Kingbright

4mm CYLINDRICAL LED LAMP

WP1413ITL   HIGH EFFICIENCY RED

Features

● CYLINDRICAL TYPE, FLAT TOP.

● CONVEX CATHODE MARK ON BODY.

● LOW POWER CONSUMPTION.

● I.C. COMPATIBLE.

● RELIABLE AND RUGGED.

● LONG LIFE - SOLID STATE RELIABILITY.

● RoHS COMPLIANT.

Description

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

Package Dimensions
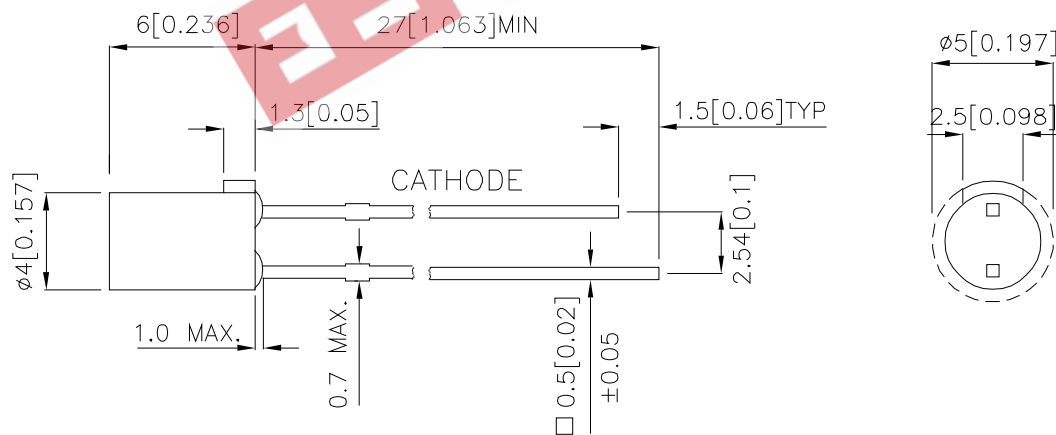
Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.

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Selection Guide

| Part No. | Dice | Lens Type | Iv (mcd) @ 10mA | | Viewing Angle |
			Min.	Typ.	2 θ 1/2
WP1413ITL	HIGH EFFICIENCY RED (GaAsP/GaP)	RED TRANSPARENT	12	20	70°

Note:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
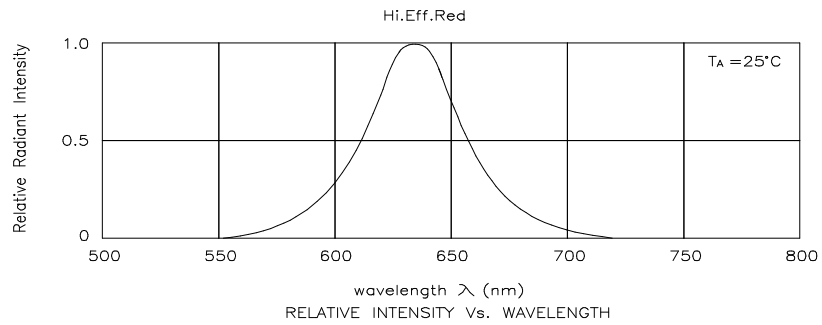
Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red	627		nm	I_F=20mA
λD	Dominant Wavelength	High Efficiency Red	625		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	High Efficiency Red	45		nm	I_F=20mA
C	Capacitance	High Efficiency Red	15		pF	V_F=0V;f=1MHz
V_F	Forward Voltage	High Efficiency Red	2.0	2.5	V	I_F=20mA
I_R	Reverse Current	High Efficiency Red		10	uA	V_R = 5V

Absolute Maximum Ratings at T_A=25°C

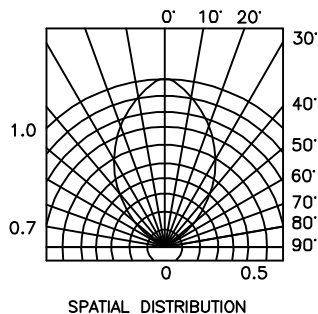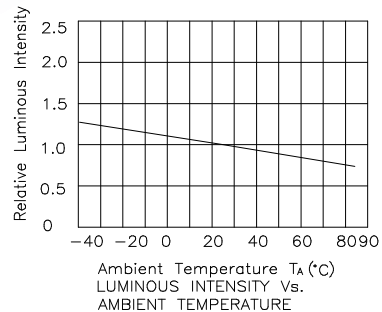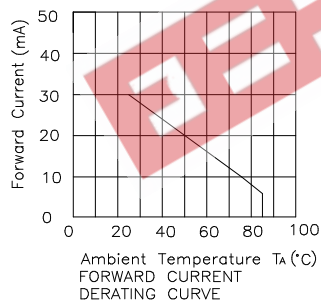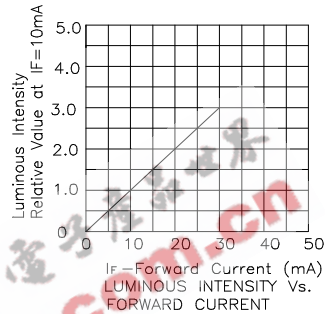| Parameter	High Efficiency Red	Units
Power dissipation	105	mW
DC Forward Current	30	mA
Peak Forward Current [1]	160	mA
Reverse Voltage	5	V
Operating/Storage Temperature	-40°C To +85°C	
Lead Solder Temperature [2]	260°C For 3 Seconds	
Lead Solder Temperature [3]	260°C For 5 Seconds	

Notes:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 2mm below package base.
3. 5mm below package base.

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Hi.Eff.Red

RELATIVE INTENSITY Vs. WAVELENGTH

$T_A = 25°C$

Relative Radiant Intensity

wavelength λ (nm)

High Efficiency Red　　　　**WP1413ITL**

FORWARD CURRENT Vs.
FORWARD VOLTAGE

Forward Current (mA)

Forward Voltage(V)

LUMINOUS INTENSITY Vs.
FORWARD CURRENT

Luminous Intensity
Relative Value at IF=10mA

I_F—Forward Current (mA)

FORWARD CURRENT
DERATING CURVE

Forward Current (mA)

Ambient Temperature T_A (°C)

LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

Relative Luminous Intensity

Ambient Temperature T_A (°C)

SPATIAL DISTRIBUTION

Remarks:

If special sorting is required (e.g. binning based on forward voltage, luminous intensity or wavelength),

the typical accuracy of the sorting process is as follows:

1. Wavelength: +/-1nm

2. Luminous Intensity: +/-15%

3. Forward Voltage: +/-0.1V

Note: Accuracy may depend on the sorting parameters.