

Part Number: KM2520EC09

High Efficiency Red

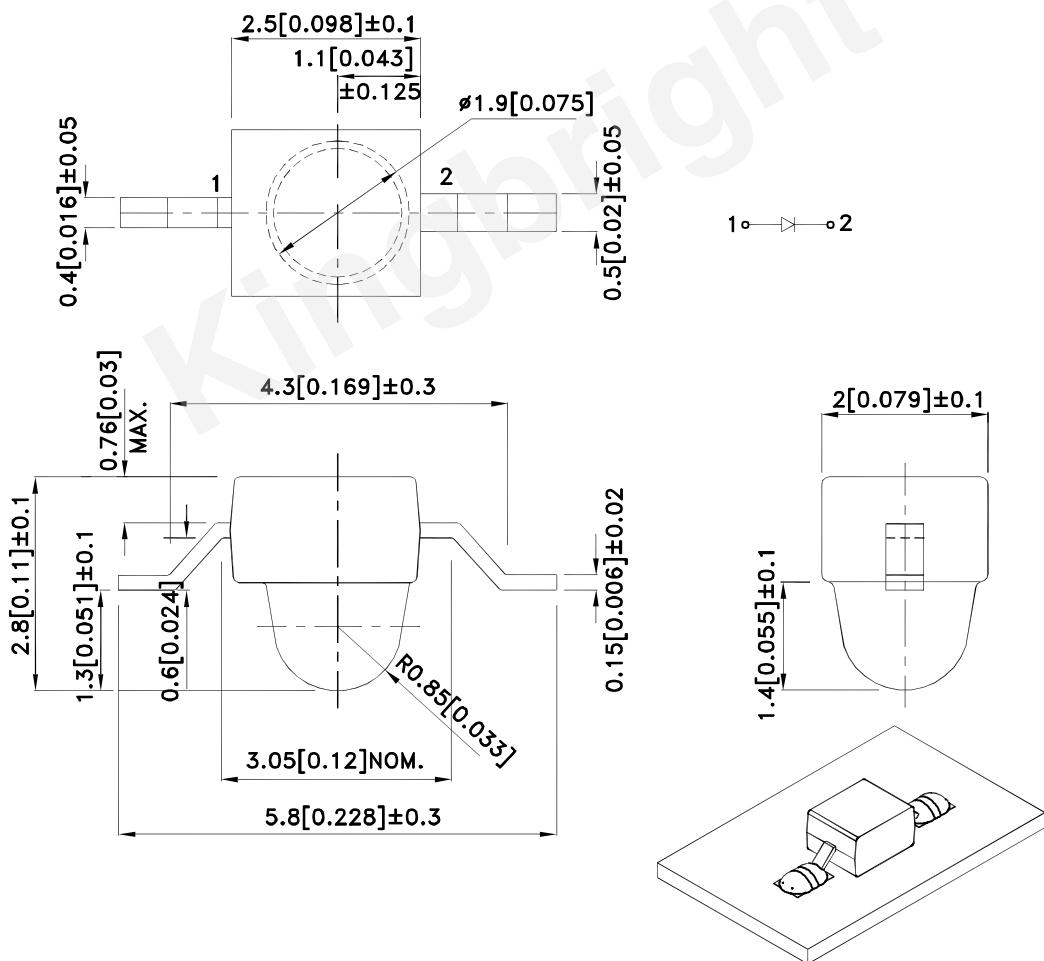
Features

- Subminiature package.
- Z-bend lead.
- Long life - solid state reliability.
- Low package profile.
- Moisture sensitivity level : level 3.
- Package : 1000pcs / reel.
- 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.
5. The device has a single mounting surface. The device must be mounted according to the specifications.



Selection Guide

Part No.	Dice	Lens Type	I _v (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	
KM2520EC09	High Efficiency Red (GaAsP/GaP)	Water Clear	50	100	20°
			*20	*50	

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 the CIE127-2007 compliant national standards.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red	627		nm	I _f =20mA
λD [1]	Dominant Wavelength	High Efficiency Red	617		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 [2]	Forward Voltage	High Efficiency Red	2	2.5	V	I _f =20mA
I _R	Reverse Current	High Efficiency Red		10	uA	V _R =5V

Notes:

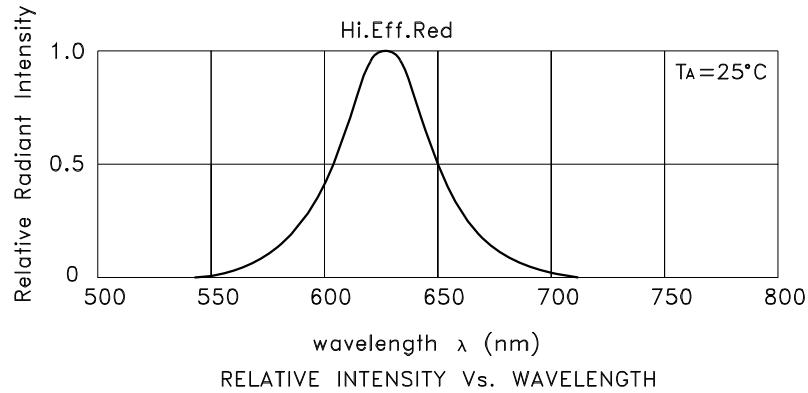
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

Absolute Maximum Ratings at TA=25°C

Parameter	High Efficiency Red	Units
Power dissipation	75	mW
DC Forward Current	30	mA
Peak Forward Current [1]	160	mA
Reverse Voltage	5	V
Operating Temperature	-40°C To +85°C	
Storage Temperature	-40°C To +85°C	

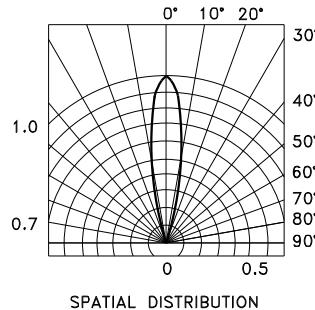
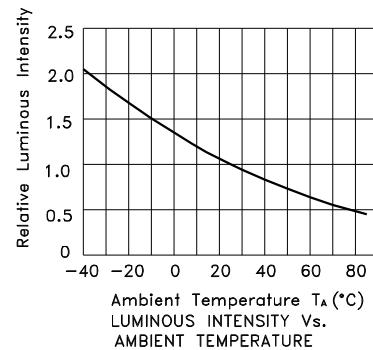
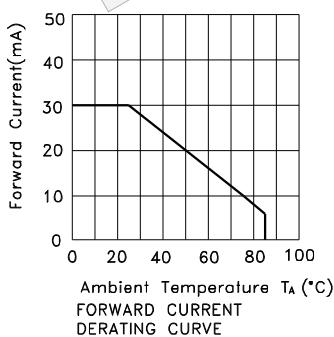
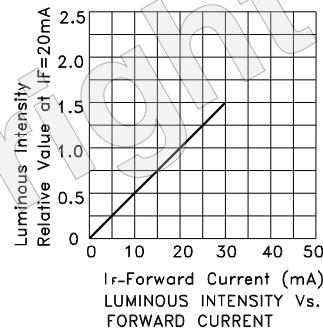
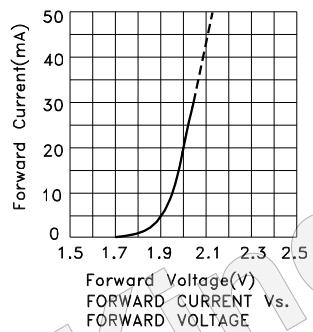
Note:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.



High Efficiency Red

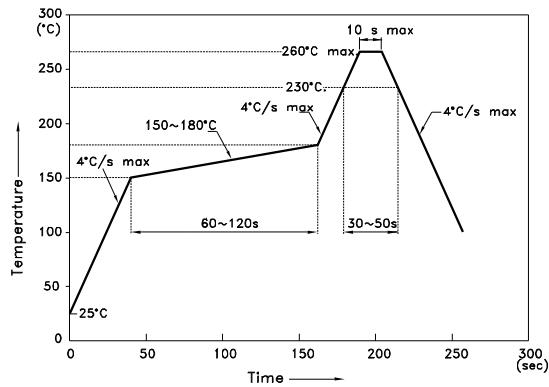
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Reflow soldering is recommended and the soldering profile is shown below.
Other soldering methods are not recommended as they might cause damage to the product.

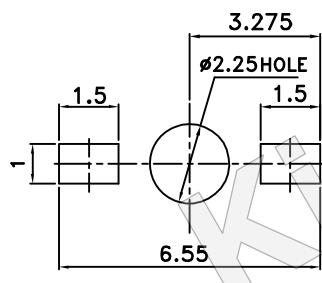
Reflow Soldering Profile For Lead-free SMT Process.



NOTES:

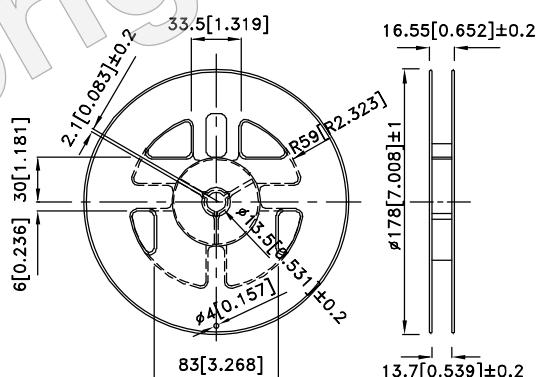
1. We recommend the reflow temperature 245°C ($+/- 5^{\circ}\text{C}$). The maximum soldering temperature should be limited to 260°C .
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Tape Dimensions (Units : mm)

Reel Dimension



Technical drawing of a tape component. The overall width is labeled **TAPE**. Key dimensions include:

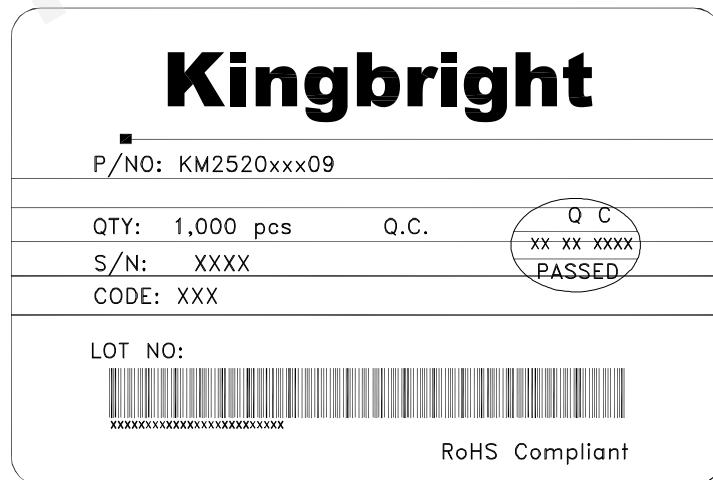
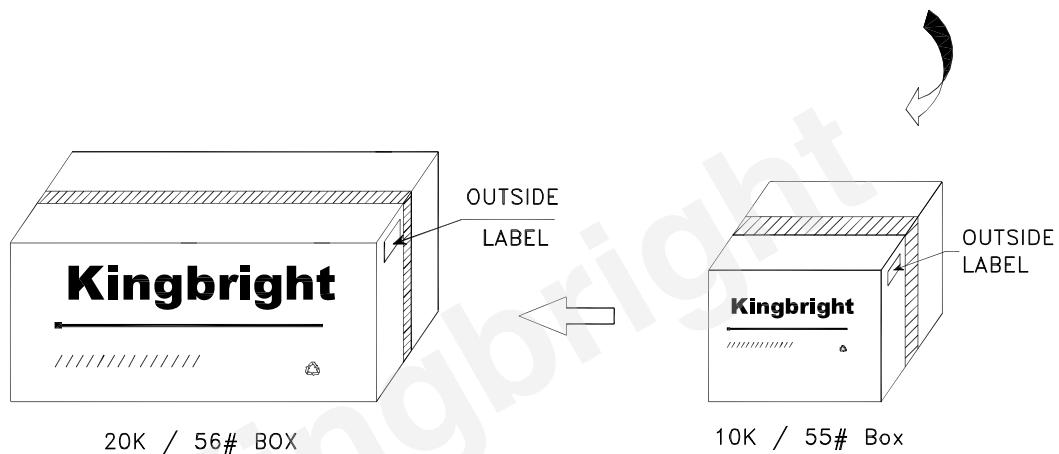
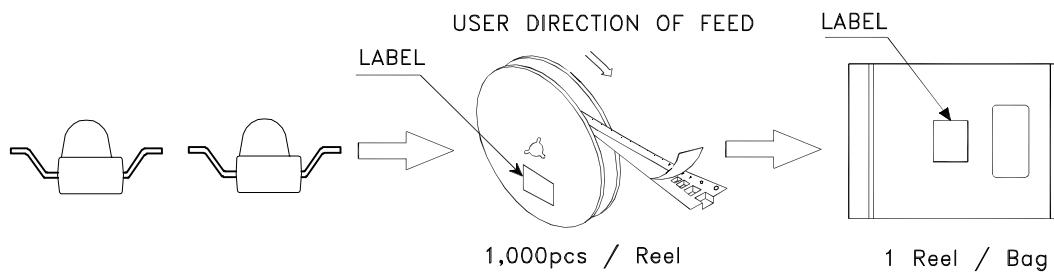
- Width of the main body: 4.0 ± 0.05
- Width of the central slot: 2.0 ± 0.05
- Width of the side slot: 4.0 ± 0.1
- Radius of the top edge: $\phi 1.5 \pm 0.1$
- Width of the side slot: 0.3 ± 0.05
- Total height: 12 ± 0.2
- Height of the central slot: 5.5 ± 0.05
- Height of the side slot: 1.75 ± 0.1
- Height of the top edge: 1.75 ± 0.1

The drawing also shows three rectangular cutouts at the bottom, each with a central circular hole and a small protrusion above it.

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PACKING & LABEL SPECIFICATIONS

KM2520EC09



Detailed application notes are listed on our website.
http://www.kingbright.com/application_notes