

## ASDL-4262

High Power T-1¾ (5mm) AlGaAs/GaAs Infrared (940nm) Lamp



## Data Sheet

### Description

ASDL-4262 is a high power Infrared emitter that utilizes AlGaAs on GaAs LED technology. It is optimized for high efficiency at emission wavelength of 940nm and is designed for application that requires high radiant intensity, low forward voltage at wide viewing angle. The emitter is encapsulated in T-1¾ (5mm) package and is suitable for high performance replacements of standard emitters.

### Features

- T-1¾ Package
- 940nm wavelength
- Wide Viewing Angle
- High Power
- Pulse Operating
- Low Forward Voltage
- Ideal for high current and low forward voltage application
- Lead Free & ROHS Compliant
- Available in Tape & Reel

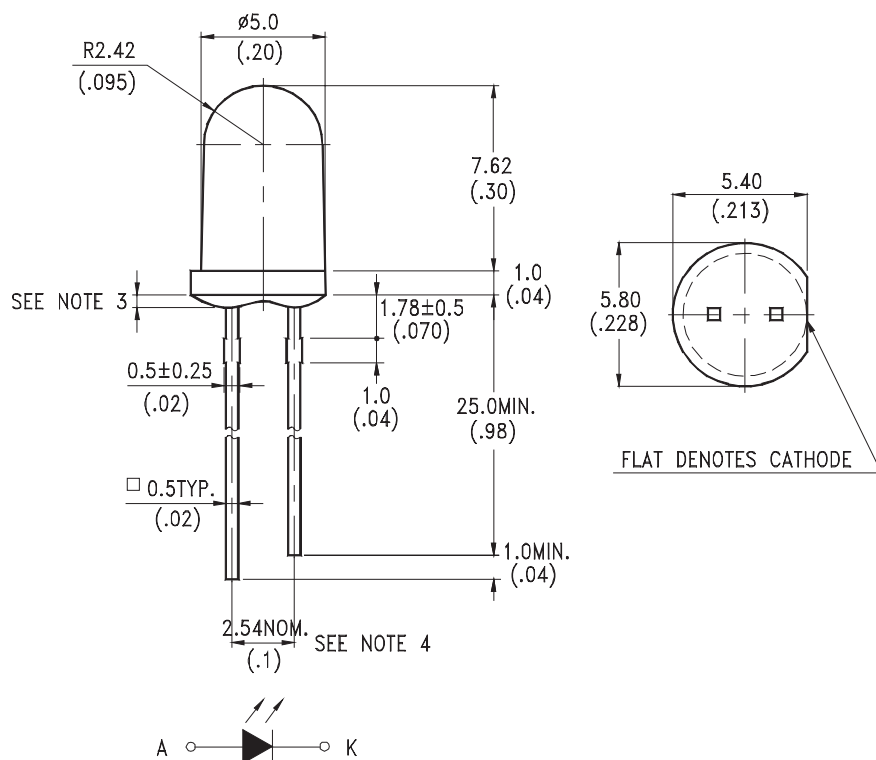
### Applications

- IR Remote Control for Consumer Devices
- IR Remote Control for Industrial Equipment
- Photo-interrupters
- Infrared Illuminator Security Camera
- Reflective Applications

## Ordering Information

| Part Number   | Lead Form | Color | Packaging   | Shipping Option  |
|---------------|-----------|-------|-------------|------------------|
| ASDL-4262-C22 | Straight  | Clear | Tape & Reel | 4000pcs          |
| ASDL-4262-C31 |           |       | Bulk        | 8000pcs / Carton |

## Package Dimensions



### Notes:

1. All dimensions are in millimeters (inches)
2. Tolerance is + 0.25mm (.010") unless otherwise noted
3. Protuded resin under flange is 1.5mm (.059") max
4. Lead spacing is measured where leads emerge from package
5. Specifications are subject to change without notice

### Absolute Maximum Ratings at 25°C

| Parameter                                                | Symbol            | Min. | Max              | Unit | Reference |
|----------------------------------------------------------|-------------------|------|------------------|------|-----------|
| Peak Forward Current                                     | $I_{\text{FPK}}$  |      | 2                | A    | 300pps    |
| DC Forward Current                                       | $I_{\text{FDC}}$  |      | 100              | mA   |           |
| Power Dissipation                                        | $P_{\text{DISS}}$ |      | 150              | mW   |           |
| Reverse Voltage                                          | $V_{\text{R}}$    |      | 5                | V    |           |
| Operating Temperature                                    | $T_{\text{O}}$    | -40  | 85               | °C   |           |
| Storage Temperature                                      | $T_{\text{S}}$    | -55  | 100              | °C   |           |
| LED Junction Temperature                                 | $T_{\text{J}}$    |      | 110              | °C   |           |
| Lead Soldering Temperature<br>[4.0mm (0.157") From Body] |                   |      | 320 °C for 3 sec |      |           |

### Electrical Characteristics at 25°C

| Parameter                                  | Symbol                | Min. | Typ. | Max. | Unit | Condition                     |
|--------------------------------------------|-----------------------|------|------|------|------|-------------------------------|
| Forward Voltage                            | $V_{\text{F}}$        |      | 1.25 | 1.6  | V    | $I_{\text{FDC}}=50\text{mA}$  |
| Reverse Voltage                            | $V_{\text{R}}$        | 5    |      |      | V    | $I_{\text{R}}=100\mu\text{A}$ |
| Thermal Resistance,<br>Junction to Ambient | $R\theta_{\text{JA}}$ |      | 350  |      | °C/W |                               |

### Optical Characteristics at 25°C

| Parameter                 | Symbol                      | Min. | Typ. | Max. | Unit  | Condition                                                            |
|---------------------------|-----------------------------|------|------|------|-------|----------------------------------------------------------------------|
| Radiant On-Axis Intensity | $I_{\text{E}}$              | 30   | -    |      | mW/Sr | $I_{\text{FDC}}=100\text{mA}$                                        |
| Viewing Angle             | $2\theta_{1/2}$             |      | 50   |      | deg   |                                                                      |
| Peak wavelength           | $\lambda_{\text{PK}}$       |      | 940  |      | nm    | $I_{\text{FDC}}=20\text{mA}$                                         |
| Spectral Width            | $\Delta\lambda$             |      | 50   |      | nm    | $I_{\text{FDC}}=20\text{mA}$                                         |
| Optical Rise Time         | $t_{\text{r}}/t_{\text{f}}$ |      | 1    |      | us    | $I_{\text{FPK}}=100\text{mA}$<br>Duty Factor=50%<br>Pulse Width=10us |
| Optical Fall Time         | $t_{\text{f}}$              |      | 1    |      | us    | $I_{\text{FPK}}=100\text{mA}$<br>Duty Factor=50%<br>Pulse Width=10us |

## Typical Electrical/Optical Characteristics Curves ( $T_A=25^\circ\text{C}$ unless otherwise indicated)

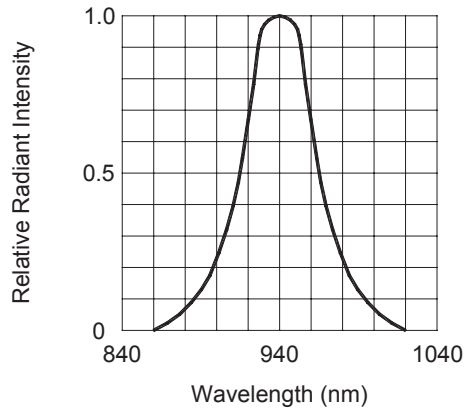


Figure 1. SPECTRAL DISTRIBUTION

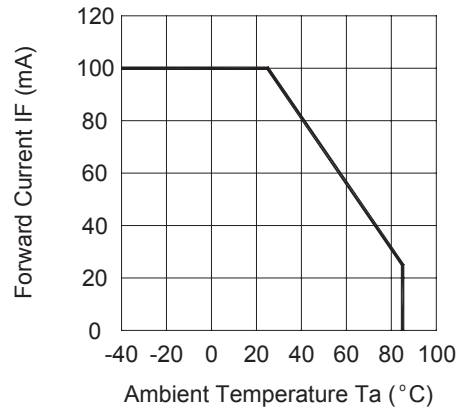


Figure 2. FORWARD CURRENT VS. AMBIENT TEMPERATURE

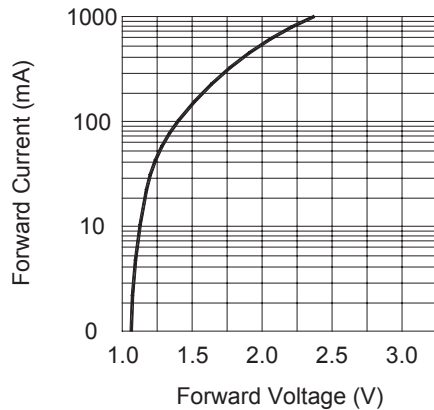


Figure 3. FORWARD CURRENT VS. FORWARD VOLTAGE

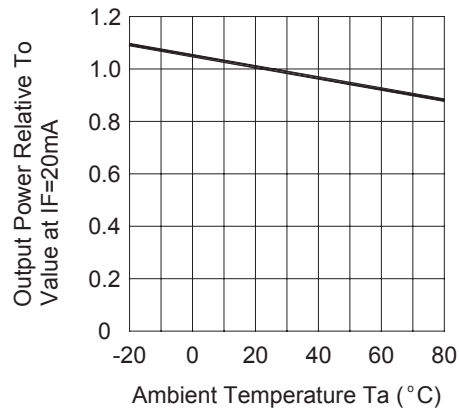


Figure 4. RELATIVE RADIANT INTENSITY VS. AMBIENT TEMPERATURE

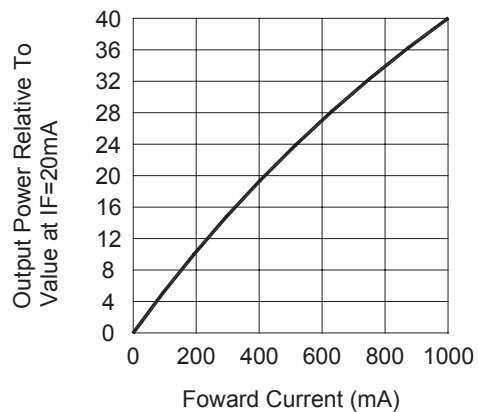


Figure 5. RELATIVE RADIANT INTENSITY VS. FORWARD CURRENT

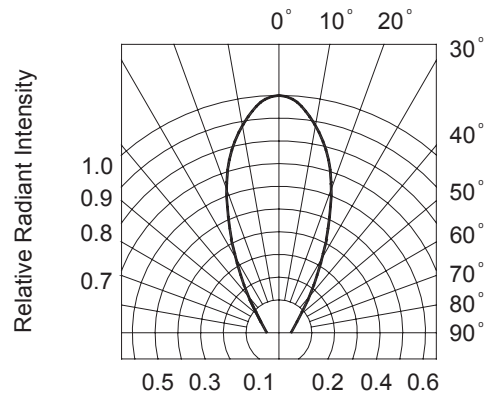


Figure 6. RADIATION DIAGRAM

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