

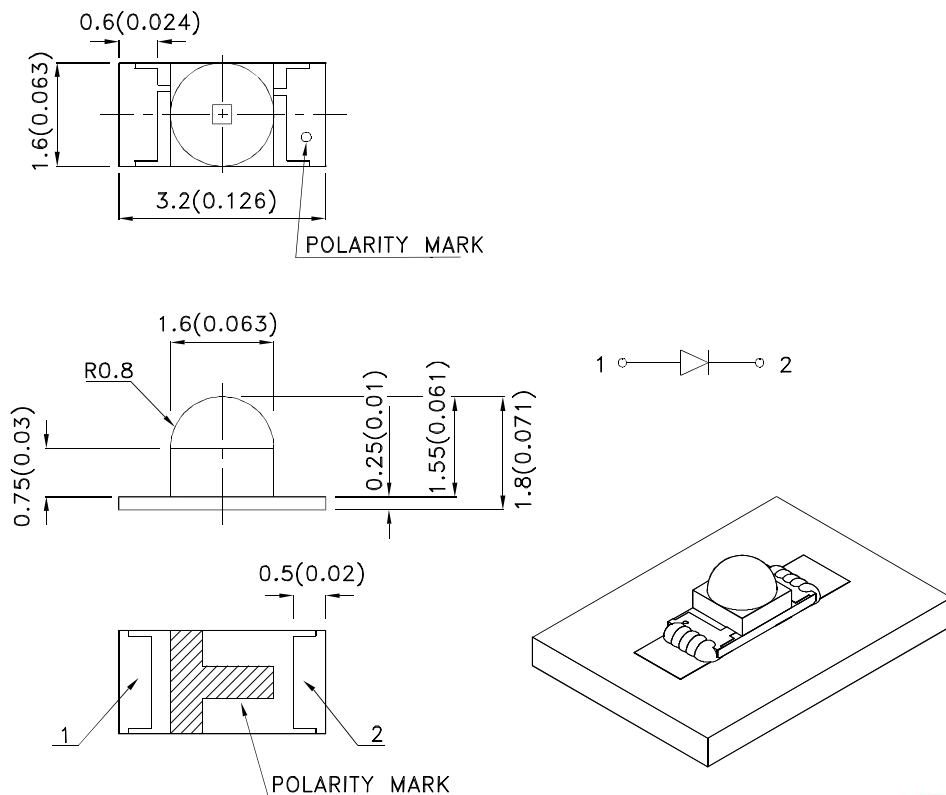
### Features

- 3.2mmX1.6mm SMT LED, 1.8mm thickness.
- Low power consumption.
- Ideal for backlight and indicator.
- Various colors and lens types available.
- Package: 2000pcs / reel .
- Moisture sensitivity level : level 3.
- 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  $\pm 0.2(0.008)$  unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.



## Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
APTD3216EC	High Efficiency Red (GaAsP/GaP)	Water Clear	30	55	35°
			*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	IF=20mA
λD [1]	Dominant Wavelength	High Efficiency Red	617		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	High Efficiency Red	45		nm	IF=20mA
C	Capacitance	High Efficiency Red	15		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	High Efficiency Red	2	2.5	V	IF=20mA
IR	Reverse Current	High Efficiency Red		10	uA	VR=5V

### Notes:

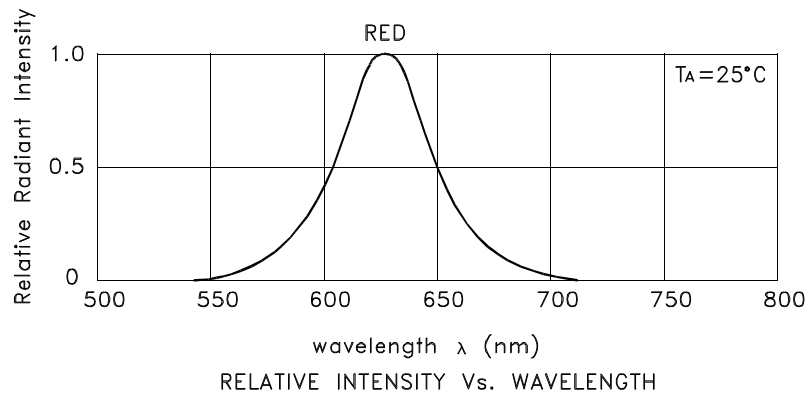
- 1.Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

## 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	

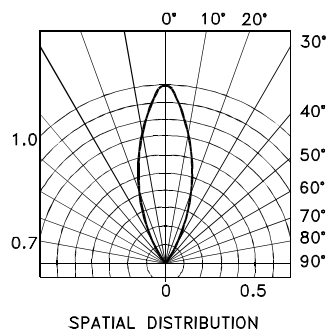
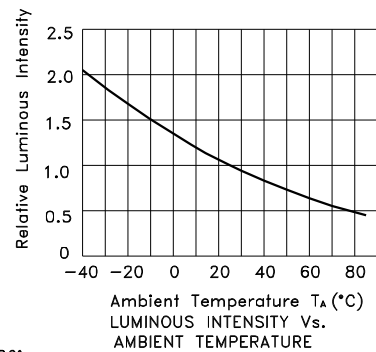
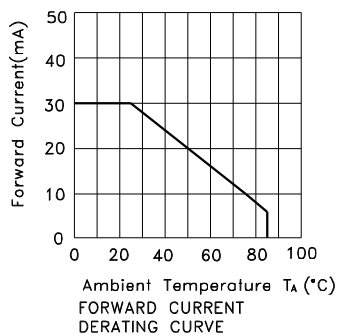
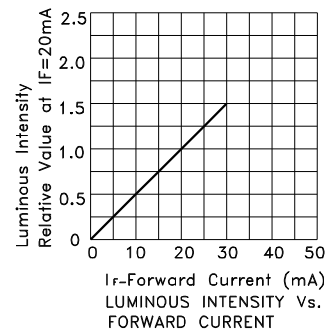
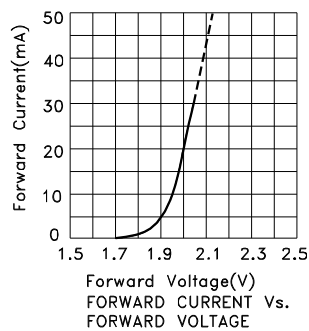
### Note:

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



## High Efficiency Red

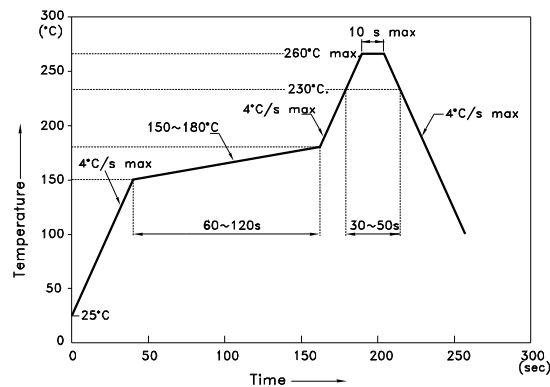
## APTD3216EC



**APTD3216EC**

**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.**

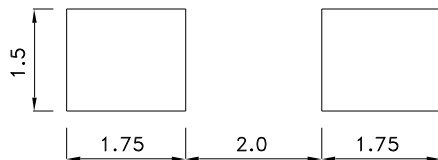
### Reflow Soldering Profile For Lead-free SMT Process.



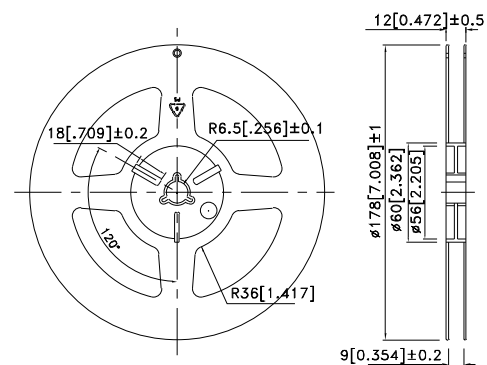
NOTES:

1. We recommend the reflow temperature 245°C(+/-5°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.

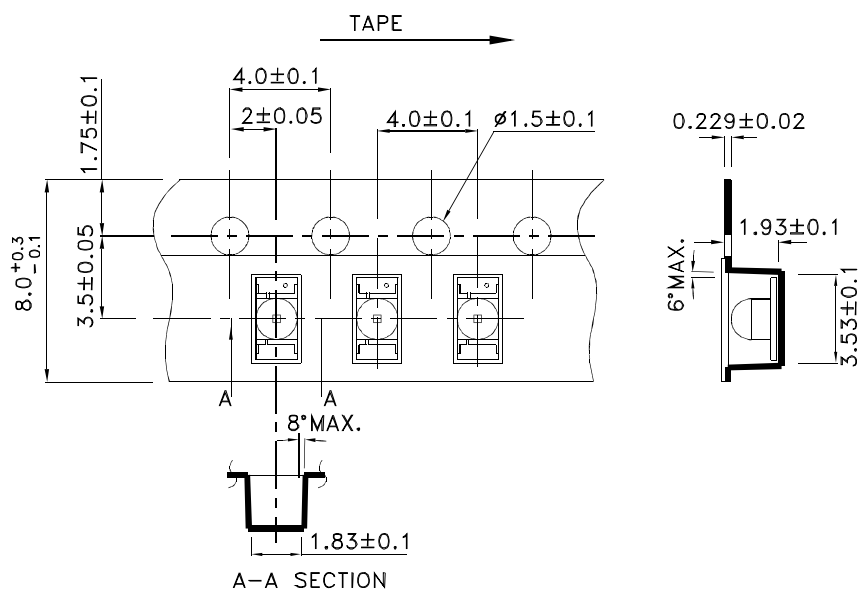
**Recommended Soldering Pattern**  
(Units : mm; Tolerance:  $\pm 0.1$ )



## Reel Dimension

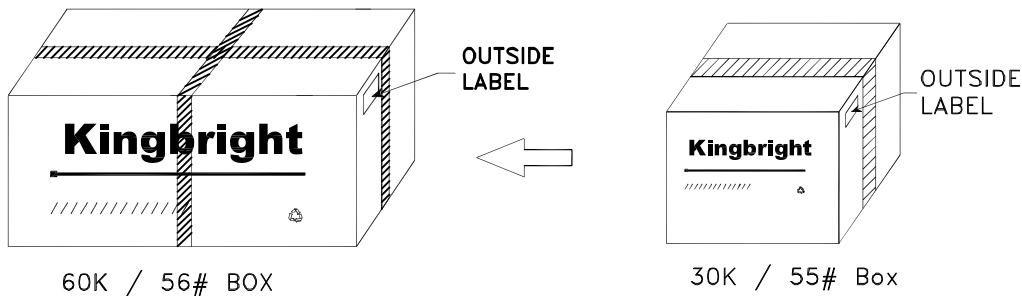
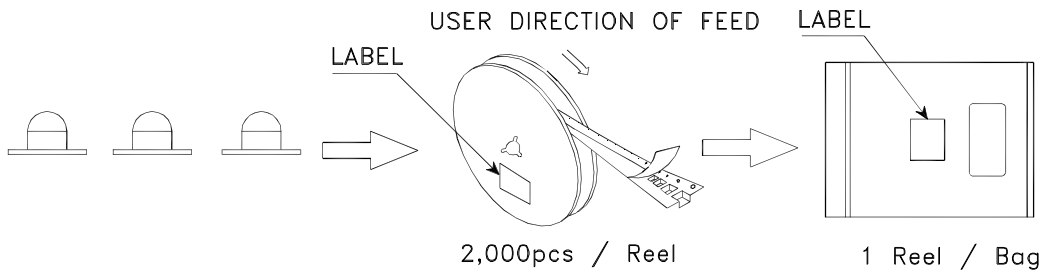



### Tape Dimensions (Units : mm)



PACKING & LABEL SPECIFICATIONS

APTD3216EC



<b>Kingbright</b>				
P/NO: APTD3216xxx				
QTY: 2,000 pcs	Q.C. <table border="1"><tr><td>Q C</td></tr><tr><td>xx xx xxxx</td></tr><tr><td>PASSED</td></tr></table>	Q C	xx xx xxxx	PASSED
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RoHS Compliant				

All design applications should refer to Kingbright application notes available at <http://www.KingbrightUSA.com/ApplicationNotes>