

WP7104ALUP/2YD-0L

T-1 (3mm) LED Lamp with Housing

DESCRIPTION

- The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode

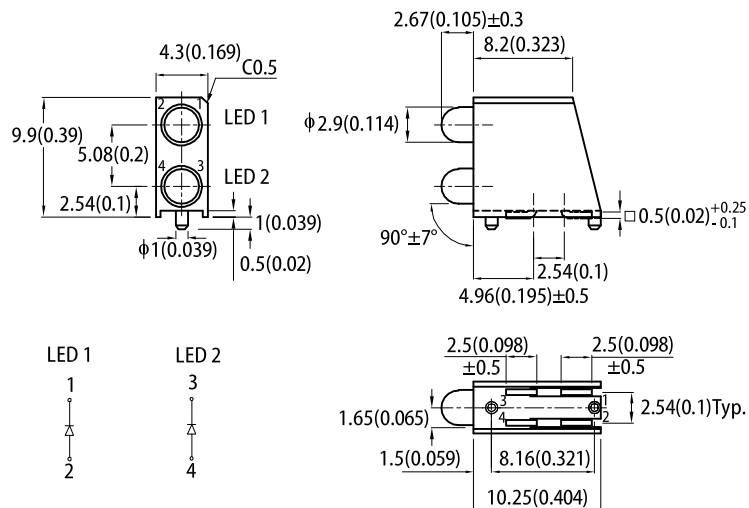
FEATURES

- Black case enhances contrast ratio
- High reliability life measured in years
- Moisture sensitivity level: 3
- Housing material: PPA
- Housing UL rating: 94V-0
- High temperature resistant housing
- High glass transition temperature epoxy
- Halogen-free
- RoHS compliant

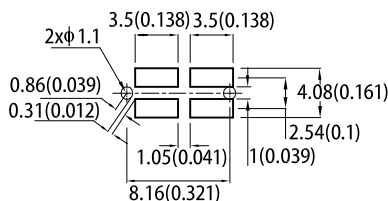
APPLICATIONS

- Status indicator
- Illuminator
- Signage applications
- Decorative and entertainment lighting
- Commercial and residential architectural lighting

PACKAGE DIMENSIONS



RECOMMENDED SOLDERING PATTERN



Notes:

- All dimensions are in millimeters (inches).
- Tolerance is $\pm 0.25(0.01)$ unless otherwise noted.
- The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

SELECTION GUIDE

Part Number	Emitting Color (Material)	Lens Type	Iv (mcd) @ 10mA ^[2]		Viewing Angle ^[1]
			Min.	Typ.	2 θ 1/2
WP7104ALUP/2YD-0L	■ Yellow (GaAsP/GaP)	Yellow Diffused	8	15	50°

Notes:

- θ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
- Luminous intensity / luminous flux: +/-15%.
- Luminous intensity value is traceable to CIE127-2007 standards.

ELECTRICAL / OPTICAL CHARACTERISTICS at $T_A=25^\circ\text{C}$

Parameter	Symbol	Emitting Color	Value		Unit
			Typ.	Max.	
Wavelength at Peak Emission $I_F = 10\text{mA}$	λ_{peak}	Yellow	590	-	nm
Dominant Wavelength $I_F = 10\text{mA}$	$\lambda_{\text{dom}}^{[1]}$	Yellow	588	-	nm
Spectral Bandwidth at 50% Φ REL MAX $I_F = 10\text{mA}$	$\Delta\lambda$	Yellow	35	-	nm
Capacitance	C	Yellow	20	-	pF
Forward Voltage $I_F = 10\text{mA}$	$V_F^{[2]}$	Yellow	1.95	2.4	V
Reverse Current ($V_R = 5\text{V}$)	I_R	Yellow	-	10	μA
Temperature Coefficient of λ_{peak} $I_F = 10\text{mA}$, $-10^\circ\text{C} \leq T \leq 85^\circ\text{C}$	$\text{TC}_{\lambda_{\text{peak}}}$	Yellow	0.12	-	nm/ $^\circ\text{C}$
Temperature Coefficient of λ_{dom} $I_F = 10\text{mA}$, $-10^\circ\text{C} \leq T \leq 85^\circ\text{C}$	$\text{TC}_{\lambda_{\text{dom}}}$	Yellow	0.07	-	nm/ $^\circ\text{C}$
Temperature Coefficient of V_F $I_F = 10\text{mA}$, $-10^\circ\text{C} \leq T \leq 85^\circ\text{C}$	TC_V	Yellow	-2.0	-	mV/ $^\circ\text{C}$

Notes:

1. The dominant wavelength (λ_d) above is the setup value of the sorting machine. (Tolerance $\lambda_d : \pm 1\text{nm}$.)
2. Forward voltage: $\pm 0.1\text{V}$.
3. Wavelength value is traceable to CIE127-2007 standards.
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

ABSOLUTE MAXIMUM RATINGS at $T_A=25^\circ\text{C}$

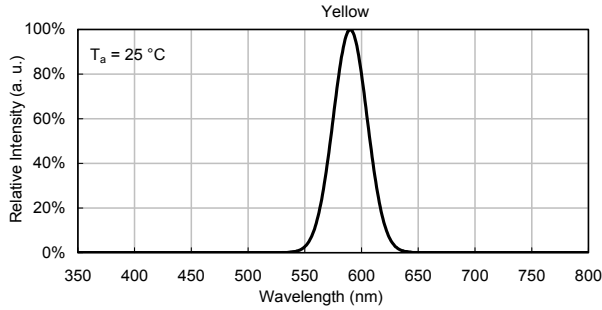
Parameter	Symbol	Value	Unit
Power Dissipation	P_D	75	mW
Reverse Voltage	V_R	5	V
Junction Temperature	T_j	110	$^\circ\text{C}$
Operating Temperature	T_{op}	-40 to +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to +85	$^\circ\text{C}$
DC Forward Current	I_F	30	mA
Peak Forward Current	$I_{\text{FM}}^{[1]}$	140	mA
Electrostatic Discharge Threshold (HBM)	-	8000	V
Thermal Resistance (Junction / Ambient)	$R_{\text{th JA}}^{[2]}$	690	$^\circ\text{C}/\text{W}$
Thermal Resistance (Junction / Solder point)	$R_{\text{th JS}}^{[2]}$	450	$^\circ\text{C}/\text{W}$

Notes:

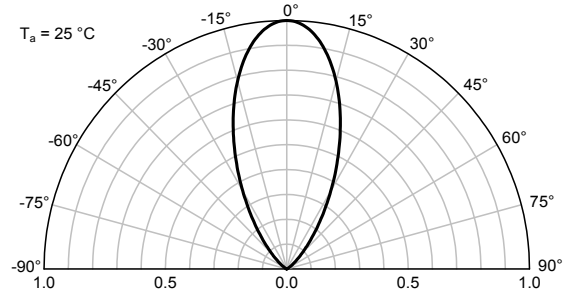
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. $R_{\text{th JA}}$, $R_{\text{th JS}}$ Results from mounting on PC board FR4 (pad size $\geq 16\text{mm}^2$ per pad).
3. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

TECHNICAL DATA

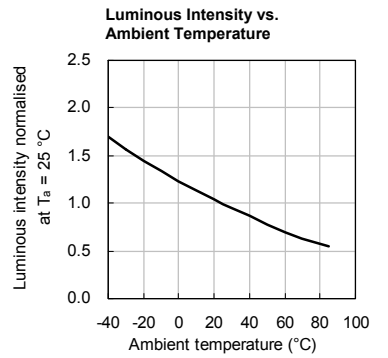
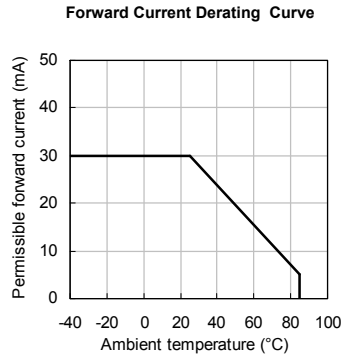
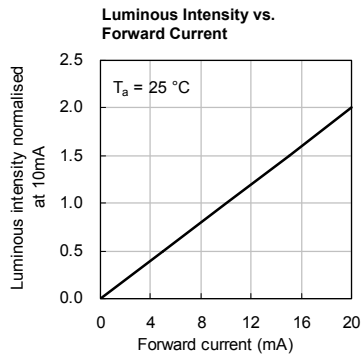
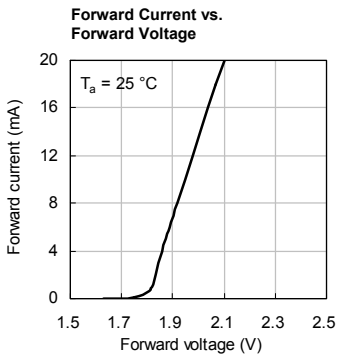
RELATIVE INTENSITY vs. WAVELENGTH



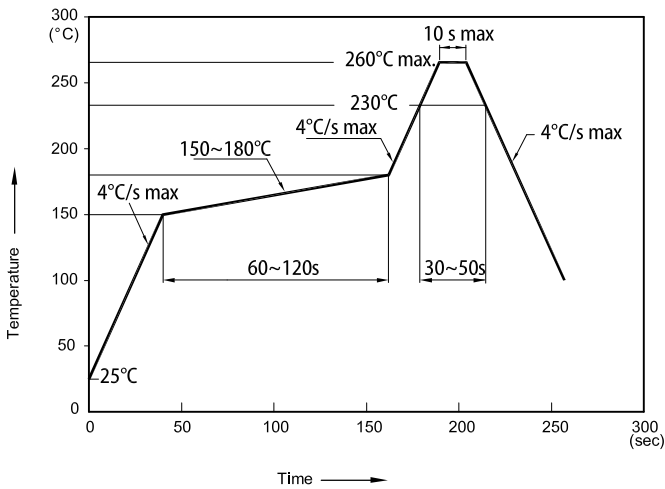
SPATIAL DISTRIBUTION



YELLOW

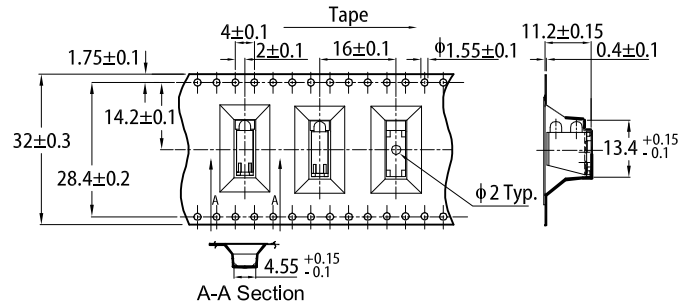


REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS



- Notes:
1. We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.
 2. Don't cause stress to the LEDs while it is exposed to high temperature.
 3. No more than once.
 4. Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.

TAPE SPECIFICATIONS (units : mm)



REEL DIMENSION (units : mm)

