

# **DATASHEET**

# 3mm Infrared LED, T-1 EAILP03RDAB4



#### **Features**

- High reliability
- High radiant intensity
- Peak wavelength  $\lambda$  p=940nm
- 2.54mm Lead spacing
- Low forward voltage
- This product itself will remain within RoHS compliant version.
- Compliance with EU REACH
- Compliance Halogen Free(Br < 900ppm, Cl < 900ppm, Br+Cl < 1500ppm)

### **Descriptions**

- EVERLIGHT's Infrared Emitting Diode (EAILP03RDAB4) is a high intensity diode, molded in a blue plastic package.
- The device is spectrally matched with phototransistor, photodiode and infrared receiver module.

### **Applications**

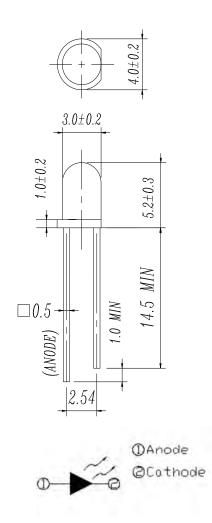
- Free air transmission system
- Infrared remote control units with high power requirement
- Smoke detector
- Infrared applied system



### **Device Selection Guide**

LED Part No.	Chip Material	Lens Color
EAILP03RDAB4	GaAlAs	Blue

### **Package Dimensions**



**Notes:** 1.All dimensions are in millimeters

2.Tolerances unless dimensions ±0.25mm



# Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Units
Continuous Forward Current	$I_{\mathrm{F}}$	100	mA
Peak Forward Current	$I_{FP}$	1.0	A
Reverse Voltage	$V_R$	5	V
Operating Temperature	$T_{opr}$	-40 ~ +85	$^{\circ}\!\mathbb{C}$
Storage Temperature	$T_{\rm stg}$	-40 ~ +85	$^{\circ}\!\mathbb{C}$
Soldering Temperature	$T_{sol}$	260	$^{\circ}\!\mathbb{C}$
Power Dissipation at(or below)	$P_d$	150	mW
25°C Free Air Temperature			

**Notes:** \*1: $I_{FP}$  Conditions--Pulse Width  $\leq$  100  $\mu$  s and Duty  $\leq$  1%.

# Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	Min.	Тур.	Max.	Units
		$I_F=20\text{mA}$	7.8	12	17.6	
Radiant Intensity	Ie	$I_F=100mA$ Pulse Width $\leq 100 \ \mu \text{ s ,Duty} \leq 1\%$		60		mW/sr
		$I_F=1 A$ Pulse Width $\leq 100 \mu$ s ,Duty $\leq 1\%$ .		600		
Peak Wavelength	λр	I <sub>F</sub> =20mA		940		nm
Spectral	Δλ	I <sub>F</sub> =20mA		45		nm
Bandwidth						
		$I_F=20mA$		1.2	1.5	
Forward Voltage	$V_{\mathrm{F}}$	$I_F$ =100mA Pulse Width $\leq$ 100 $\mu$ s ,Duty $\leq$ 1%		1.4	1.8	V
		$I_F=1 A$ Pulse Width $\leq 100 \mu$ s ,Duty $\leq 1\%$ .		2.6	4.0	
Reverse Current	$I_R$	V <sub>R</sub> =5V			10	μΑ
View Angle	2 \theta 1/2	I <sub>F</sub> =20mA		40		deg

<sup>\*2:</sup>Soldering time ≤ 5 seconds.



### Rank

Condition :  $I_F=20mA$ 

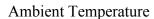
Unit: mW/sr

Bin Number	M	N
Min	7.8	11.0
Max	12.5	17.6

#### Note:

## **Typical Electro-Optical Characteristics Curves**

Fig.1 Forward Current vs.



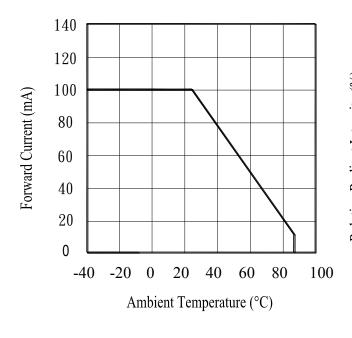
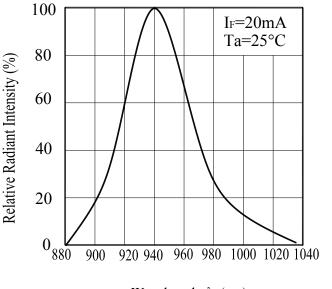


Fig.2 Spectral Distribution



Wavelength  $\lambda$  (nm)

<sup>\*</sup>Measurement Uncertainty of Forward Voltage: ±0.1V

<sup>\*</sup>Measurement Uncertainty of Luminous Intensity: ±10%

<sup>\*</sup>Measurement Uncertainty of Dominant Wavelength ±1.0nm



Fig.3 Peak Emission Wavelength vs.

Ambient Temperature

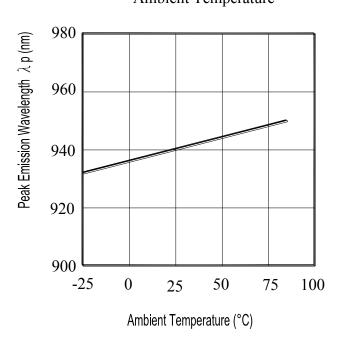
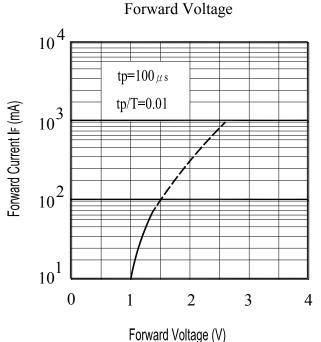


Fig.4 Forward Current vs.



### **Typical Electro-Optical Characteristics Curves**

 $10^{\overline{3}}$ 

 $10^{2}$ 

I<sub>F</sub>-Forward Current (mA)

 $10^4$ 

Forward Current

Fig.5 Relative Intensity vs.

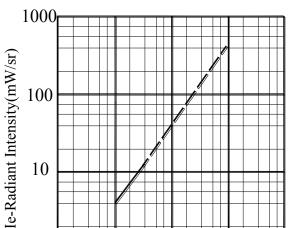
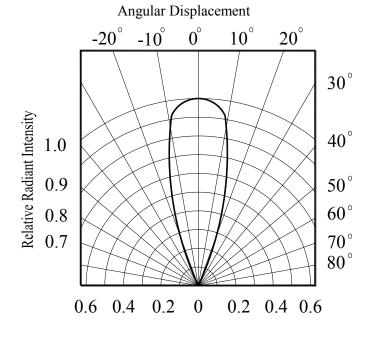


Fig.6 Relative Radiant Intensity vs.



0

 $10^{\overline{0}}$ 

10<sup>1</sup>



### **Packing Quantity Specification**

- 1. 100 CS/1Bag,4Bag/1Box
- 2. 1 oxes/1Carton

### **Label Form Specification**



CPN: Customer's Production Number

P/N : Production Number

QTY: Packing Quantity

CAT: Ranks

HUE: Peak Wavelength

REF: Reference

LOT No: Lot Number

X: Month

Reference: Identify Label Number

#### **DISCLAIMER**

- 1. EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
- 2. The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
- 3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
- 4. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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