

T1-3/4 PACKAGE TYPE

ALL-IN-ONE LED SPARKLING LAMP P/N: RAINBOW LED SERIES

1) Description

The **RAINBOW LED**, adopting the latest AlInGaP, InGaN and CMOS driving technology, is an ALL-IN-ONE sparkling and flashing LED lamp. With multi-colored SMD chip and controller chip embedded in standard T1-3/4 Package, It shows various colors by simply applying DC power. The package epoxy is available for transparent or diffused.

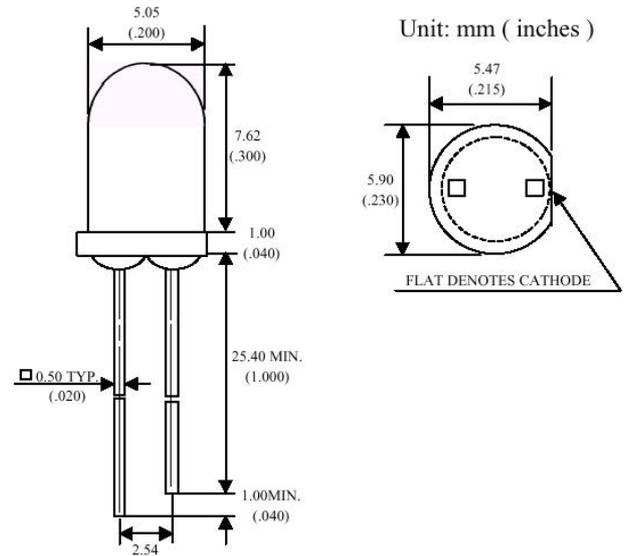
2) Features

- ◆ AlInGaP and InGaN materials.
- ◆ SMD LED and controller in a standard package.
- ◆ High reliability and compact size.
- ◆ Multi-color combination & optional working mode

3) Applications

- ◆ Electronic toys
- ◆ Decoration lighting
- ◆ Electronic candles
- ◆ Shoes and bags
- ◆ Warning signal
- ◆ Fishing tools
- ◆ Bicycle signale light
- ◆ Lighting pens
- ◆ Key chain and other gifts

4) Package Dimensions



Notes:

- 1) Tolerance is 0.25mm(0.10'') unless otherwise noted
- 2) Protruded resin under flange is 0.15mm(0.059'') maximum
- 3) Lead spacing is measured where the leads emerge from the body of the package

5) Absolute Maximum Ratings

@Ta=25°C

Parameter	Maximum Rating	Unit
Forward Voltage	6.0	V
Reverse Voltage	-3.0	V
Power Dissipation	75	mW
Operating Temperature Range	-15 ~ +70	°C
Storage Temperature Range	-25 ~ +100	°C
Soldering Temperature	+235°C, less than 5 seconds	

6) Recommended Working Condition

Parameter	Minimum	Typical	Maximum	Unit
Power Supply Voltage (VDD)	3.0	4.5	5.0	V
Power Dissipation (Pd)	-	50	70	mW
Operating Current (Id)	20	40	55	mA
Operating Temperature Range	-5	40	65	°C

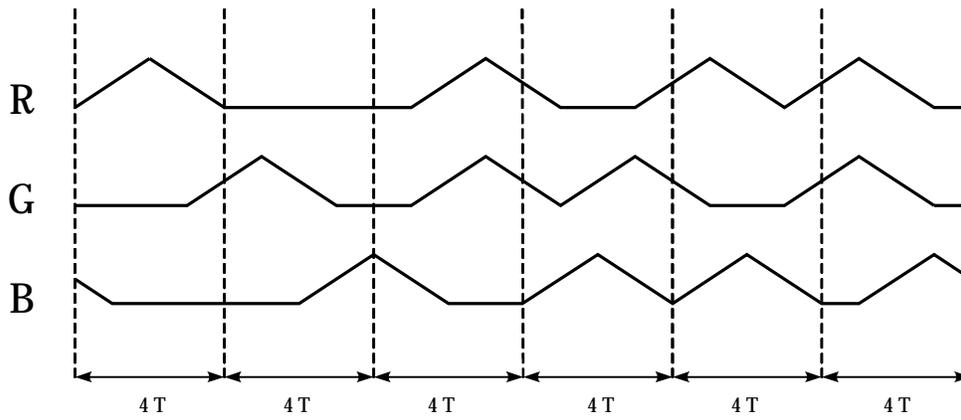
7) Initial Optical-Electrical Characteristics

Color	Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Red	AlInGaP Technology						
	Luminous Intensity	20mA DC	I _v	45	80	-	mcd
	Forward Voltage	20mA DC	V _f	-	2.1	2.6	V
	Reverse Current	V _r =5V DC	I _r	-	-	10	uA
	Dominant Wave Length	20mA DC	λ _d	-	625	-	nm
	Spectral Radiation Bandwidth	20 mA DC	Δλ	-	20	-	nm
Green	InGaN Technology						
	Luminous Intensity	20mA DC	I _v	65	130	-	mcd
	Forward Voltage	20mA DC	V _f	-	3.5	4.2	V
	Reverse Current	V _r =5V DC	I _r	-	-	10	uA
	Dominant Wave Length	20mA DC	λ _d	-	523	-	nm
	Spectral Radiation Bandwidth	20 mA DC	Δλ	-	35	-	nm
Blue	InGaN Technology						
	Luminous Intensity	20mA DC	I _v	20	55	-	mcd
	Forward Voltage	20mA DC	V _f	-	3.5	4.2	V
	Reverse Current	V _r =5V DC	I _r	-	-	10	uA
	Dominant Wave Length	20mA DC	λ _d	-	470	-	nm
	Spectral Radiation Bandwidth	20 mA DC	Δλ	-	25	-	nm
Viewing Angle		VDD= 4.5V	2θ1/2	-	35	-	nm
Controller' s Timing Interval		VDD= 4.5V	T				sec
Controller' s Timing Accuracy		VDD = 4.5V	F0				KHz

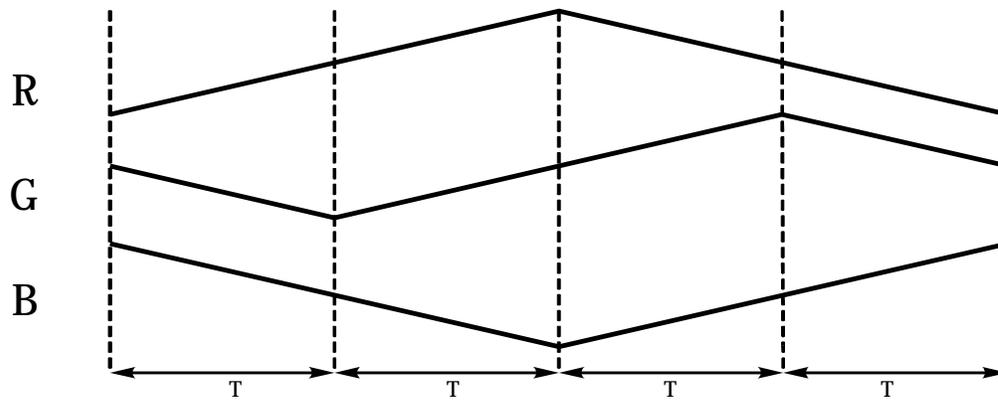
8) Working mode Options

Working mode, as stated below, could be selected while bonding the controller chip.

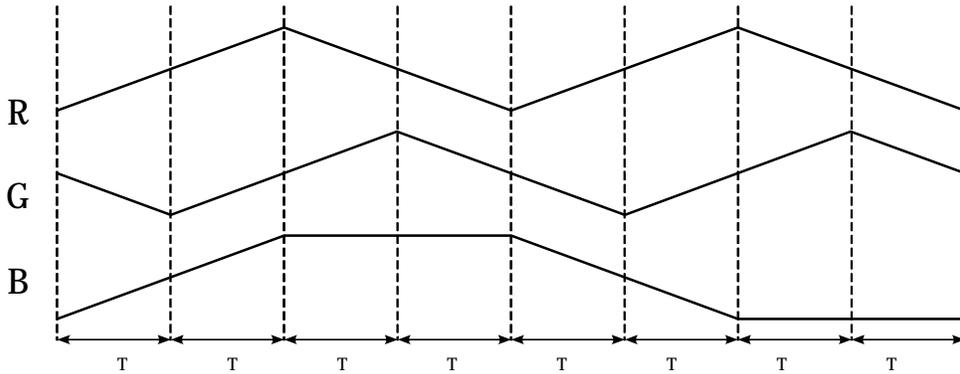
⌋ Diagram for Working R1



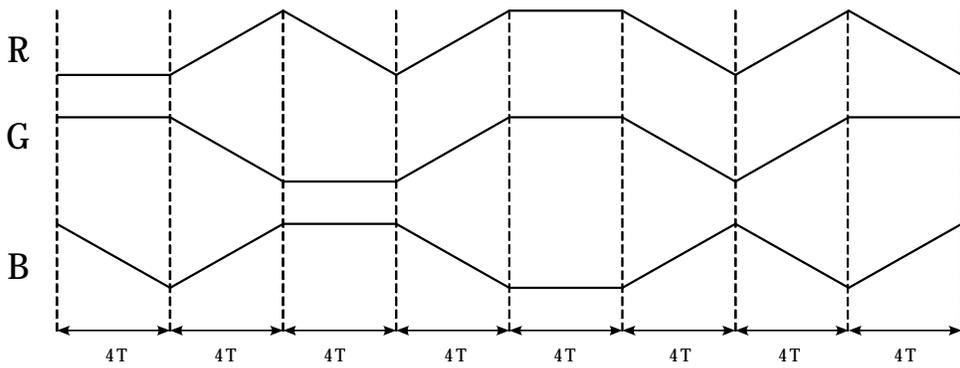
⌋ Diagram for Working R2



⌋ Diagram for Working R3



⌋ Diagram for Working R4



⌋ Working Mode R5

R-G-B-RG-RB-RGB Repeat Continuously

⌋ Working Mode R6

LEDS are lit by R-OFF-G-OFF-B-RG-OFF-GB-OFF-RB-OFF-RGB-OFF sequence Repeating continuously

9) Ordering Information

Buyers should supply additional information, as indicated by the following numbering system

RAINBOW LED 1 - V1 B



This letter is used to indicate the packing method
B Bulk pack by plastic bag, 1,000pcs/bag

This digit indicates the working mode of the controller.
 1 Mode R1 ; 2 Mode R2 ; 3 Mode R3 ; 4 Mode R4 ; 5 Mode R5 ; 6 Mode R6