

## Technical Data Sheet

### 5mm Infrared LED , T-1 3/4

#### IR8353-14C

#### Features

- High reliability
- High radiant intensity
- Peak wavelength  $\lambda_p=940\text{nm}$
- 2.54mm Lead spacing
- Low forward voltage
- Pb free
- The product itself will remain within RoHS compliant version.



#### Descriptions

- EVERLIGHT'S Infrared Emitting Diode(IR8353-14C) is a high intensity diode , molded in a water clear plastic package.
- The device is spectrally matched with phototransistor , photodiode and infrared receiver module.

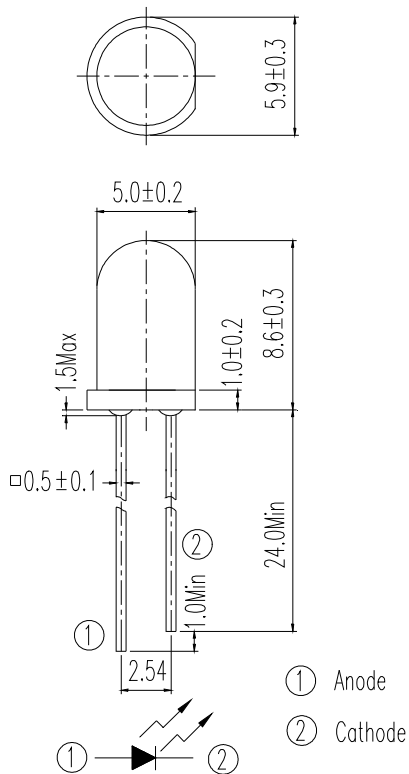
#### Applications

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

#### Device Selection Guide

LED Part No.	Chip	Lens Color
	Material	
IR8353-14C	AlGaAs/GaAs	Water clear

**Package Dimensions**



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

**Absolute Maximum Ratings (Ta=25°C)**

Parameter	Symbol	Rating	Unit
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 ~ +85	°C
Storage Temperature	$T_{stg}$	-40 ~ +100	°C
Soldering Temperature *2	$T_{sol}$	260	°C
Power Dissipation at(or below) 25°C Free Air Temperature	$P_d$	150	mW

- Notes:** \*1: $I_{FP}$  Conditions--Pulse Width  $\leq 100 \mu s$  and Duty  $\leq 1\%$ .  
\*2:Soldering time  $\leq 10$  seconds.

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

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Radiant Intensity	I <sub>e</sub>	I <sub>F</sub> =20mA	7.8	11	17.6	mW/sr
		I <sub>F</sub> =100mA Pulse Width ≤ 100 μs, Duty ≤ 1%	--	50	--	
Peak Wavelength	λ <sub>p</sub>	I <sub>F</sub> =20mA	--	940	--	nm
Spectral Bandwidth	Δλ	I <sub>F</sub> =20mA	--	50	--	nm
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	--	1.20	1.30	V
		I <sub>F</sub> =100mA Pulse Width ≤ 100 μs, Duty ≤ 1%	--	1.45	1.80	
		I <sub>F</sub> =1A Pulse Width ≤ 100 μs, Duty ≤ 1%.	--	2.70	3.60	
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	--	--	10	μA
View Angle	2θ 1/2	I <sub>F</sub> =20mA	27	--	43	deg

**Rank**

Condition : I<sub>F</sub>=20mA

Unit : mW/sr

Bin Number	M	N
Min	7.80	11.0
Max	12.50	17.6

**Typical Electro-Optical Characteristics Curves**

Fig.1 Forward Current vs. Ambient Temperature

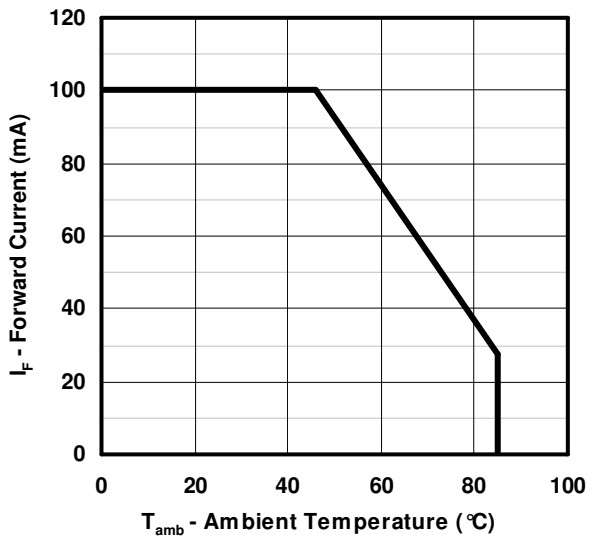


Fig.2 Spectral Distribution

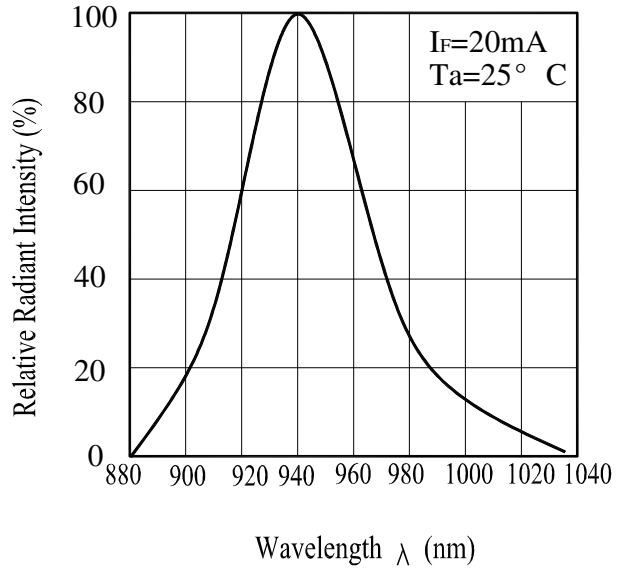


Fig.3 Relative Intensity vs. Forward Current

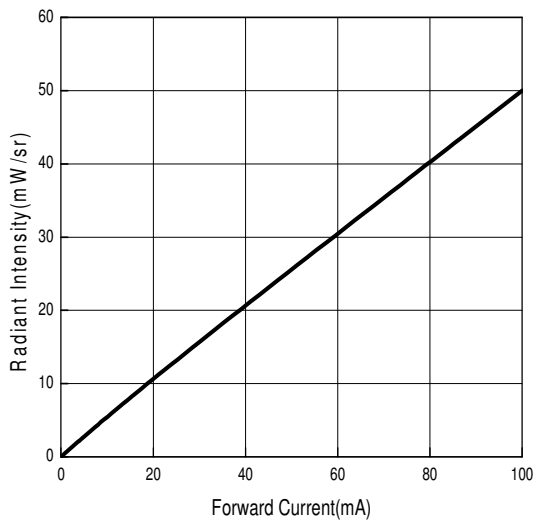
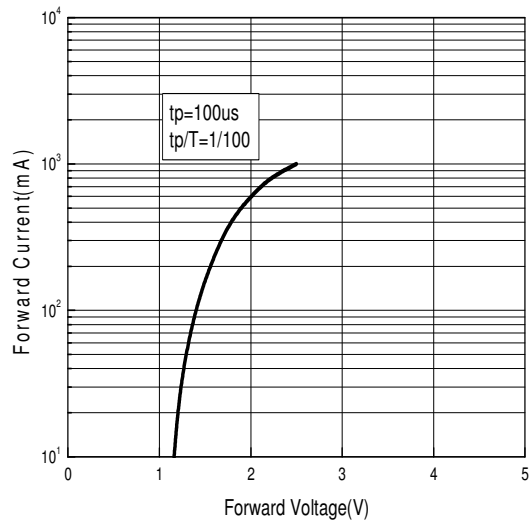
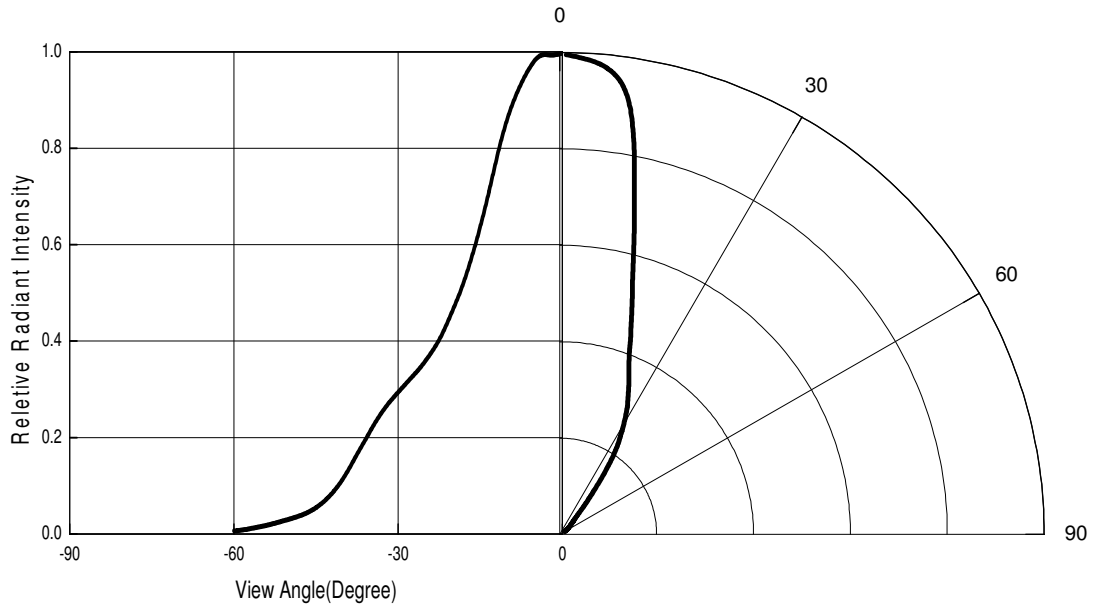


Fig.4 Forward Current vs. Forward Voltage



**Typical Electro-Optical Characteristics Curves**

**Fig.5 Relative Radiant Intensity vs. Angular Displacement**



**Reliability Test Item And Condition**

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

Confidence level : 90%

LTPD : 10%

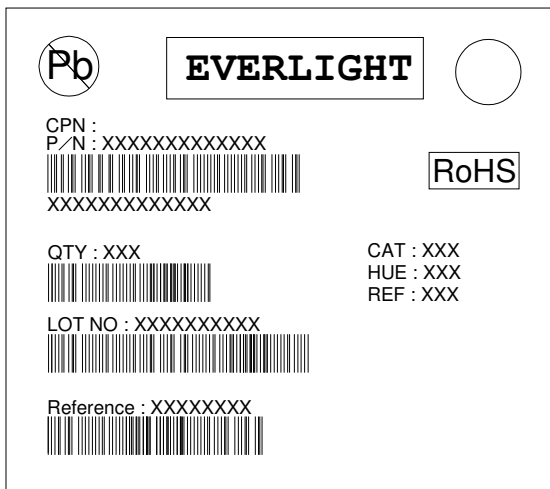
NO.	Item	Test Conditions	Test Hours/ Cycles	Sample Sizes	Failure Judgement Criteria	Ac/Re
1	Solder Heat	TEMP. : 260°C±5°C	10secs	22pcs	$I_R \geq U \times 2$ $I_e \leq L \times 0.8$ $V_F \geq U \times 1.2$  U : Upper Specification Limit L : Lower Specification Limit	0/1
2	Temperature Cycle	H : +100°C    15mins ↕ 5mins L : -40°C    15mins	300Cycles	22pcs		0/1
3	Thermal Shock	H :+100°C    5mins ↕ 10secs L :-10°C    5mins	300Cycles	22pcs		0/1
4	High Temperature Storage	TEMP. : +100°C	1000hrs	22pcs		0/1
5	Low Temperature Storage	TEMP. : -40°C	1000hrs	22pcs		0/1
6	DC Operating Life	$I_F=20mA$	1000hrs	22pcs		0/1

**Packing Quantity Specification**

1.500PCS/1Bag , 5Bags/1Box

2.10Boxes/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

MADE IN TAIWAN: Production Place

**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.
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