

ASDL-4670

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



Data Sheet

Description

ASDL-4670 is a high performance Infrared emitter that utilizes AlGaAs on GaAs LED technology. It is optimized for 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 clear T-1 (3mm) package.

Features

- T-1 Package
- 940nm wavelength
- Wide Viewing Angle
- Low Forward Voltage
- Lead Free and ROHS Compliant
- Available in Tape & Reel

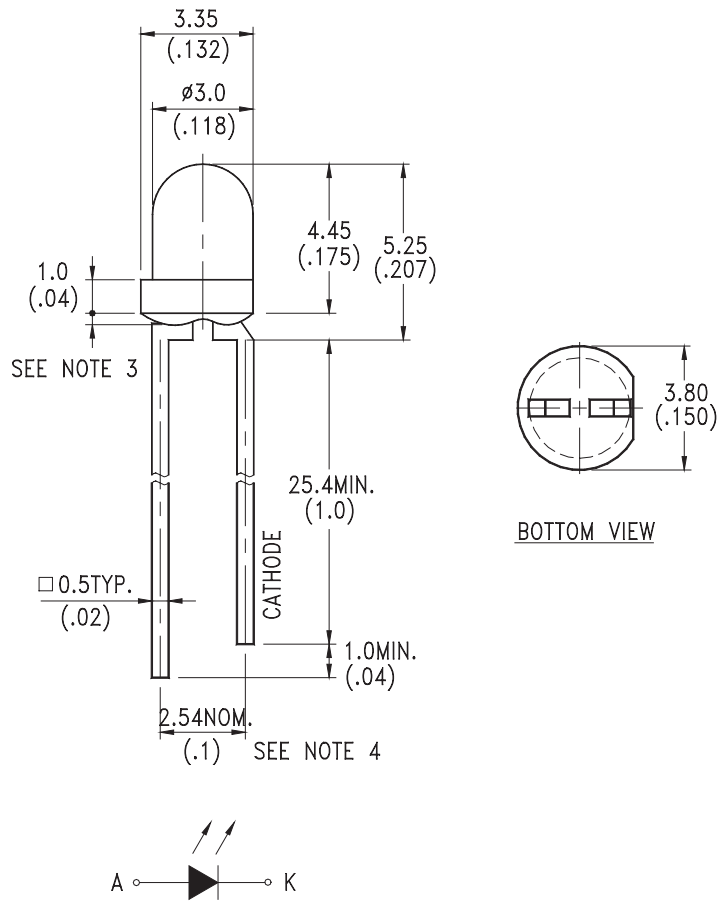
Applications

- IR Remote Control for Consumer Device
- IR Remote Control for Industrial Equipment
- Portable Infrared Instruments
- Wireless Headset
- Infrared Illuminator Security Camera
- Photo-Interrupters
- Reflective Applications

Order Information

Part Number	Lead Form	Color	Packaging	Shipping Option
ASDL-4670-C22	Straight	Clear	Tape & Reel	4000pcs
ASDL-4670-C31			Bulk	8000pcs / Carton

Package Dimensions



Absolute Maximum Ratings at 25°C

Parameter	Symbol	Min.	Max	Unit	Reference
Peak Forward Current	I_{FPK}		1	A	300pps
Continuous Forward Current	I_{FDC}		60	mA	
Power Dissipation	P_{DISS}		100	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			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	$I_{\text{FDC}}=50\text{mA}$
Reverse Voltage	V_{R}	5			V	$I_{\text{R}}=100\mu\text{A}$
Thermal Resistance, 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_{E}	2.71	-	7.67	mW/Sr	$I_{\text{FDC}}=20\text{mA}$
Viewing Angle	$2\theta_{1/2}$		60		deg	
Peak wavelength	λ_{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_{r}		1		us	$I_{\text{FPK}}=100\text{mA}$ Duty Factor=50% Pulse Width=10us
Optical Fall Time	t_{f}		1		us	$I_{\text{FPK}}=100\text{mA}$ Duty Factor=50% Pulse Width=10us

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

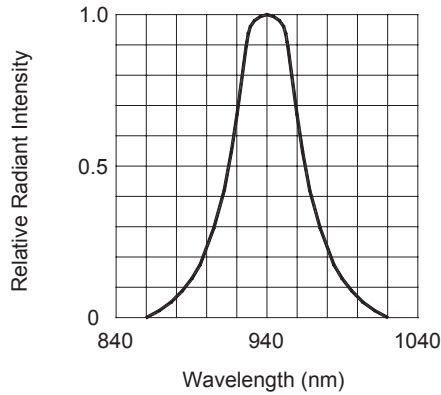


Figure 1. SPECTRAL DISTRIBUTION

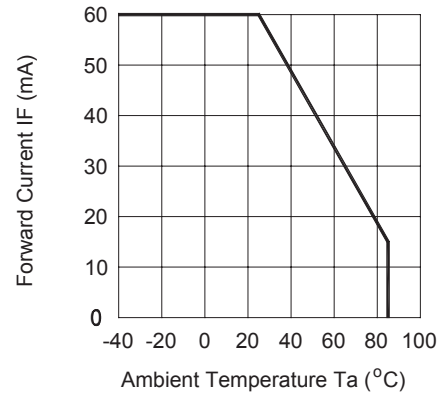


Figure 2. FORWARD CURRENT VS. AMBIENT TEMPERATURE

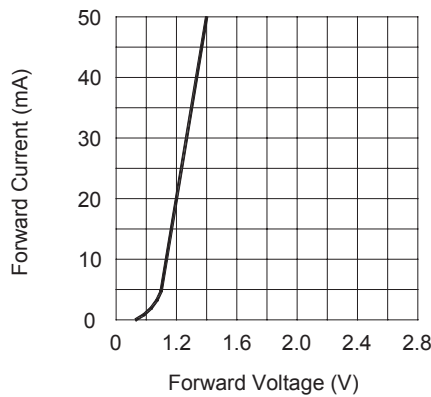


Figure 3. FORWARD CURRENT VS. FORWARD VOLTAGE

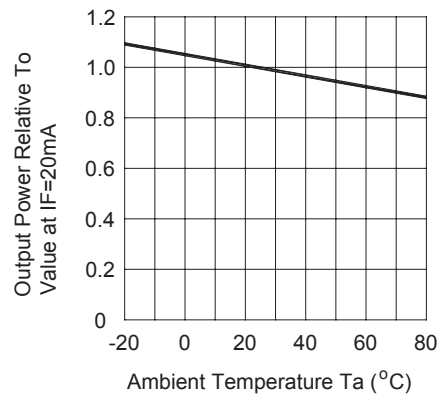


Figure 4. RELATIVE RADIANT INTENSITY VS. AMBIENT TEMPERATURE

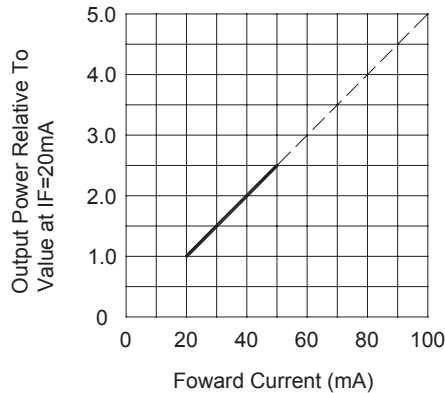


Figure 5. RELATIVE RADIANT INTENSITY VS. FORWARD CURRENT

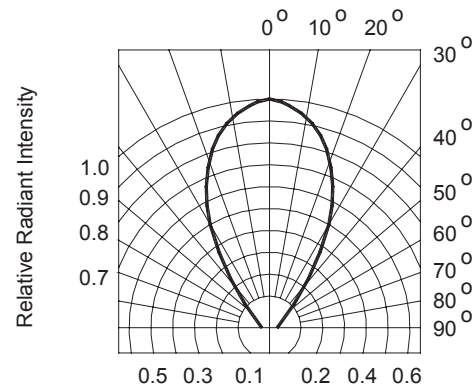


Figure 6. RADIATION DIAGRAM

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