



*SPECIFICATION FOR LED LAMP*

*PART NO. : LT1821-81-HE*

*T-1 3/4 (5mm) ROUND TYPE*

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**PART NO. : LT1821-81-HE**

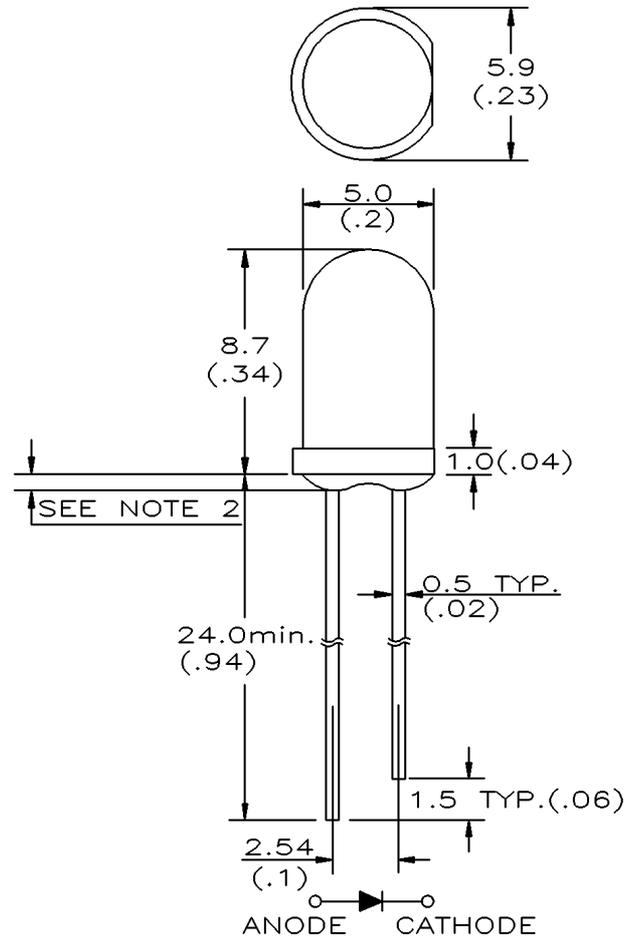
**Features**

- \* High intensity
- \* Reliable and rugged
- \* Popular T-1 3/4 diameter package
- \* Low current requirement
- \* IC compatible

**Description**

The green lamps are made with GaP chips and green diffused epoxy resin.

**Package Dimensions**



Notes :

1. All dimensions are in millimeters (inches).
2. Protruded resin under flange is 1.0mm (.04" ) max.
3. Tolerance is  $\pm 0.25\text{mm}$  (0.01" ) unless otherwise noted.

Part No.	Led Chip		Lens Color
	Material	Emitting Color	
LT1821-81-HE	GaP	Green	Green Diffused



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**Absolute Maximum Ratings at Ta=25°C :**

Parameter	Symbol	Rating	Unit
Power Dissipation	Pd	72	mW
Reverse Voltage	Vr	5	V
D.C. Forward Current	If	30	mA
Peak Current (1/10 Duty Cycle,0.1ms pulse width)	If (Peak)	100	mA
Operating Temperature Range	Topr	-25 to +85	°C
Storage Temperature Range	Tstg	-40 to +100	°C
Lead Soldering Temp. (1.6mm from body) for 5 seconds		260	°C

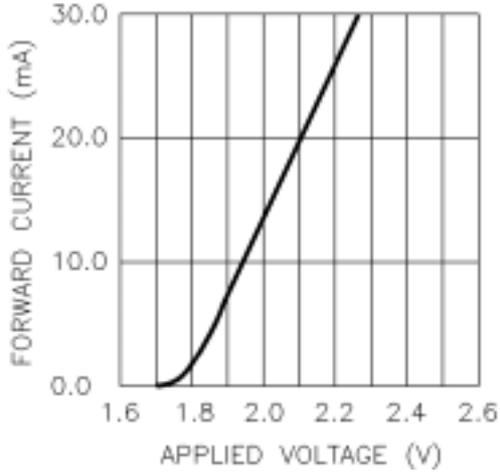
**Electrical and Optical Characteristics :**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	If=20mA	30	50		mcd
Forward Voltage	Vf	If=20mA		2.1	2.4	V
Peak Wavelength	$\lambda p$	If=20mA		567		nm
Dominant Wavelength	$\lambda d$	If=20mA		572		nm
Reverse Current	Ir	Vr=5V			100	$\mu A$
Viewing Angle	$2\theta 1/2$	If=20mA		40		deg
Spectrum Line Halfwidth	$\Delta \lambda$	If=20mA		30		nm

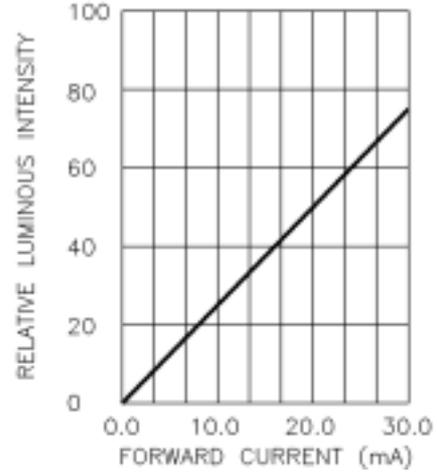


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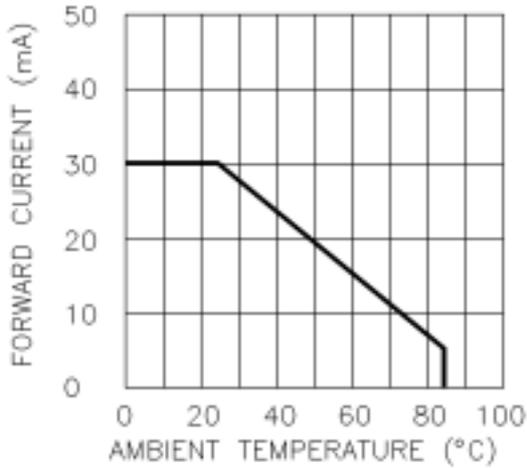
**Typical Electrical / Optical Characteristics Curves :**



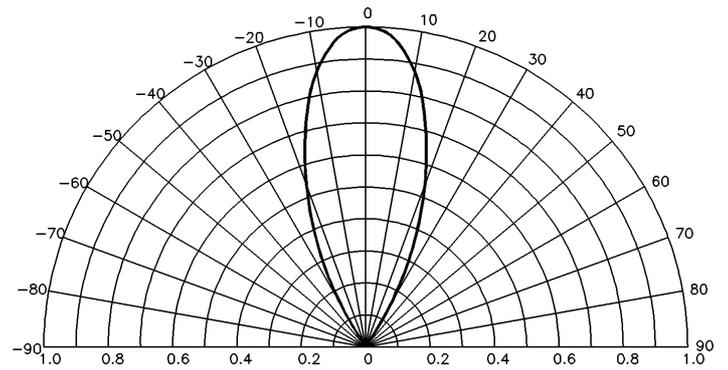
**Forward Current vs. Forward Voltage**



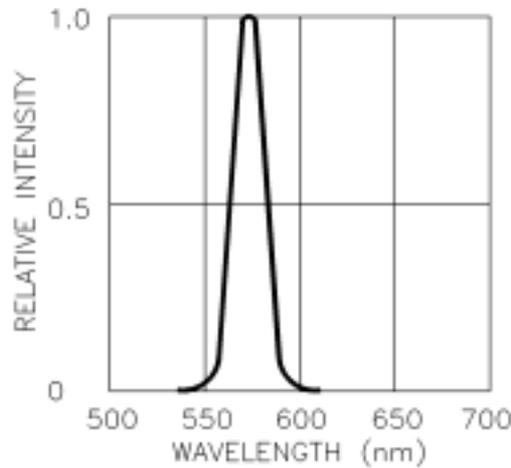
**Forward Current vs. Relative Luminous Intensity**



**Ambient Temperature vs. Forward Current**



**Radiation Diagram**



**Relative Intensity vs. Wavelength**



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**Reliability Test Method :**

Test Item	Test Condition	Duration Time
Operation Life	If=20mA / Ta=25°C	168 hrs
Storage at High Temperature	Ta=100°C	168 hrs
Storage at Low Temperature	Ta=-40°C	168 hrs
Storage at High Temperature/High Humidity	Ta=85°C / RH=85%	168 hrs
Operating at High Temperature	Ta=85°C / If=20mA	168 hrs
Operating at Low Temperature	Ta=-25°C / If=20mA	168 hrs
Thermal Shock	Ta/T=100°C/30min~ - 40°C/30min	10 cycles
Solderability	Tsol=260°C	5 sec

**Criteria for Judging The Damage :**

Item	Symbol	Test Condition	Criteria for Judgment	
			Min.	Max.
Forward Voltage	Vf	If=20mA	---	Initial Data x1.1
Reverse Current	Ir	Vr=5V	---	100 $\mu$ A
Luminous Intensity	Iv	If=20mA	Initial Data x0.8	---