Kingbright

SUBMINIATURE SOLID STATE LAMP

Part Number: KM2520EH/1ID-5V

High Efficiency Red

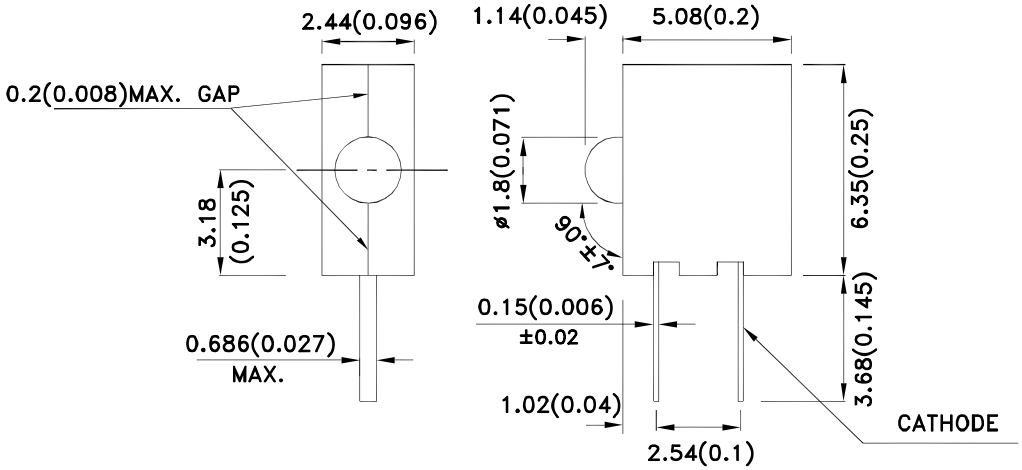
Features

- Black case enhances contrast.
- Vibration and shock resistant.
- Housing UL rating:94V-0.
- Housing material: type 66 nylon.
- 5V internal resistor.
- 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. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] V= 5V		Viewing Angle [1]
			Min.	Typ.	2θ1/2
KM2520EH/1ID-5V	High Efficiency Red (GaAsP/GaP)	Red Diffused	4	12	40°

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%.

Electrical / Optical Characteristics at TA=25°C

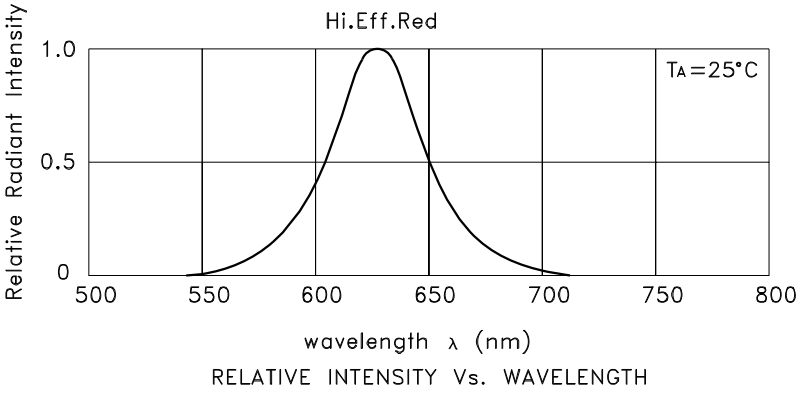
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red	627		nm	V_F=5V
λD [1]	Dominant Wavelength	High Efficiency Red	625		nm	V_F=5V
Δλ1/2	Spectral Line Half-width	High Efficiency Red	45		nm	V_F=5V
I_F	Forward Current	High Efficiency Red	13	17.5	mA	V_F=5V
I_R	Reverse Current	High Efficiency Red		10	uA	V_R = 5V

Note:
1.Wavelength: +/-1nm.

Absolute Maximum Ratings at TA=25°C

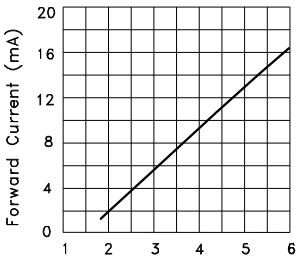
Parameter	High Efficiency Red	Units
Power dissipation	85	mW
Forward Voltage	6	V
Reverse Voltage	5	V
Operating Temperature	-40°C To +70°C	
Storage Temperature	-40°C To +85°C	
Lead Solder Temperature [1]	260°C For 3 Seconds	
Lead Solder Temperature [2]	260°C For 5 Seconds	

Notes:
1. 2mm below package base.
2. 5mm below package base.

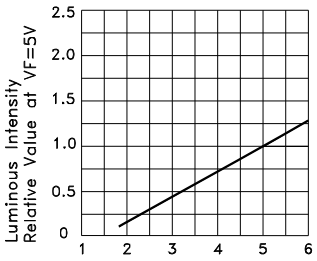


RELATIVE INTENSITY Vs. WAVELENGTH

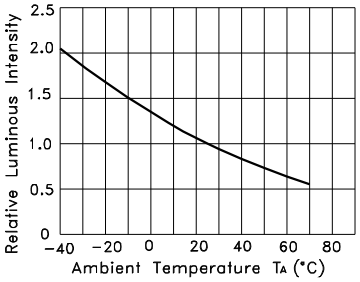
High Efficiency Red **KM2520EH/1ID-5V**



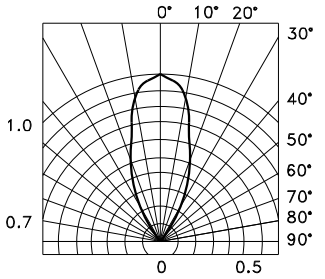
FORWARD VOLTAGE Vs. FORWARD CURRENT



FORWARD VOLTAGE Vs. LUMINOUS INTENSITY

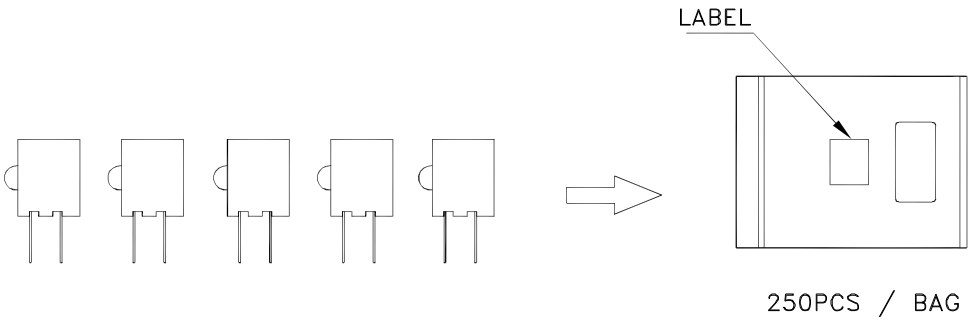


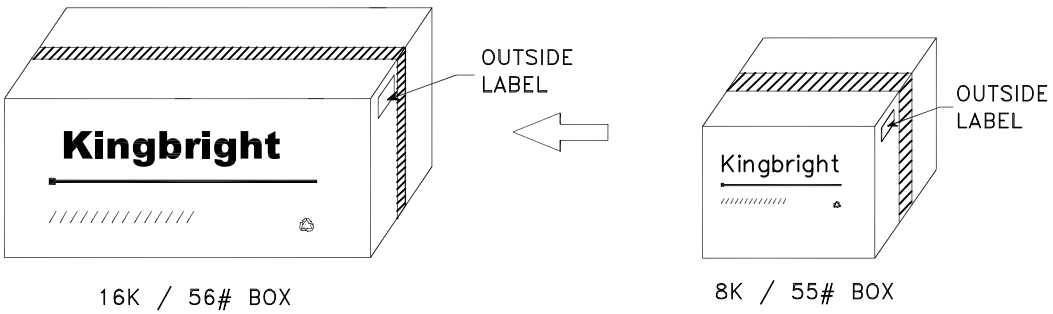
LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

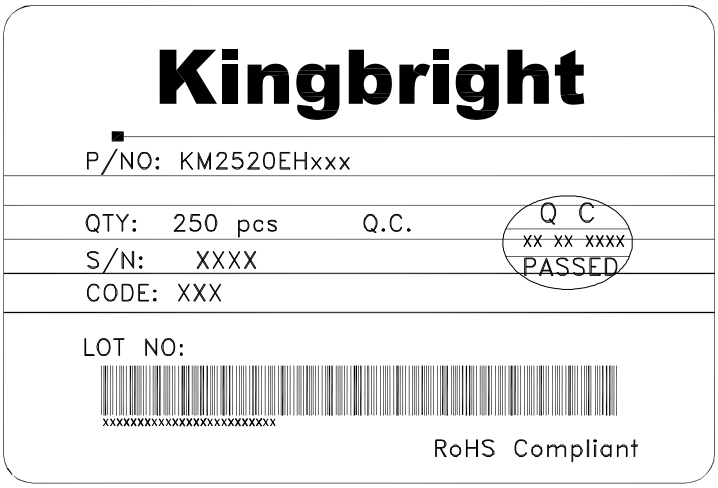


SPATIAL DISTRIBUTION

PACKING & LABEL SPECIFICATIONS **KM2520EH/1ID-5V**

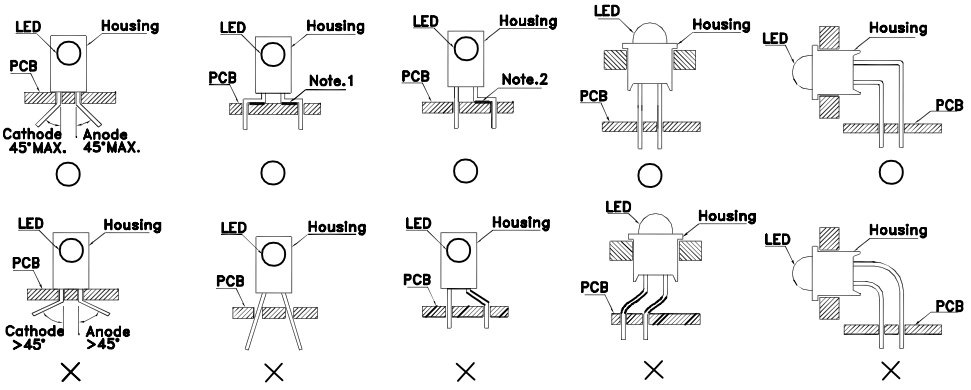






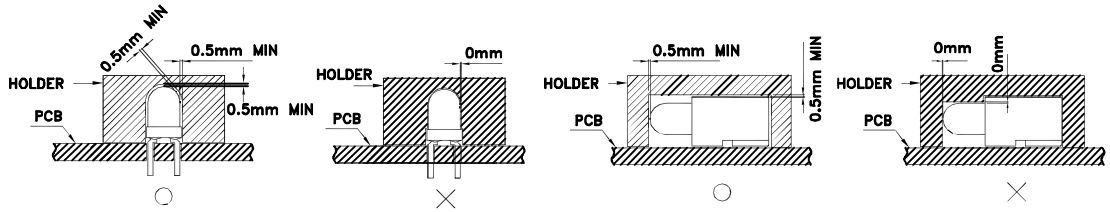
PRECAUTIONS

1. The lead pitch of the LED must match the pitch of the mounting holes on the PCB during component placement. Lead-forming may be required to insure the lead pitch matches the hole pitch. Refer to the figure below for proper lead forming procedures.

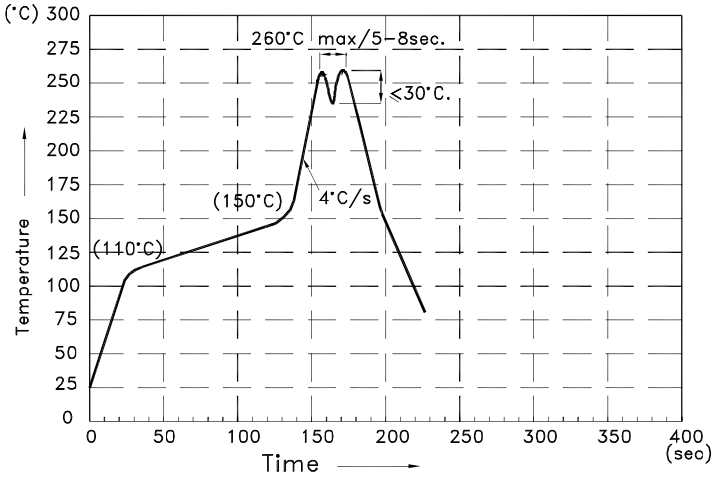


"○" Correct mounting method "×" Incorrect mounting method

2. During soldering, component covers and holders should leave clearance to avoid placing damaging stress on the LED during soldering.



3. The tip of the soldering iron should never touch the lens epoxy.
4. Through-hole LEDs are incompatible with reflow soldering.
5. If the LED will undergo multiple soldering passes or face other processes where the part may be subjected to intense heat, please check with Kingbright for compatibility.
6. Recommended Wave Soldering Profile for Kingbright Thru-Hole Products



NOTES:

1.Recommend the wave temperature 245°C~260°C.The maximum soldering temperature should be less than 260°C.
2.Do not apply stress on epoxy resins when temperature is over 85°C.
3.The soldering profile apply to the lead free soldering (Sn/Cu/Ag alloy).
4.During wave soldering, the PCB top-surface temperature should be kept below 105°C.
5.No more than once.