



Technical Data Sheet

5mm Infrared LED, T-1 3/4

PIR333C/H0/L276

Features

- High reliability
- High radiant intensity
- Peak wavelength $\lambda_p=730\text{nm}$
- 2.54mm Lead spacing
- Low forward voltage
- Pb free
- The product itself will remain within RoHS compliant version.

Descriptions

- EVERLIGHT'S Infrared Emitting Diode(PIR333C/H0/L276) is a high intensity diode , molded in a water clear plastic package.
- The device is spectrally matched with phototransistor , photodiode and infrared receiver module.



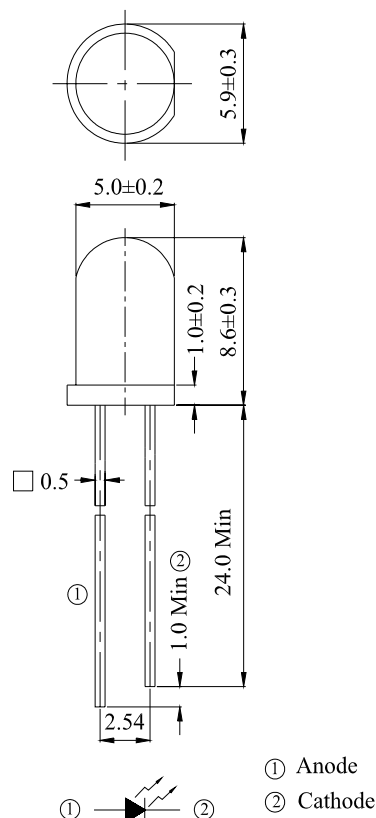
Applications

- Infrared applied system

Device Selection Guide

LED Part No.	Chip	Lens Color
	Material	
PIR333C/H0/L276	GaAlAs	Water clear

Package Dimensions



Notes: 1.All dimensions are in millimeters
2.Tolerances unless dimensions $\pm 0.25\text{mm}$

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Units
Continuous Forward Current	I_F	100	mA
Peak Forward Current*1	I_{FP}	1.0	A
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	$-40 \sim +85$	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-40 \sim +100$	$^\circ\text{C}$
Soldering Temperature*2	T_{sol}	260	$^\circ\text{C}$
Power Dissipation at(or below) 25 $^\circ\text{C}$ Free Air Temperature	P_d	200	mW

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

*2:Soldering time ≤ 5 seconds.

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Radiant Intensity	I_E	$I_F=20\text{mA}$	4.0	7.8	--	mW/sr
		$I_F=100\text{mA}$ Pulse Width $\leq 100\mu\text{s}$, Duty $\leq 1\%$	--	40	--	
Peak Wavelength	λ_p	$I_F=20\text{mA}$	--	730	--	nm
Spectral Bandwidth	$\Delta\lambda$	$I_F=20\text{mA}$	--	25	--	nm
Forward Voltage	V_F	$I_F=20\text{mA}$	--	1.7	2.0	V
		$I_F=100\text{mA}$ Pulse Width $\leq 100\mu\text{s}$, Duty $\leq 1\%$	--	2.0	3.0	V
Reverse Current	I_R	$V_R=5\text{V}$	--	--	10	μA
Rise time	tr	$I_F=20\text{mA}$	--	40	--	ns
Fall time	tr	$I_F=20\text{mA}$	--	30	--	ns
View Angle	$2\theta_{1/2}$	$I_F=20\text{mA}$	--	45	--	deg

Rank

Condition: $I_F=20\text{mA}$

Unit: mW/sr

Bin number	K	L	M	N	P
Min	4.0	5.6	7.8	11.0	15.0
Max	6.4	8.9	12.5	17.6	24.0

Typical Electro-Optical Characteristics Curves

Fig.1 Forward Current vs. Ambient Temperature

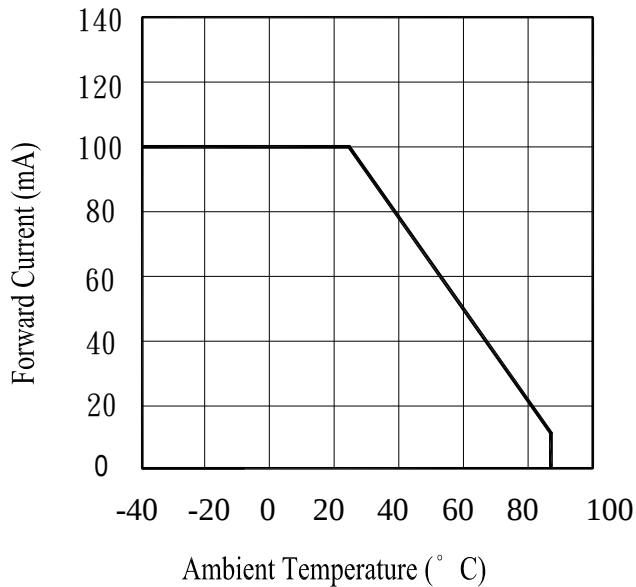


Fig.2 Spectral Distribution

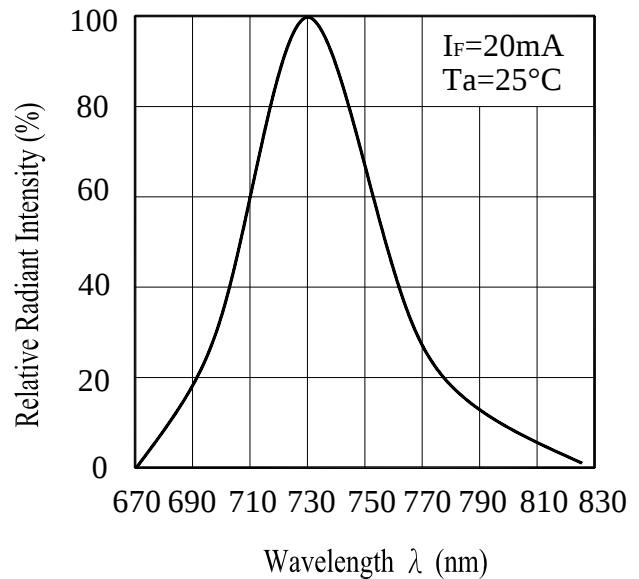


Fig.3 Peak Emission Wavelength vs. Ambient Temperature

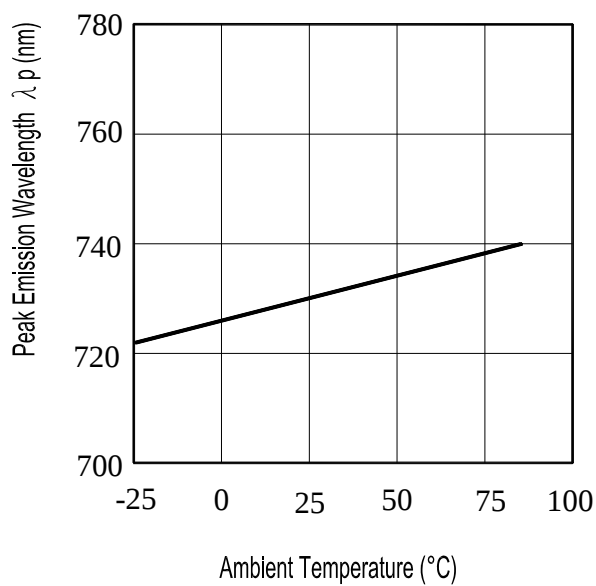
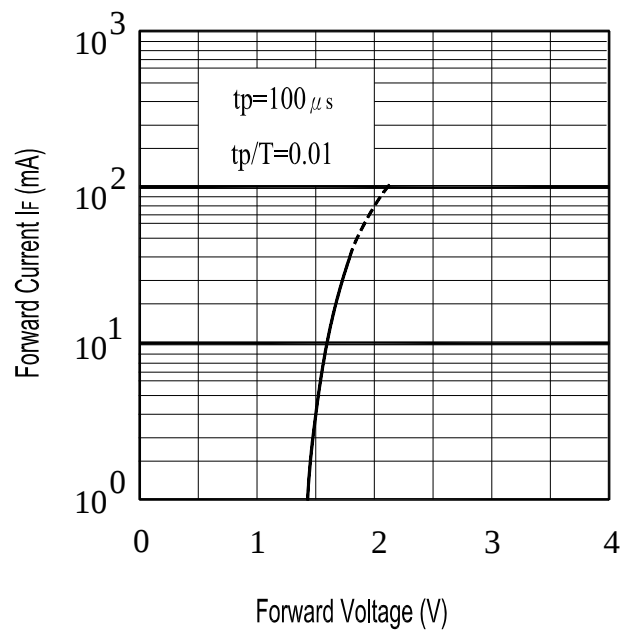


Fig.4 Forward Current vs. Forward Voltage



Typical Electro-Optical Characteristics Curves

Fig.5 Radiant Intensity vs.
Forward Current

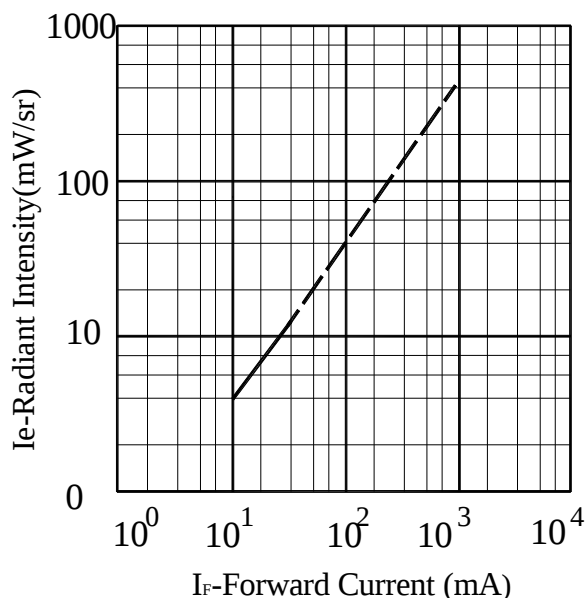


Fig.6 Relative Radiant Intensity vs.
Angular Displacement

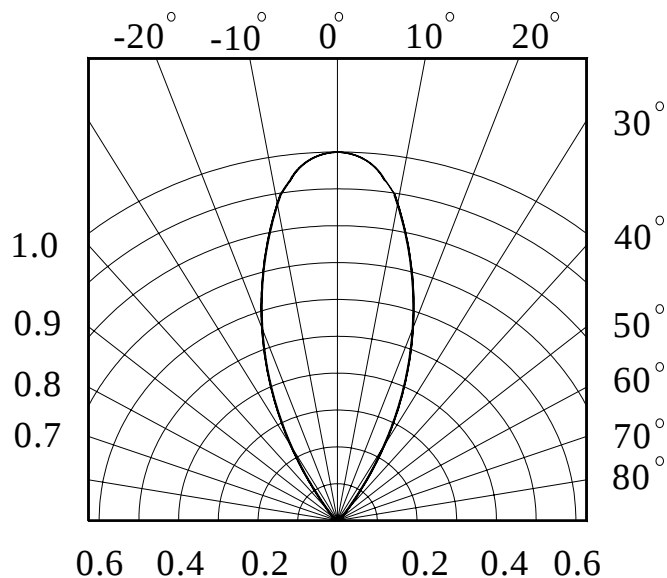


Fig.7 Radiant Intensity vs.
Ambient Temperature($^\circ$ C)

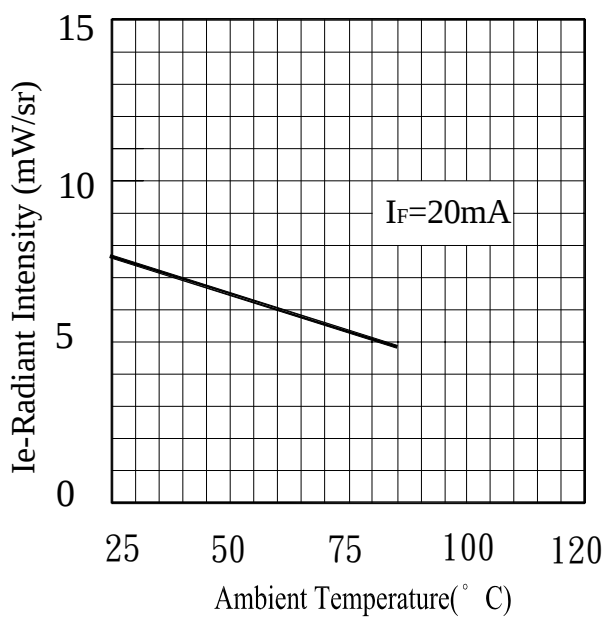
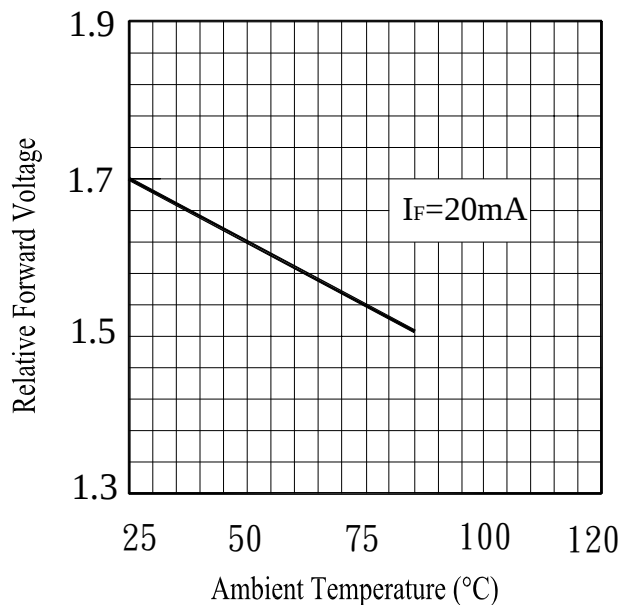


Fig.8 Forward Voltage vs.
Ambient Temperature($^\circ$ C)



Reliability Test Item And Condition

The reliability of products shall be satisfied with items listed below.

Confidence level : 90%

LTPD : 10%

NO.	Item	Test Conditions	Test Hours/ Cycles	Sample Sizes	Failure Judgement Criteria	Ac/Re
1	Solder Heat	TEMP. : $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$	10secs	22pcs		0/1
2	Temperature Cycle	$\begin{array}{l} \text{H : } +100^{\circ}\text{C} \quad 15\text{mins} \\ \updownarrow \quad 5\text{mins} \\ \text{L : } -40^{\circ}\text{C} \quad 15\text{mins} \end{array}$	300Cycles	22pcs	$E_e \leq L \times 0.8$ $V_F \leq U$	0/1
3	Thermal Shock	$\begin{array}{l} \text{H : } +100^{\circ}\text{C} \quad 5\text{mins} \\ \updownarrow \quad 10\text{secs} \\ \text{L : } -10^{\circ}\text{C} \quad 5\text{mins} \end{array}$	300Cycles	22pcs	U : Upper Specification Limit	0/1
4	High Temperature Storage	TEMP. : $+100^{\circ}\text{C}$	1000hrs	22pcs	L : the initial test value	0/1
5	Low Temperature Storage	TEMP. : -40°C	1000hrs	22pcs		0/1
6	DC Operating Life	$I_F = 20\text{mA}$	1000hrs	22pcs		0/1
7	High Temperature/ High Humidity	$85^{\circ}\text{C} / 85\% \text{ R.H}$	1000hrs	22pcs		0/1



PIR333C/H0/L276

Packing Quantity Specification

1.500PCS/1Bag , 5Bags/1Box

2.10Boxes/1Carton

Label Form Specification

		CPN: Customer's Production Numb
CPN:		P/N : Production Number
P/N:		QTY: Packing Quantity
	PIR333C/H0/L276	CAT: Ranks
QTY:		HUE: Peak Wavelength
CAT:		REF: Reference
HUE:		LOT No: Lot Number
REF:		
LOT NO:		

Notes

1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
2. 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 use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
3. These specification sheets include materials protected under copyright of EVERLIGHT corporation. Please don't reproduce or cause anyone to reproduce them without EVERLIGHT's consent.

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