

# ASDL-4671

High Performance T-1 (3mm) AlGaAs/GaAs Infrared (940nm) Lamp



## Data Sheet

### Description

ASDL-4671 is a high performance 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 narrow viewing angle. The emitter is encapsulated in T1 (3mm) package and is both mechanically and spectrally matched to ASDL-6620 Infrared phototransistor detector.

### Features

- T-1 Package
- 940 nm Wavelength
- Narrow Viewing Angle
- Low Forward voltage
- High Efficiency at low currents
- Good Mechanical and Spectral matching to ASDL-6620 Infrared Phototransistor Detector
- Lead Free & ROHS Compliant
- Available in Tape & Reel

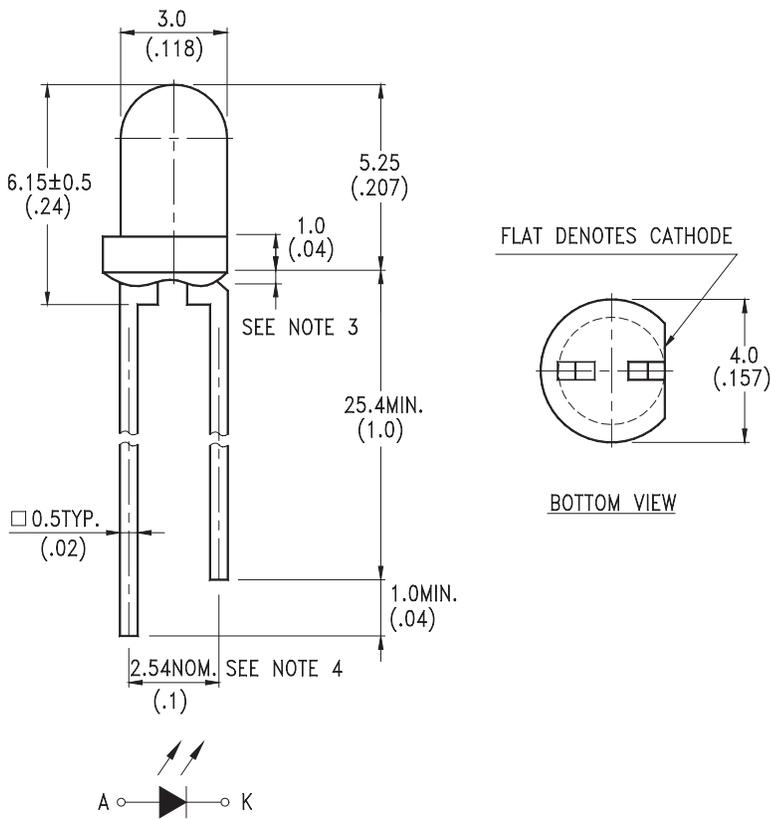
### Applications

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

## Ordering Information

Part Number	Lead Form	Color	Packaging	Shipping Option
ASDL-4671-C22	Straight	Clear	Tape & Reel	4000pcs
ASDL-4671-C31			Bulk	8000pcs / Carton
ASDL-4671-D22		Smoke	Tape & Reel	4000pcs
ASDL-4671-D31			Bulk	8000pcs / Carton

## Package Dimensions



### Notes:

1. All dimensions are in millimeters (inches)
2. Tolerance is + 0.25mm (.010") unless otherwise noted
3. Protruded resin under flange is 1.0mm (.039") 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	$I_{FPK}$		1	A	300 pps
Continuous Forward Current	$I_{FDC}$		60	mA	
Power Dissipation	$P_{DISS}$		90	mW	
Reverse Voltage	$V_R$		5	V	
Operating Temperature	$T_O$	-40	85	°C	
Storage Temperature	$T_S$	-55	100	°C	
LED Junction Temperature	$T_J$		110	°C	
Lead Soldering Temperature [ 1.6mm (0.063") From Body ]			260 °C for 5 sec		

### Electrical Characteristics at 25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage	$V_F$		1.2	1.6	V	$I_{FDC} = 20\text{mA}$
Reverse Voltage	$V_R$	5			V	$I_R = 100\mu\text{A}$
Thermal Resistance, Junction to Ambient	$R\theta_{JA}$		350		°C/W	

### Optical Characteristics at 25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Radiant On-Axis Intensity	$I_E$	3.91			mW/Sr	$I_{FDC} = 20\text{mA}$
Viewing Angle	$2\theta_{1/2}$		20		deg	
Peak wavelength	$\lambda_{PK}$		940		nm	$I_{FDC} = 20\text{mA}$
Spectral Width	$\Delta\lambda$		50		nm	$I_{FDC} = 20\text{mA}$
Optical Rise Time	$t_r$		1		$\mu\text{s}$	$I_{FPK} = 100\text{mA}$ Duty Factor=50% Pulse Width=10us
Optical Fall Time	$t_f$		1		$\mu\text{s}$	$I_{FPK} = 100\text{mA}$ Duty Factor=50% Pulse Width=10us

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

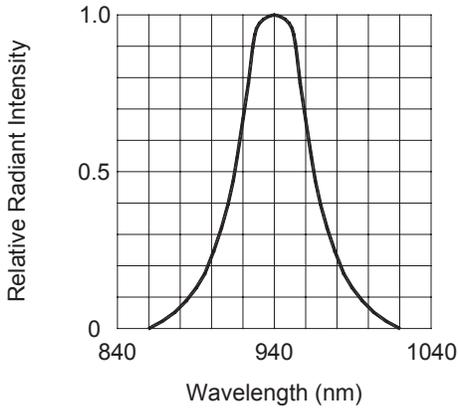


Figure 1. SPECTRAL DISTRIBUTION

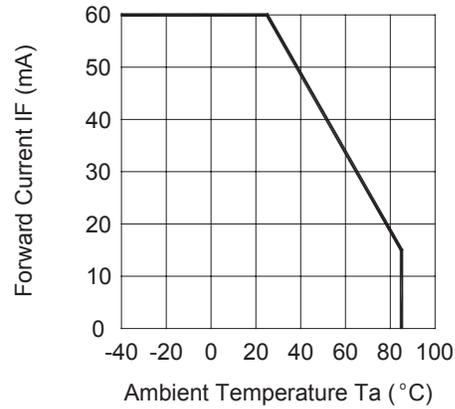


Figure 2. FORWARD CURRENT VS. AMBIENT TEMPERATURE

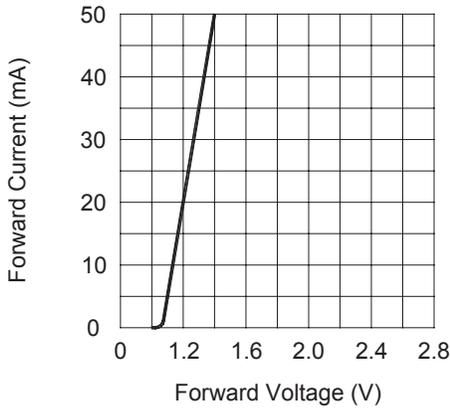


Figure 3. FORWARD CURRENT VS. FORWARD VOLTAGE

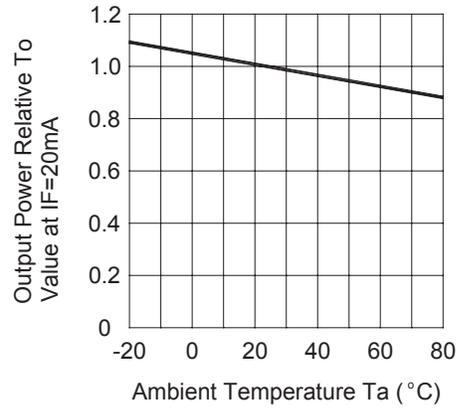


Figure 4. RELATIVE RADIANT INTENSITY VS. AMBIENT TEMPERATURE

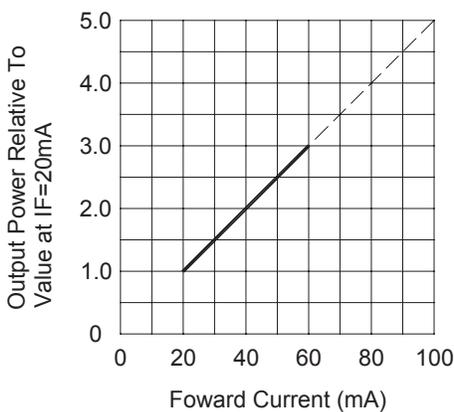


Figure 5. RELATIVE RADIANT INTENSITY VS. FORWARD CURRENT

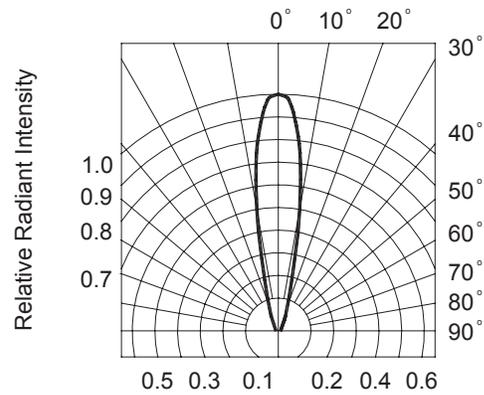


Figure 6. RADIATION DIAGRAM

For product information and a complete list of distributors, please go to our web site: [www.avagotech.com](http://www.avagotech.com)

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