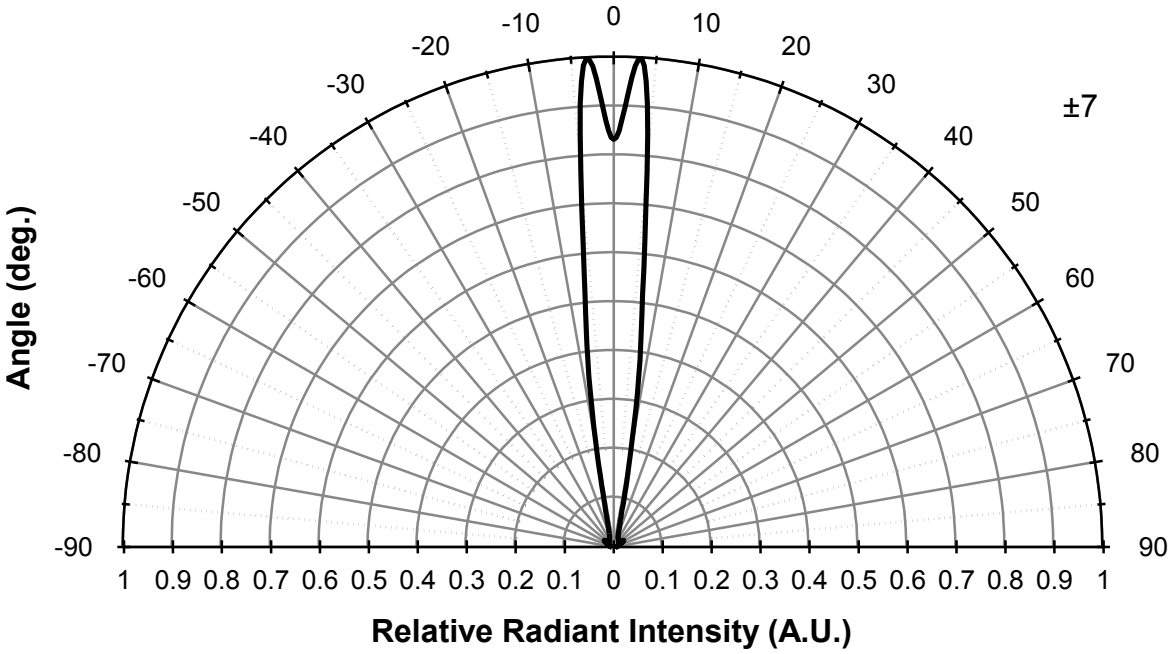

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Product data and parameters in this catalog are typical values based on reasonably up-to-date measurements. Product data and parameters may vary by user application and over time.

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