Features

- 2.15×2.40mm with 1.80mm lens
- High Brightness
- Water Clear
- Small double-end package
- EIA Std. package
- Mono-color type
- Special packaging available upon request
- High reliability

Description

The INA-912AHIR25 is high brightness SMD Axial LED. It is a 1.8mm Lens type LED which can be used in various applications.

Applications

- PCB mounted infrared sensor
- Infrared emitting for miniature light barrier
- Floppy disk drive
- Optoelectronic switch
- Smoke detector

Recommended Solder Pattern

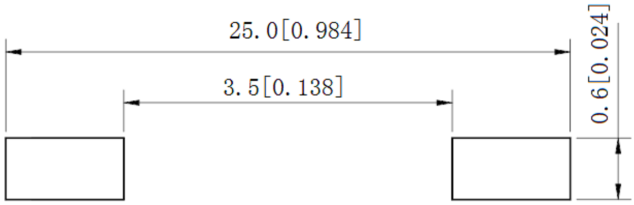


Figure 1. INA-912AHIR25 Solder Pattern

Package Dimensions in mm

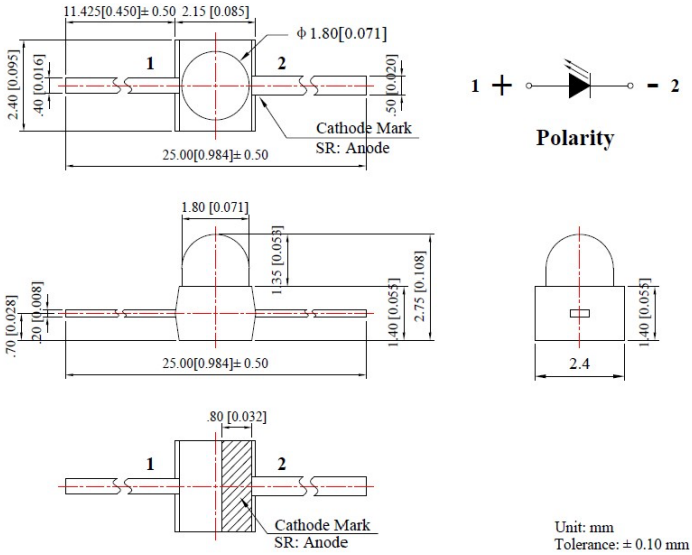


Figure 2. INA-912AHIR25 Package Dimensions

Notes

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25 mm (.010'') unless otherwise noted.

Absolute Maximum Rating at 25ºC (Note)

Product	Emission Color	P_d (mW)	I_F (mA)	I_{FP}* (A)	V_R (V)	T_{OP} (ºC)	T_{ST} (ºC)
INA-912AHIR25	Infrared	90	50	1.00	5	-40ºC~+80ºC	-40ºC~+85ºC

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	Ee (mW/sr)					
			IF=20mA			IF=100mA, tp=100μs, tp/T=0.01			λ_D	λ_P	$\Delta\lambda$	2θ1/2	IF=20mA			IF=100mA, tp=100μs, tp/T=0.01		
			min	typ	max	min	typ	max					min	typ	max	min	typ	max
INA-912AHIR25	Infrared	20	0.8	1.2	1.5	-	1.6	1.8	-	940	50	25	3	6	-	-	15	-

Notes
1. Performance guaranteed only under conditions listed in above tables.
2. A 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

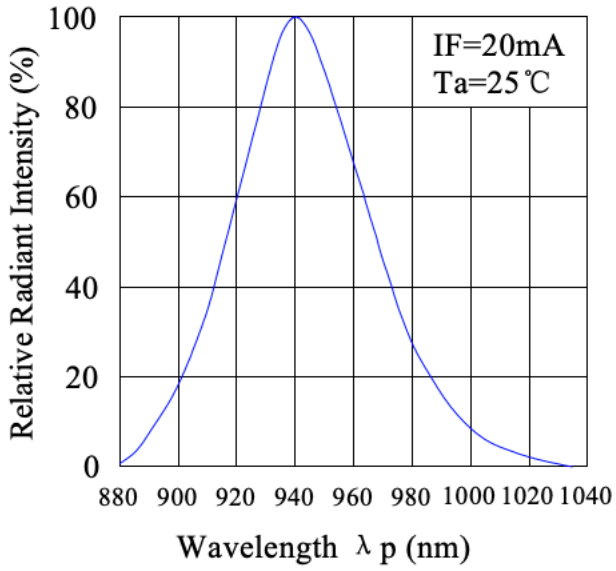
ATTENTION: Electrostatic Discharge (ESD) protection

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.

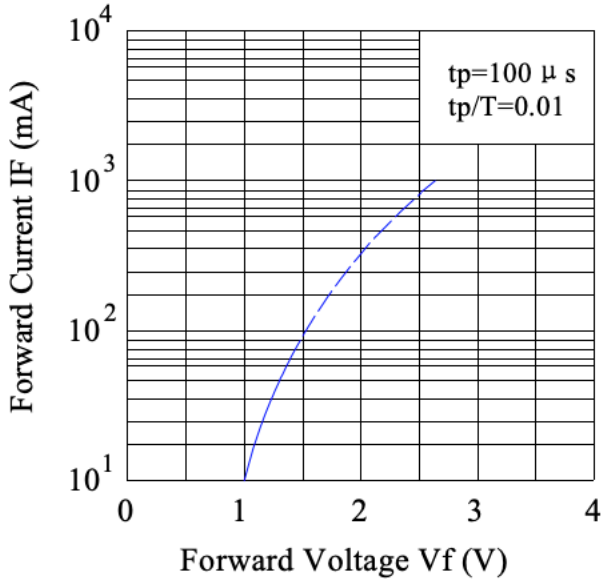
Please be advised that normal static precautions should be taken in the handling and assembly of this device to prevent damage or degradation which may be induced by electrostatic discharge (ESD).

Typical Characteristic Curves Infrared

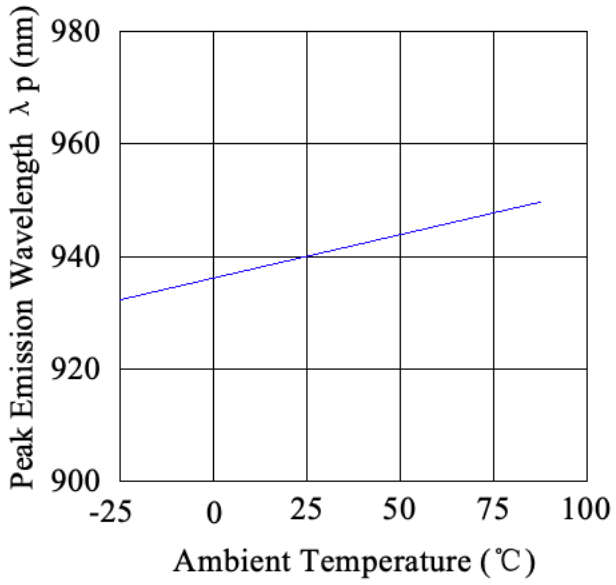
Spectral Distribution



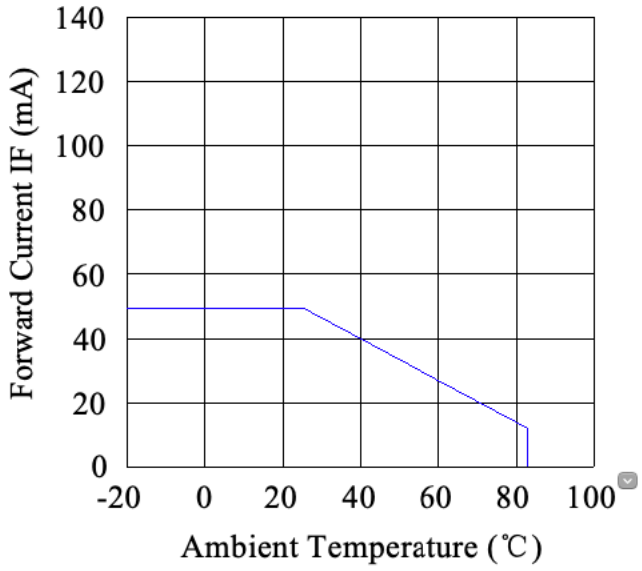
Forward Current & Forward Voltage



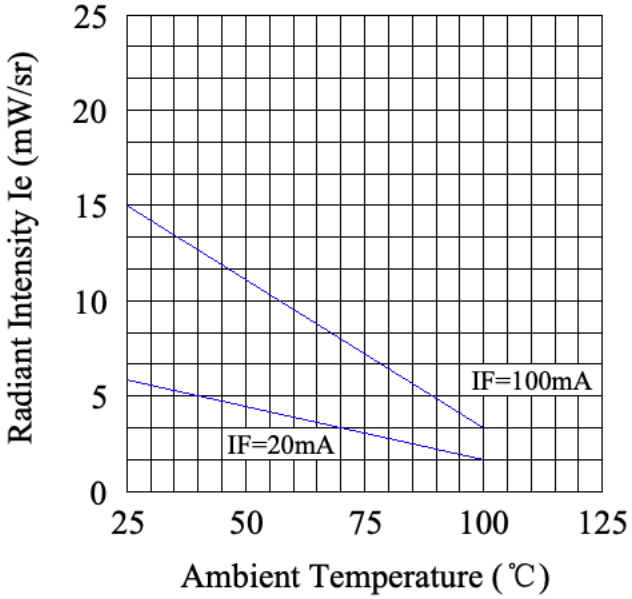
Peak Emission Wavelength & Ambient Temperature



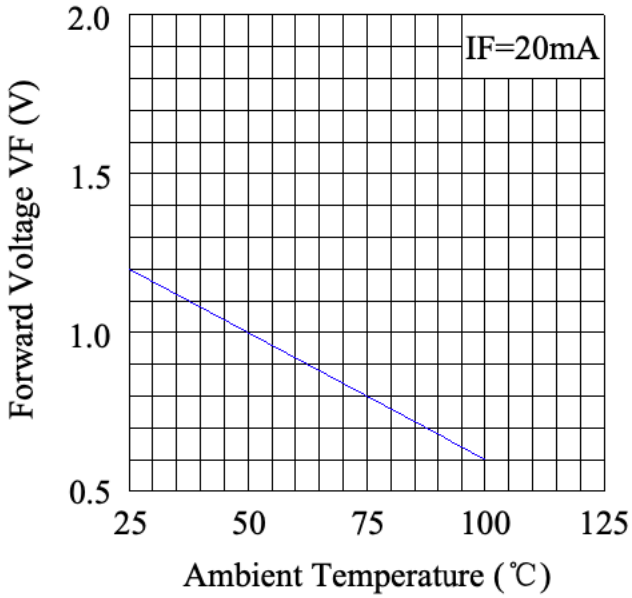
Forward Current & Ambient Temperature



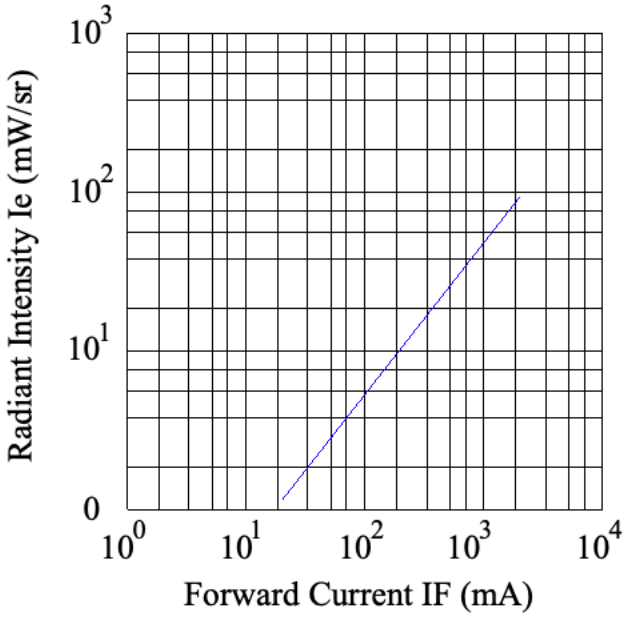
Relative Intensity &
Ambient Temperature



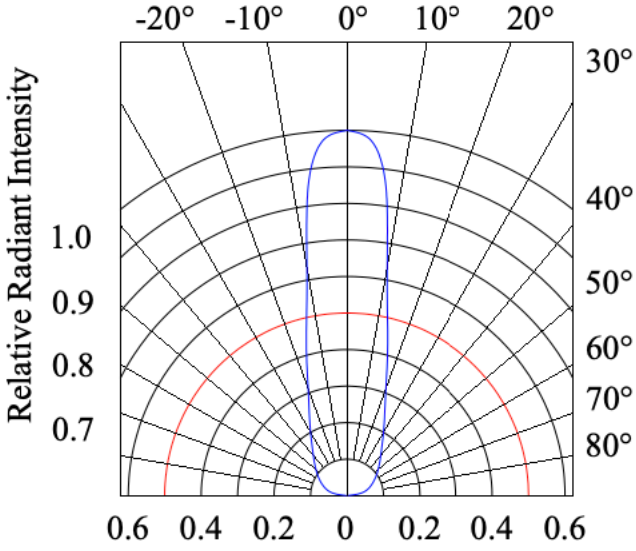
Forward Voltage &
Ambient Temperature



Relative Intensity & Forward Current



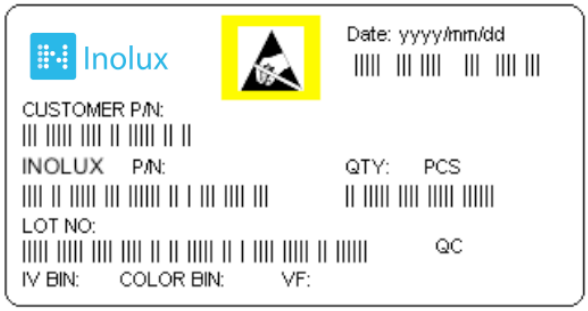
Relative Radiant Intensity
& Angular Displacement



Ordering Information

Product	Emission Color	Test Current I_F (mA)	Radiant Intensity Ee (mW/sr) (Typ.)		Forward Voltage VF (V) (Typ.)		Orderable Part Number
			IF=20mA	IF=100mA, tp=100μs, tp/T=0.01	IF=20mA	IF=100mA, tp=100μs, tp/T=0.01	
INA-912AHIR25	Infrared	20	6	15	1.2	1.6	INA-912AHIR25

Label Specifications



Inolux P/N:

I	N	A	-	912	A		HIR	25	X	X	X	X
				Package		Lens	Color	View Angle	Customized Stamp-off			
Inolux Lead frame Axial				912A = Lead frame Axial		(Blank) = Clear Lens	HIR = 940nm	25 = 25 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=125μs,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	01-27-2021

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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.