Kingbright

2.0x1.2mm SMD CHIP LED LAMP

AP2012EC HIGH EFFICIENCY RED

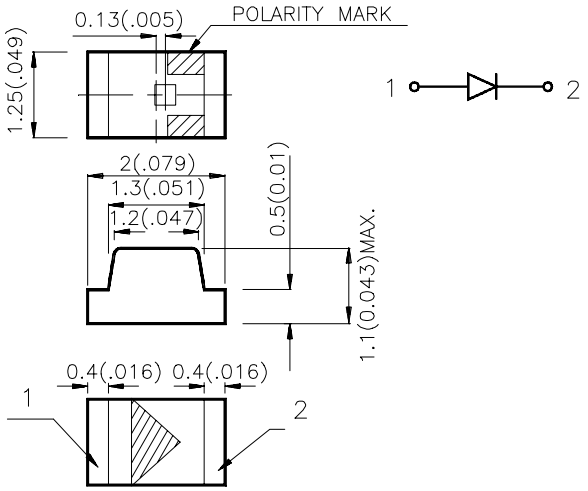
Features

- 2.0mmx1.2mm SMT LED, 1.1mm THICKNESS.
- LOW POWER CONSUMPTION.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- PACKAGE : 2000PCS / REEL.

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 ±0.1(0.004") unless otherwise noted.
3. Lead spacing is measured where the lead emerge package.
4. Specifications are subject to change without notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 20 mA		Viewing Angle
			Min.	Typ.	2θ1/2
AP2012EC	HIGH EFFICIENCY RED(GaAsP/GaP)	WATER CLEAR	5	12	120°

Note:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

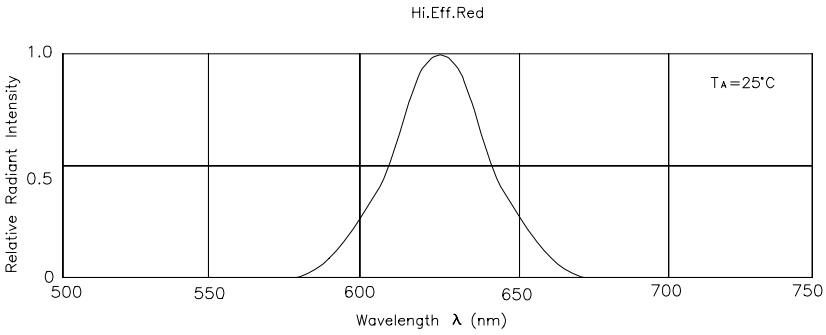
Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red	627		nm	IF=20mA
λ D	Dominate Wavelength	High Efficiency Red	625		nm	IF=20mA
Δλ1/2	Spectral Line Halfwidth	High Efficiency Red	45		nm	IF=20mA
C	Capacitance	High Efficiency Red	15		pF	VF=0V;f=1MHz
V_F	Forward Voltage	High Efficiency Red	2.0	2.5	V	IF=20mA
I_R	Reverse Current	High Efficiency Red		10	uA	VR = 5V

Absolute Maximum Ratings at T_A=25°C

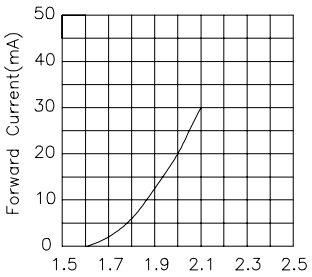
Parameter	High Efficiency red	Units
Power dissipation	105	mW
DC Forward Current	30	mA
Peak Forward Current [1]	160	mA
Reverse Voltage	5	V
Operating Temperature	-40°C To +85°C	
Storage Temperature	-40°C To +85°C	

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

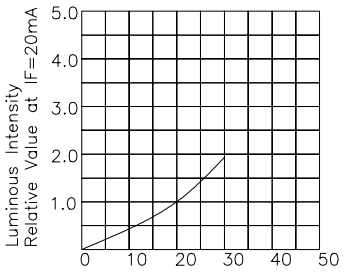


RELATIVE INTENSITY Vs. WAVELENGTH

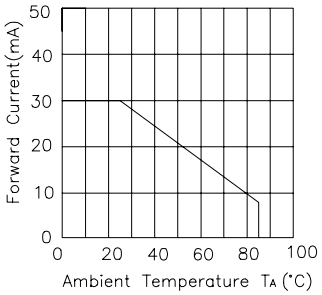
High Efficiency Red AP2012EC



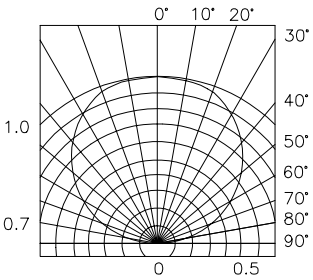
FORWARD CURRENT Vs
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



SPATIAL DISTRIBUTION

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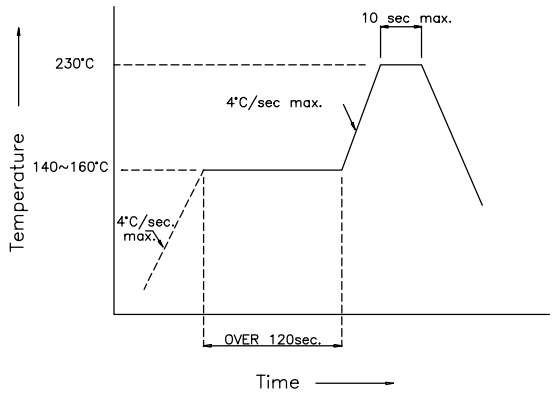
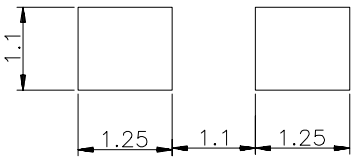
SMT Reflow Soldering Instructions

Number of reflow process shall be less than 2 times and cooling process to normal temperature is required between first and second soldering process.



Recommended Soldering Pattern
(Units : mm)



Tape Specifications
(Units : mm)