



## 5mm Lamp Type 940nm Infrared Emitter

### Features

- High radiant intensity
- Viewing Angle =  $\pm 15^\circ$
- High reliability
- Good spectral matching to Si photo detector
- RoHS compliance

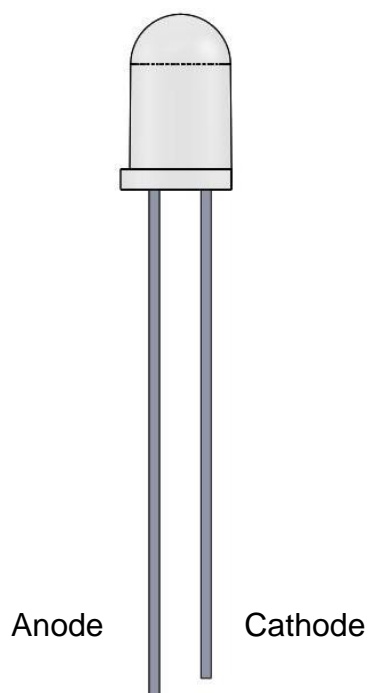
### Applications

- Infrared sensor
- Remote control

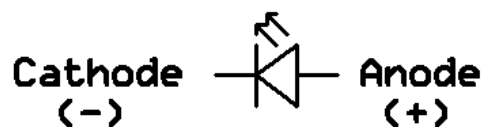
### Description

The IR500N-D0 is a GaAIAs infrared LED diode. The device has a peak wavelength of 940nm LED spectrally matched with phototransistor or photodiode.

### Package Outline



### Schematic



**Absolute Maximum Rating at 25°C**

Symbol	Parameters	Ratings	Units	Notes
I <sub>F</sub>	Continuous Forward Current	100	mA	
I <sub>FP</sub>	Peak Forward Current	1.0	A	1
V <sub>R</sub>	Reverse Voltage	5	V	
T <sub>opr</sub>	Operating Temperature	-40 ~ +85	°C	
T <sub>stg</sub>	Storage Temperature	-40 ~ +100	°C	
T <sub>sol</sub>	Soldering Temperature	260	°C	2
P <sub>D</sub>	Power Dissipation at(or below) 25°C Free Air Temperature	180	mW	

**Electro-Optical Characteristics** *TA = 25°C (unless otherwise specified)***Optical Characteristics**

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I <sub>e</sub>	Radiant Intensity	I <sub>F</sub> =20mA	6.5	12	20	mW/sr	3
		I <sub>F</sub> =100mA	-	55	-		
λ <sub>p</sub>	Peak Wavelength	I <sub>F</sub> =20mA	-	940	-	nm	
Δλ	Spectral Bandwidth	I <sub>F</sub> =20mA	-	50	-	nm	
θ <sub>1/2</sub>	Angle of Half Intensity	I <sub>F</sub> =20mA	-	±15	-	deg	

**Electrical Characteristics**

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V <sub>F</sub>	Forward Voltage	I <sub>F</sub> =20mA	1.1	1.2	1.5	V	
		I <sub>F</sub> =100mA	1.2	1.39	1.8		
I <sub>R</sub>	Reverse Current	V <sub>R</sub> =5V	-	-	10	μA	

**Notes:**

- 1 : I<sub>FP</sub> Conditions--Pulse Width ≤ 100μs and Duty ≤ 1%.
- 2 : Soldering time ≤ 5 seconds.
- 3.: I<sub>e</sub> Bin Rank :

Bin Code	H	I
Min	6.5	10
Max	13	20



### Typical Characteristic Curves

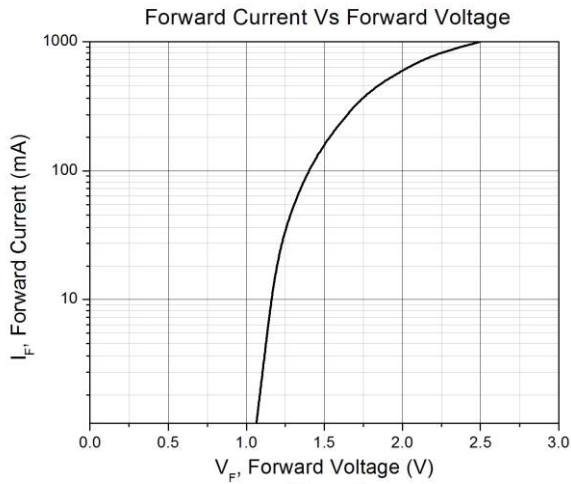


Figure 1

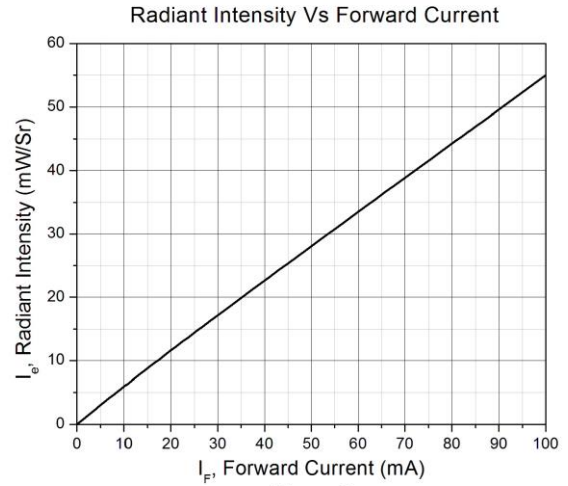


Figure 2

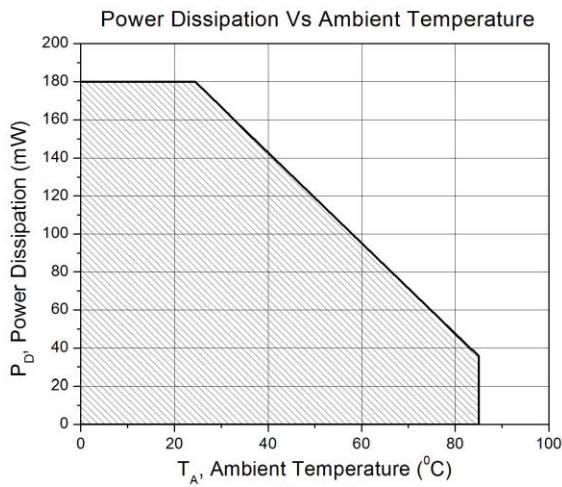


Figure 3

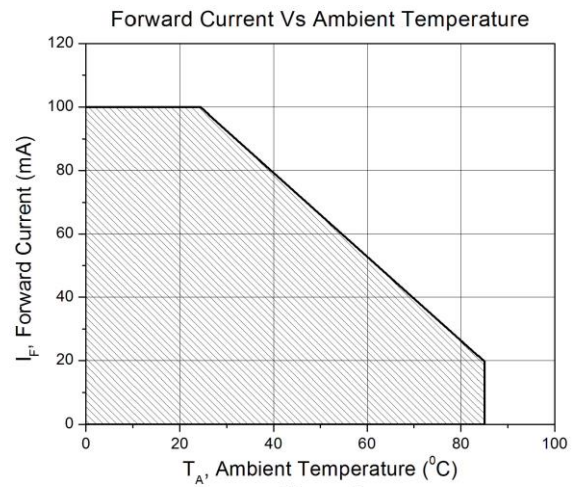


Figure 4

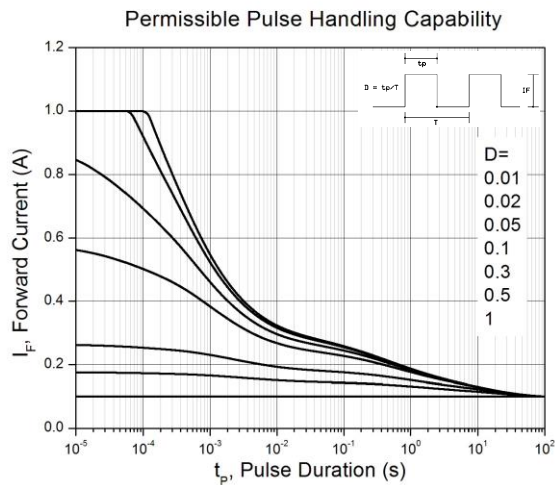


Figure 5

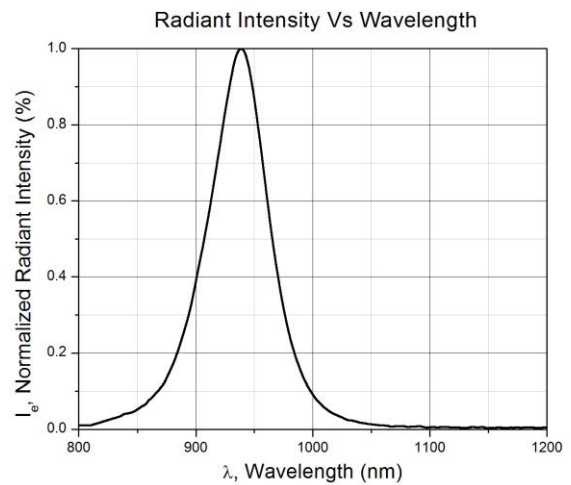
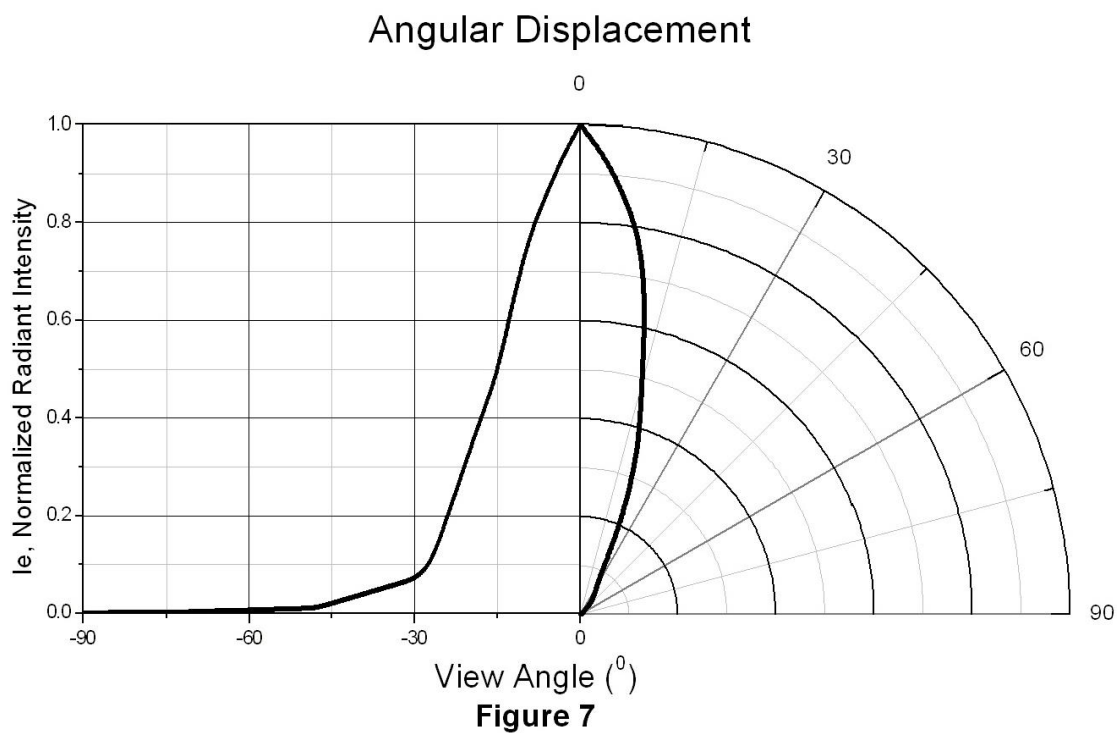


Figure 6



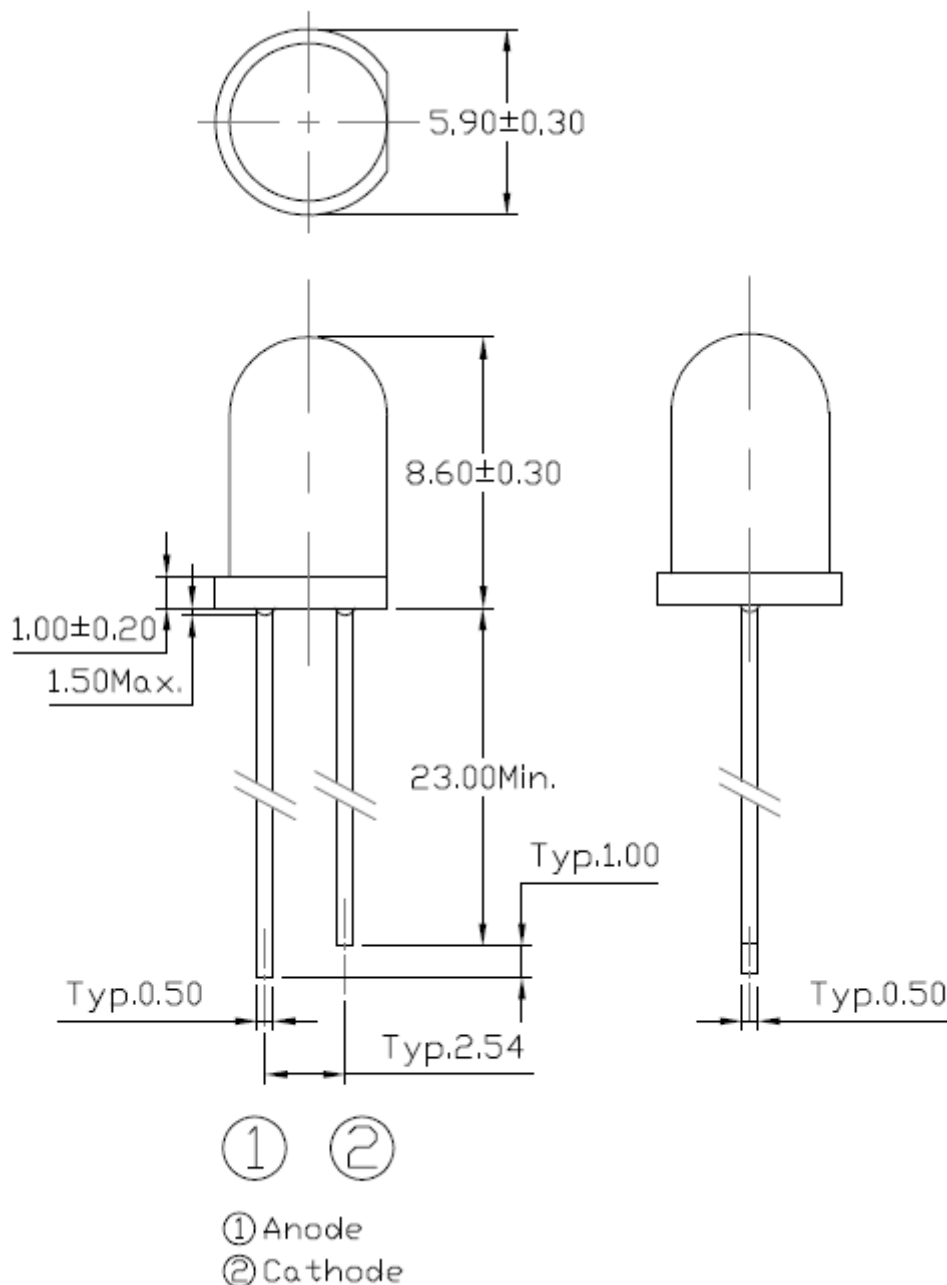
Typical Characteristic Curves





### 5mm Lamp Type 940nm Infrared Emitter

**Package Dimension** *All dimensions are in mm, unless otherwise stated.*





**IR500N-D0**

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**Ordering Information**

**IR500N-D0/(XX)(YYY)**

XX = TR – Tape & Reel / TB – Tape & Box

YYY = H; H- Refer to Tape dimension drawing (255 = 25.5mm)

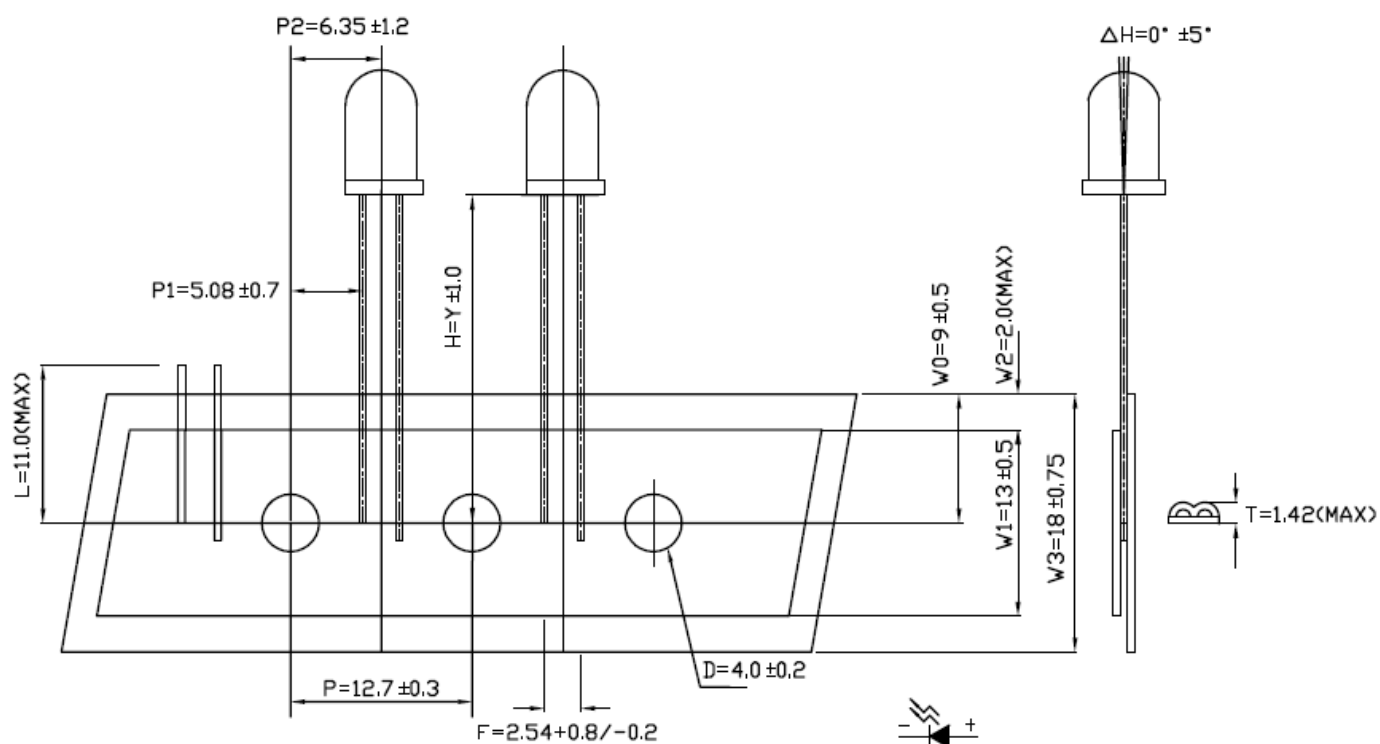
<b><i>Part Number</i></b>	<b><i>Description</i></b>	<b><i>Quantity</i></b>
IR500N-D0	1 Bag	500 pcs
	1 Box	10 bag
	1 Carton	8 box
IR500N-D0/TR(H) Tape & Reel	1 Reel	1000 pcs
	1 Carton	8 box
IR500N-D0/TB(H) Tape & Box	1 Box	2000pcs
	1 Carton	8 box



# 5mm Lamp Type 940nm Infrared Emitter

**Tape Dimension** *All dimensions are in mm, unless otherwise stated.*

Input Direction  
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