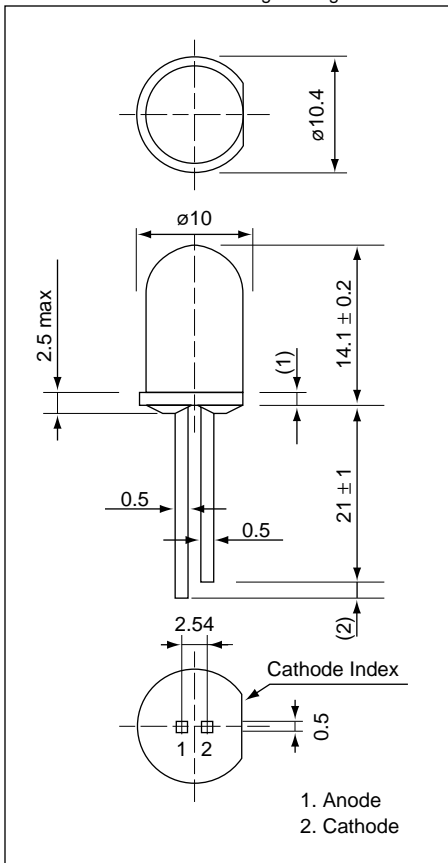


Weight: 1.0 g      Unit: mm



**AND190WOP**  
InGaAlP Orange Light Emission  
T-3 Package (10 mm)

## Features

- New emission material (InGaAlP) orange LED
- Peak wavelength ( $\lambda_p = 620 \text{ nm}$ ) high bright emission
- All plastic mold type, clear colorless lens
- Low drive current, (forward current = 1 to 20 mA)
- Excellent On-Off contrast ratio
- Fast response time, capable of pulse operation
- High power luminous intensity
- Suitable for Outdoor Message Signboards

### Maximum Ratings (T = 25°C)

Characteristics	Symbol	Rating	Unit
Forward Current	$I_F$	50	mA
Reverse Voltage	$V_R$	4	V
Power Dissipation	$P_D$	125	mW
Operating Temperature Range	$T_{Opr}$	-40 to 85	°C
Storage Temperature Range	$T_{Sig}$	-40 to 120	°C

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

Characteristics	Symbol	Test Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	$V_F$	$I_F = 20 \text{ mA}$	—	2.0	2.4	V
Reverse Current	$I_R$	$V_R = 4 \text{ V}$	—	—	50	$\mu\text{A}$
Luminous Intensity	$I_V$	$I_F = 20 \text{ mA}$	10,000	18,000	—	mcd
Peak Emission Wavelength	$\lambda_P$	$I_F = 20 \text{ mA}$	—	620	—	nm
Spectral Line Half Width	$\Delta\lambda$	$I_F = 20 \text{ mA}$	—	25	—	nm
Dominant Wavelength	$\lambda_d$	$I_F = 20 \text{ mA}$	—	614	—	nm
Full Viewing Angle	$\theta$	$I_V = 1/2 \text{ Peak}$	—	4	—	degree

## Precaution

Please be careful of the following:

1. Soldering temperature: 260°C max  
Soldering time: 3 sec. max  
Soldering portion of lead: up to 2 mm from the body of the device
2. The lead can be formed up to 5 mm from the body of the device without forming stress.  
Soldering should be performed after the lead forming.

