Kingbright

WP7113ND

T-1 3/4 (5mm) Solid State Lamp

DESCRIPTION

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

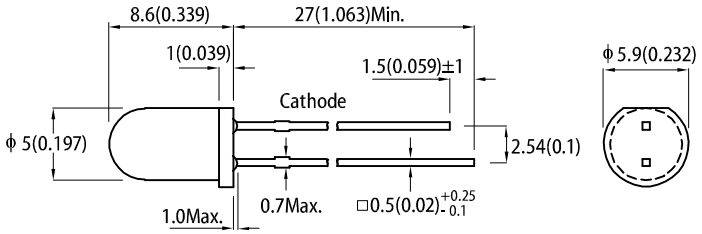
FEATURES

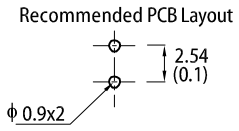
- Low power consumption
- Popular T-1 3/4 diameter package
- General purpose leads
- Reliable and rugged
- Long life - solid state reliability
- Available on tape and reel
- RoHS compliant

APPLICATIONS

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

PACKAGE DIMENSIONS





Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. 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.	2θ1/2
WP7113ND	Pure Orange (GaAsP/GaP)	Orange Diffused	20	45	30°
			*12	*30	

Notes:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. Luminous intensity / luminous flux: +/-15%.
** Luminous intensity value is traceable to CIE127-2007 standards.*

ELECTRICAL / OPTICAL CHARACTERISTICS at T_A=25°C

Parameter	Symbol	Emitting Color	Value		Unit
			Typ.	Max.	
Wavelength at Peak Emission I_F = 10mA	λ_{peak}	Pure Orange	607	-	nm
Dominant Wavelength I_F = 10mA	λ_{dom} [1]	Pure Orange	602	-	nm
Spectral Bandwidth at 50% Φ REL MAX I_F = 10mA	Δλ	Pure Orange	35	-	nm
Capacitance	C	Pure Orange	15	-	pF
Forward Voltage I_F = 10mA	V_F [2]	Pure Orange	1.95	2.3	V
Reverse Current (V_R = 5V)	I_R	Pure Orange	-	10	μA
Temperature Coefficient of λ_{peak} I_F = 10mA, -10°C ≤ T ≤ 85°C	$TC_{\lambda peak}$	Pure Orange	0.13	-	nm/°C
Temperature Coefficient of λ_{dom} I_F = 10mA, -10°C ≤ T ≤ 85°C	$TC_{\lambda dom}$	Pure Orange	0.06	-	nm/°C
Temperature Coefficient of V_F I_F = 10mA, -10°C ≤ T ≤ 85°C	TC_V	Pure Orange	-1.9	-	mV/°C

Notes:
1. The dominant wavelength (λd) above is the setup value of the sorting machine. (Tolerance λd : ±1nm.)
2. Forward voltage: ±0.1V.
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°C

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	62.5	mW
Reverse Voltage	V_R	5	V
Junction Temperature	T_j	125	°C
Operating Temperature	T_{op}	-40 to +85	°C
Storage Temperature	T_{stg}	-40 to +85	°C
DC Forward Current	I_F	25	mA
Peak Forward Current	I_{FM} [1]	145	mA
Electrostatic Discharge Threshold (HBM)	-	8000	V
Thermal Resistance (Junction / Ambient)	$R_{th\ JA}$ [2]	560	°C/W
Thermal Resistance (Junction / Solder point)	$R_{th\ JS}$ [2]	350	°C/W
Lead Solder Temperature [3]		260°C For 3 Seconds	
Lead Solder Temperature [4]		260°C For 5 Seconds	

Notes:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. $R_{th\ JA}$, $R_{th\ JS}$ Results from mounting on PC board FR4 (pad size ≥ 16 mm^2 per pad).
3. 2mm below package base.
4. 5mm below package base.
5. 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.

