

WP7113LID

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



DESCRIPTION

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

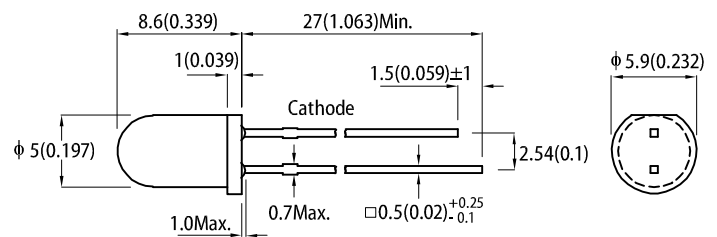
FEATURES

- 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

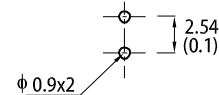
APPLICATIONS

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

PACKAGE DIMENSIONS



Recommended PCB Layout



Notes:

- All dimensions are in millimeters (inches).
- Tolerance is $\pm 0.25(0.01")$ unless otherwise noted.
- Lead spacing is measured where the leads emerge from the package.
- 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) @ 2mA ^[2]		Viewing Angle ^[1]
			Min.	Typ.	2θ1/2
WP7113LID	■ High Efficiency Red (GaAsP/GaP)	Red Diffused	1.2	4	30°
			*0.7	*2	

Notes:

- θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
- Luminous intensity / luminous flux: $\pm 15\%$.
- * 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 = 2mA	λ_{peak}	High Efficiency Red	627	-	nm
Dominant Wavelength I _F = 2mA	$\lambda_{\text{dom}}^{[1]}$	High Efficiency Red	617	-	nm
Spectral Bandwidth at 50% Φ REL MAX I _F = 2mA	$\Delta\lambda$	High Efficiency Red	45	-	nm
Capacitance	C	High Efficiency Red	15	-	pF
Forward Voltage I _F = 2mA	V _F ^[2]	High Efficiency Red	1.7	2.1	V
Reverse Current (V _R = 5V)	I _R	High Efficiency Red	-	10	μA
Temperature Coefficient of λ_{peak} I _F = 2mA, -10°C ≤ T ≤ 85°C	TC _{λ_{peak}}	High Efficiency Red	0.12	-	nm/°C
Temperature Coefficient of λ_{dom} I _F = 2mA, -10°C ≤ T ≤ 85°C	TC _{λ_{dom}}	High Efficiency Red	0.06	-	nm/°C
Temperature Coefficient of V _F I _F = 2mA, -10°C ≤ T ≤ 85°C	TC _V	High Efficiency Red	-1.9	-	mV/°C

Notes:

1. The dominant wavelength (λ_d) above is the setup value of the sorting machine. (Tolerance λ_d : ±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	75	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	30	mA
Peak Forward Current	I _{FM} ^[1]	160	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]	390	°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 mm² 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.