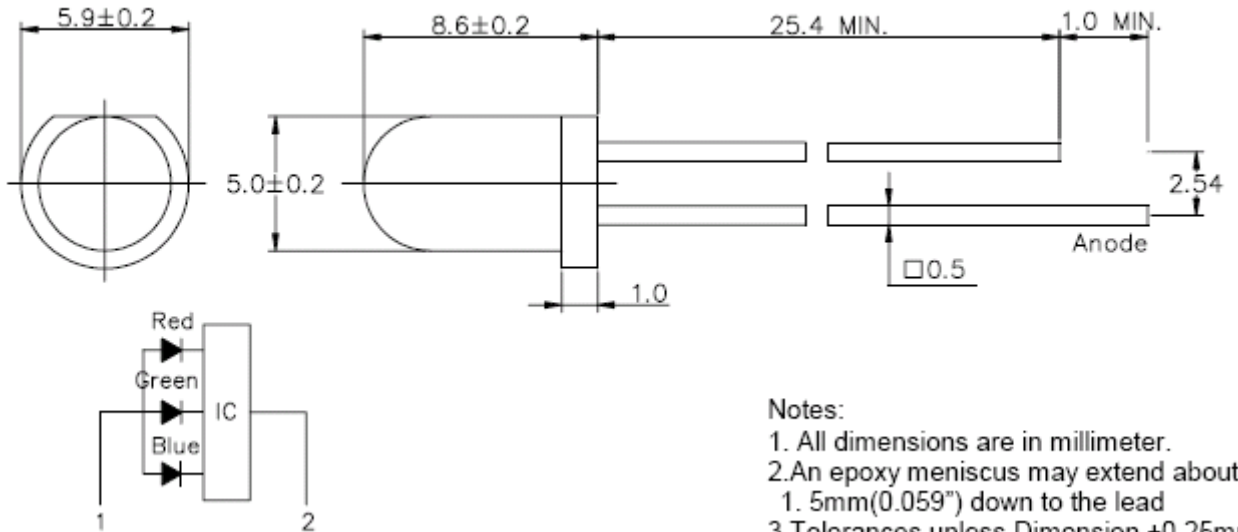




**ARL-5013RGBW-B-7color Slow**

**Package Dimensions**



**Features**

- Electricity control IC embedded
- Fancy, fun, hottest in the market.
- Lens size with 5mm / 8mm / 10mm options
- Viewing Angles 40°.
- Operating voltage range : 3V-5V DC.
- Blinking frequency : 1.8Hz
- Frequency tolerance :  $\pm 20\%$
- RoHS compliant

**Applications**

- Toys / sports utilities
- Miniature key chains
- Effect Lights.
- Display / decoration lights .
- Electronic displays and signals
- Interior decoration lights.
- Indicator lights.
- Solar energy lights / garden lights

**Usage Notes**

Surge will damage the LED  
 When using LED, it must use a protective resistor in series with DC current about 20mA

**Description**

- New trend creations
- Low energy consumptions
- Low maintenance costs
- High application design flexibility
- High reliability

**ABSOLUTE MAXIMUM RATING (T<sub>a</sub> = 25°C)**

Parameter	Symbol	Absolute Maximum Rating	Units
Peak Forward Current	I <sub>FPM</sub>	100	mA
Forward Current	I <sub>FM</sub>	30	mA
Reverse Voltage	V <sub>R</sub>	5	V
Operating Temperature	Topr	-40 ~ +80	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Soldering Temperature	Tsol	260	°C

## DEVICE SELECTION GUIDE

Part No.	Chip		Lens Color
	Material	Emitted Color	
ARL-5013RGBW-B-7color Slow	AlGaInP	Red	White Diffused
	InGaN	Green	
	InGaN	Blue	

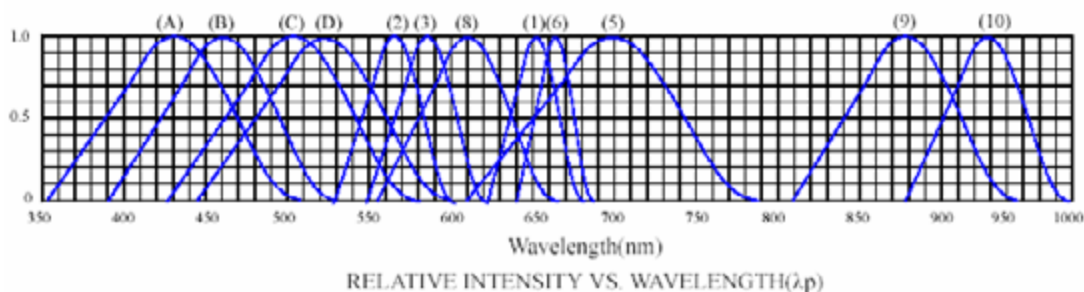
## ELECTRICAL / OPTICAL CHARACTERISTICS AT TA=25°C

Parameter	Symbol	Device	Min	Typ.	Max.	Units	Test Conditions
Luminous Intensity	Iv	Red	300	---	400	mcd	IF=20mA
		Green	400	---	600		
		Blue	300	---	400		
Viewing Angle	2θ1/2	Red	---	45	---	Deg	(Note 1)
		Green					
		Blue					
Peak Emission Wavelength	λp	Red		630		nm	IF=20mA
		Green		525			
		Blue		470			
Spectral Line Half-Width	Δλ	Red		20		nm	IF=20mA
		Green		35			
		Blue		20			
Forward Voltage	V <sub>F</sub>	Red		2.2	2.5	V	IF=20mA
		Green		3.3	3.8		
		Blue		3.5	4.8		
Cycle	S			30		sec	IF=20mA

## RELIABILITY TEST ITEMS AND CONDITIONS

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Rc
1	Solder Heat	Temp:260°C ± 5°C	3 sec.	76 Pcs.	0/1
2	Temperature Cycle	H: +85°C 30 min. J 5 min L: -55°C 30 min.	50 Cycles	76 Pcs.	0/1
2	Temperature Cycle	H: +100°C 30 min. J 10 set L: -10°C 5 min.	50 Cycles	76 Pcs.	0/1
4	High Temperature Storage	Temp.:100°C	1000Hrs.	76 Pcs.	0/1
5	Low Temperature Storage	Temp.: -55°C	1000Hrs.	76 Pcs.	0/1
6	DC Operating Life	Temp.:25°C IF=20mA	1000Hrs.	76 Pcs.	0/1
7	High Temperature/High Humidity	85°C/ 85%RH	1000Hrs.	76 Pcs.	0/1

## TYPICAL ELECTRICAL-OPTICAL CHARACTERISTICS CURVES



- |                                  |                                  |
|----------------------------------|----------------------------------|
| (1) GaAsP/GaAs 655nm/Red         | (9) GaAlAs 880nm                 |
| (2) Gap 568nm/Yellow Green       | (10) GaAs/GaAs&GaAlAs/GaAs 940nm |
| (3) GaAsP/Gap585nm Yellow        | (A) GaN 430nm/Blue               |
| (4) GaAsP/Gap 635nm/ Hi-Eff Red  | (B) InGaN 470nm/Blue             |
| (5) Gap 700nm/ Bright Red        | (C) InGaN502nm/Bluish Green      |
| (6) GaAlAs/GaAs 660nm/ Super Red | (D) InGaN525nm/Pure Green        |
| (8) GaAsP/GaP 610nm/ Orange      |                                  |

## FLASHING MODE

Seven Color (R-G-B-RB-BG-GR-RGB) Flash in turn; one fadeout, another fade-in at one time.

## TYPICAL ELECTRO-OPTICAL CHARACTERISTICS CURVES

### ◆ CHARACTERISTICS DIAGRAMS

