INL-3ABCMIR40
3mm Infrared Emitting Diode
Though Hole Lamp LED

Features

- High reliability
- General purpose leads
- Peak wavelength λp=880nm
- Mechanically and spectrally matched to the phototransistor
- Low forward voltage
- High radiant intensity

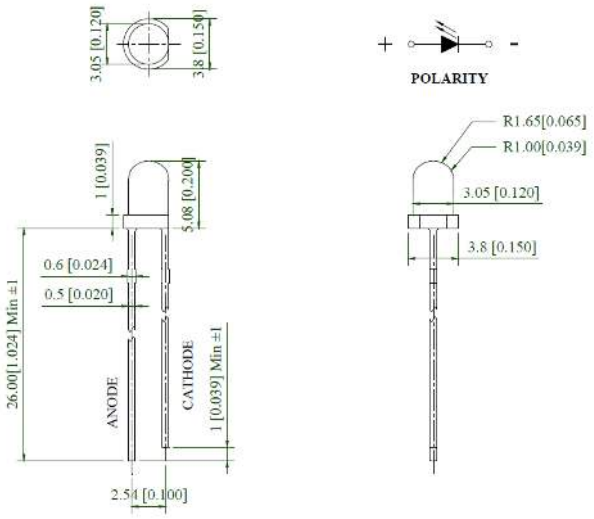
Description

- The infrared emitting diode (880nm) is a high intensity diode, molded in a blue transparent plastic package.
- The device is spectrally matched with silicon photodiode and phototransistor.

Applications

- Optoelectronic Switch
- IR Touch-Panel
- Industrial IR Equipment
- Consumer Electronics
- High Speed IR Communications

Package Dimensions in mm



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

Figure 1. INL-3ABCMIR40 Package Dimensions

Absolute Maximum Rating at 25ºC (Note 1)

Product	Emission Color	P_d (mW)	I_F (mA)	I_{FP}* (A)	V_R (V)	T_{OP} (ºC)	T_{ST} (ºC)
INL-3ABCMIR40	Infrared	160	100	1	5	-40ºC~+80ºC	-40ºC~+85ºC

Notes
1. Condition for I_{FP} is pulse of 1/10 duty and 1kHz frequency

Electrical Characteristics $T_A = 25℃$ (Note 1)

Product	Emission Color	I_F(mA)	V_F(V)		λ(nm)			Viewing Angle	Ee(mW/sr)	
			min	max	λ_D	λ_P	△λ	2θ 1/2	min	typ.
INL-3ABCMIR40	Infrared	20	1.0	1.6	-	880	45	40	8	10

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

ESD Precaution

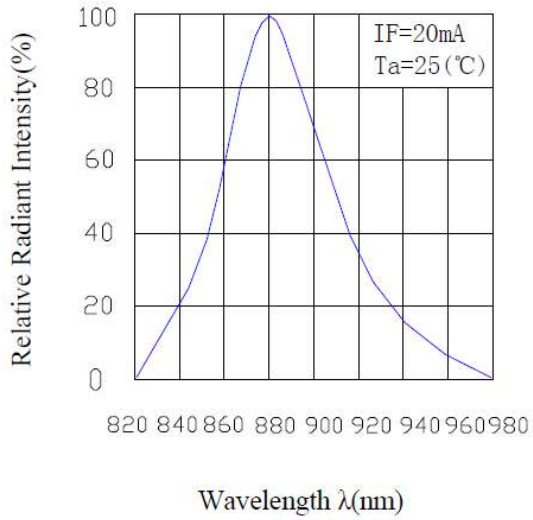
ATTENTION: Electrostatic Discharge (ESD) protection

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.

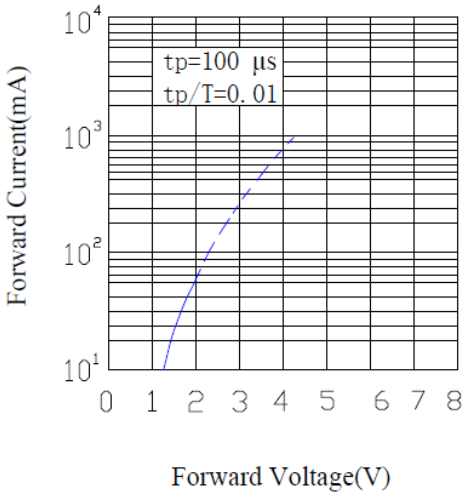
Please be advised that normal static precautions should be taken in the handling and assembly of this device to prevent damage or degradation which may be induced by electrostatic discharge (ESD).

Typical Characteristic Curves

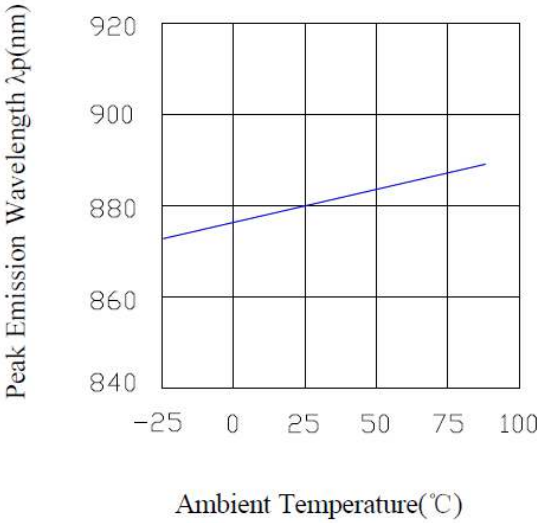
Spectral Distribution



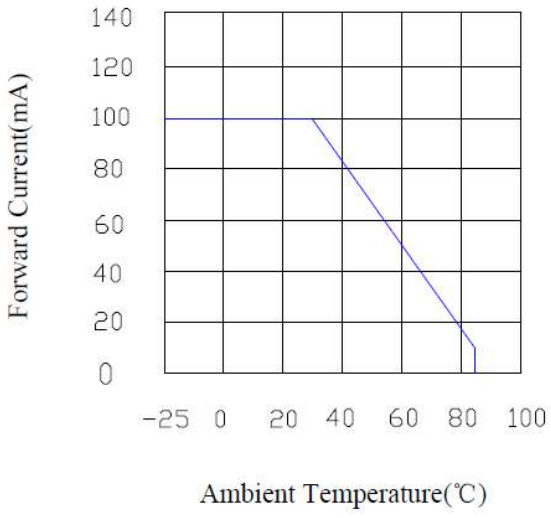
Forward Current & Forward Voltage



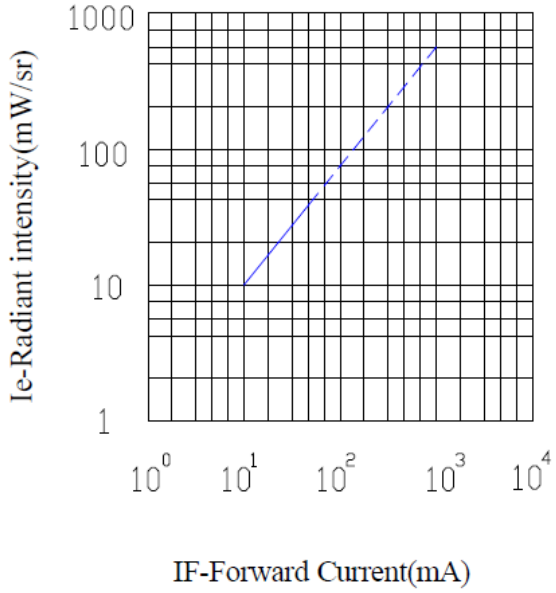
Peak Emission Wavelength & Ambient Temperature



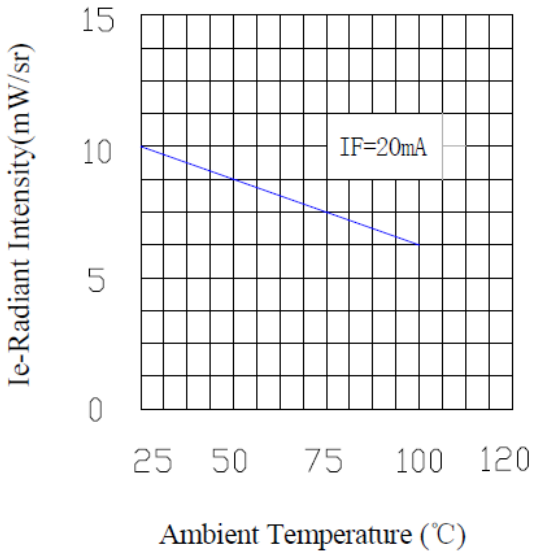
Forward Current & Ambient Temperature



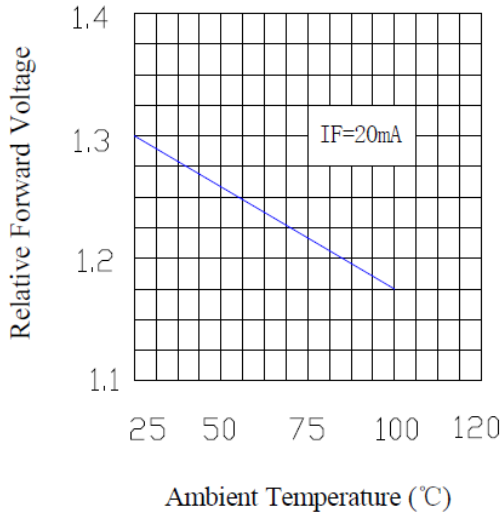
Relative Intensity &
Forward Current



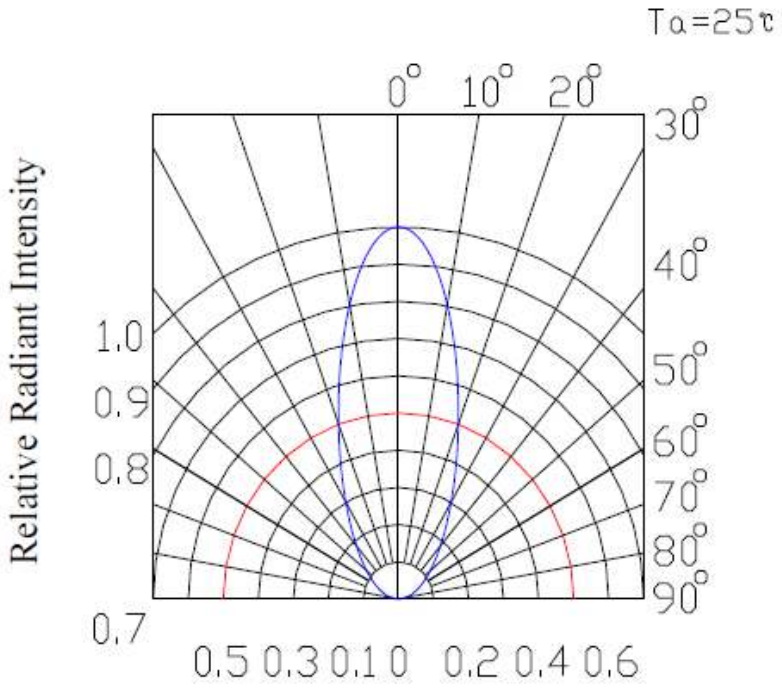
Relative Intensity &
Ambient Temperature(℃)



Forward Voltage &
Ambient Temperature(℃)



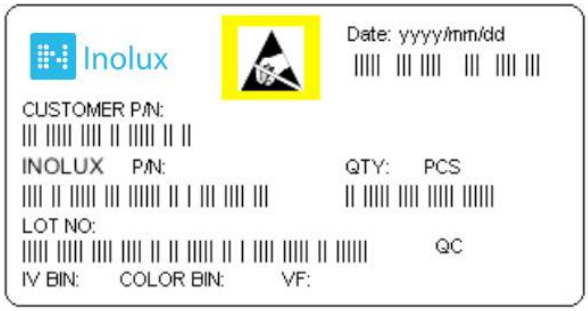
Typical Characteristic Curves – Radiation Pattern



Ordering Information

Product	Emission Color	Technology	Test Current I_F (mA)	Radiant Intensity Ee (mW/sr) (Typ.)	Forward Voltage V_F (V) (Typ.)	Orderable Part Number
INL-3ABCMIR40	Infrared	AlGaAs	20	10	1.3	INL-3ABCMIR40

Label Specifications



Inolux P/N:

I	N	L	-	3	A	BC	MIR	4	0	.	X	X	X	X
				Package		Lens	Color	View Angle			Customized Stamp-off			
Inolux Lamp Type				3A = standard 3mm		BC=Blue Clear	MIR = 880nm	40 = 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	01-19-2019

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