Features

- Through hole lamp
- Oval shape
- High Brightness
- InGaN Technology
- Special packaging available upon request
- High reliability

Description

The INO-4AGUG11040 is high brightness through-hole lamp with oval shaped radiation pattern. It is an Epoxy type LED which can be used in various applications.

Applications

- Consumer Electronics
- Variable Message Signs (VMS)
- Automobile After Market
- Industrial Equipment
- Advertising Signs

Package Dimensions in mm

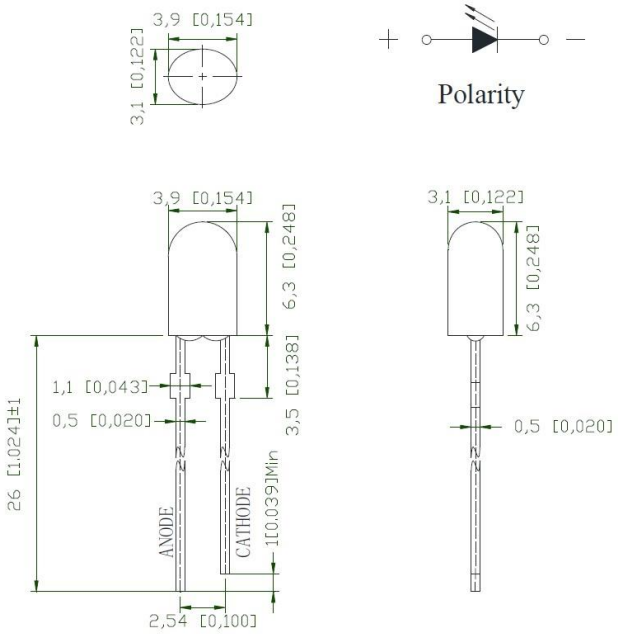


Figure 1. INO-4AGUG11040 Package Dimensions

Notes

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25 mm (.010") unless otherwise noted.
3. Protruded resin under flange is 1.00mm (.039") max.

Absolute Maximum Rating at 25°C (Note)

Product	Emission Color	P_d (mW)	I_F (mA)	I_{FP}* (mA)	V_R (V)	T_{OP} (°C)	T_{ST} (°C)
INO-4AGUG11040	Green	85	25	100	5	-40°C~+80°C	-40°C~+85°C

Notes
1. Derate linearly as shown in derating curve.
2. Duty Factor = 10%, Frequency = 1 kHz.

Electrical Characteristics T_A = 25℃ (Note)

Product	Emission Color	I_F(mA)	V_F(V)		λ(nm)			Viewing Angle	I^*_V(mcd)
			min	max	λ_D	λ_P	△λ	2θ1/2	typ.
INO-4AGUG11040	Green	20	2.6	3.4	525	520	20	X: 110 Y: 40	2900

Notes
1. Performance guaranteed only under conditions listed in above tables.
2. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
3. 2θ1/2 is the o-axis angle where the luminous intensity is 1⁄2 the peak intensity.
4. The dominant wavelength (λd) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

ESD Precaution

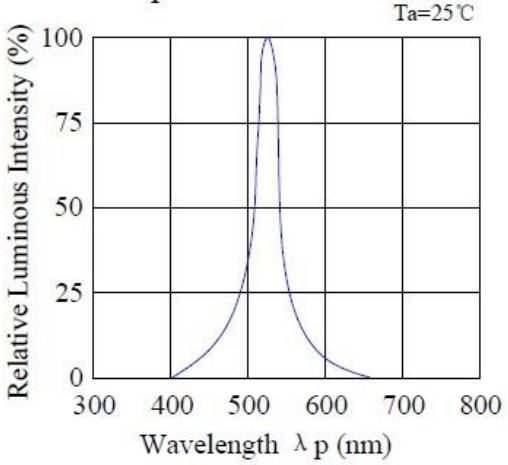
ATTENTION: Electrostatic Discharge (ESD) protection

The symbol above denotes that ESD precaution is needed. ESD protection for GaP and AlGaAs based chips is necessary even though they are relatively safe in the presence of low static-electric discharge. Parts built with AlInGaP, GaN, or/and InGaN based chips are STATIC SENSITIVE devices. ESD precaution must be taken during design and assembly.
If manual work or processing is needed, please ensure the device is adequately protected from ESD during the process.

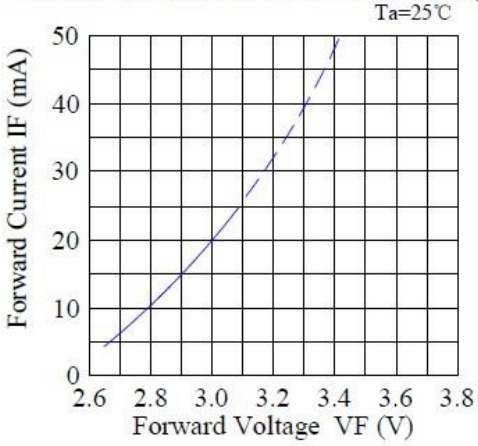
Please be advised that normal static precautions should be taken in the handling and assembly of this device to prevent damage or degradation which may be induced by electrostatic discharge (ESD).

Typical Characteristic Curves

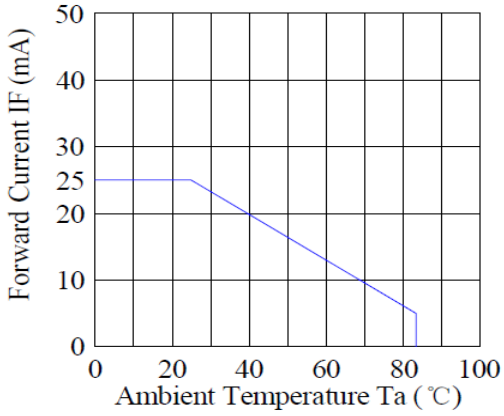
Spectrum Distribution



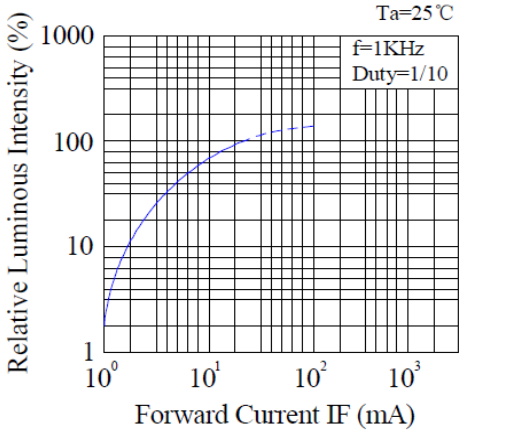
Forward Current & Forward Voltage



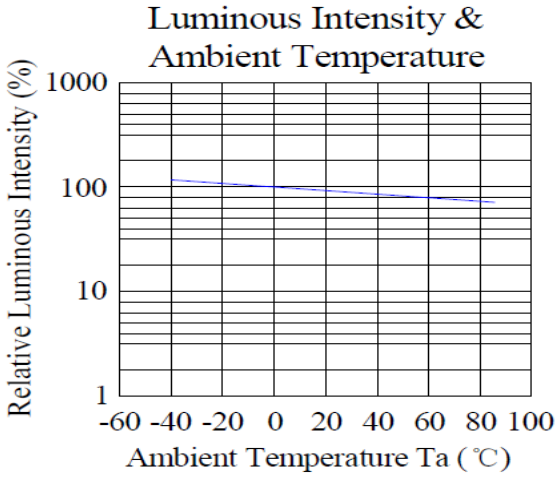
Forward Current Derating Curve



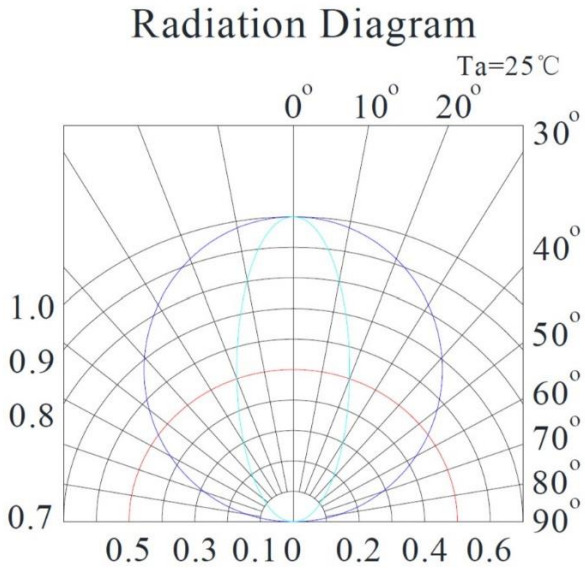
Luminous Intensity & Forward Current



Luminous Intensity & Ambient Temperature



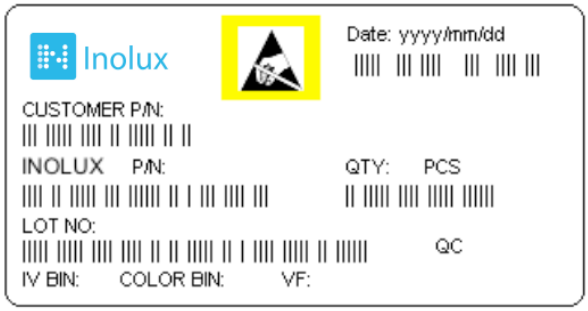
Typical Characteristic Curves – Radiation Pattern



Ordering Information

Product	Emission Color	Technology	Test Current I_F (mA)	Luminous Intensity I_V (mcd) (Typ.)	Forward Voltage V_F (V) (Typ.)	Orderable Part Number
INO-4AGUG11040	Green	InGaN	20	2900	3.0	INO-4AGUG11040

Label Specifications



Inolux P/N:

I	N	O	-	4	A	G	U	G	1	1	0	4	0	-	X	X	X	X
				Material		Lens		Color	View Angle						Customized Stamp-off			
Inolux Oval Lamp				4A = 3.9 x 3.1mm 6.3mm height Oval		GU = Green Diffused		G = Green	11040 = 110 deg. X 40 deg.									

Lot No.:

Z	2	0	1	7	01	24	001
Internal Tracker	Year (2017, 2018, …..)				Month	Date	Serial

Reliability

Item	Frequency/ lots/ samples/ failures	Standards Reference	Conditions
Precondition	For all reliability monitoring tests according to JEDEC Level 2	J-STD-020	1.) Baking at 85°C for 24hrs 2.) Moisture storage at 85°C/ 60% R.H. for 168hrs
Solderability	1Q/ 1/ 22/ 0	JESD22-B102-B And CNS-5068	Accelerated aging 155°C/ 24hrs Tinning speed: 2.5+0.5cm/s Tinning: A: 215°C/ 3+1s or B: 260°C/ 10+1s
Resistance to soldering heat		CNS-5067	Dipping soldering terminal only Soldering bath temperature A: 260+/-5°C; 10+/-1s B: 350+/-10°C; 3+/-0.5s
Operating life test	1Q/ 1/ 40/ 0	CNS-11829	1.) Precondition: 85°C baking for 24hrs 85°C/ 60%R.H. for 168hrs 2.) Tamb25°C; IF=20mA; duration 1000hrs
High humidity, high temperature bias	1Q/ 1/ 45/ 0	JESD-A101-B	Tamb: 85°C Humidity: 85% R.H., IF=5mA Duration: 1000hrs
High temperature bias	1Q/ 1/ 20	IN specs.	Tamb: 55°C IF=20mA Duration: 1000hrs
Pulse life test	1Q/ 1/ 40/ 0		Tamb25°C, If=20mA,, Ip=100mA, Duty cycle=0.125 (tp=125 μs,T=1sec) Duration 500hrs)
Temperature cycle	1Q/ 1/ 76/ 0	JESD-A104-A IEC 68-2-14, Nb	A cycle: -40 degree C 15min; +85 degree C 15min Thermal steady within 5 min.. 300 cycles 2 chamber/ Air-to-air type
High humidity storage test	1Q/ 1/ 40/ 0	CNS-6117	60+3°C 90+5/-10% R.H. for 500hrs
High temperature storage test	1Q/ 1/ 40/ 0	CNS-554	100+10°C for 500hrs
Low temperature storage test	1Q/ 1/ 40/ 0	CNS-6118	-40+5°C for 500hrs

Revision History

Changes since last revision	Page	Version No.	Revision Date
Initial Release		1.0	06-14-2020

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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.