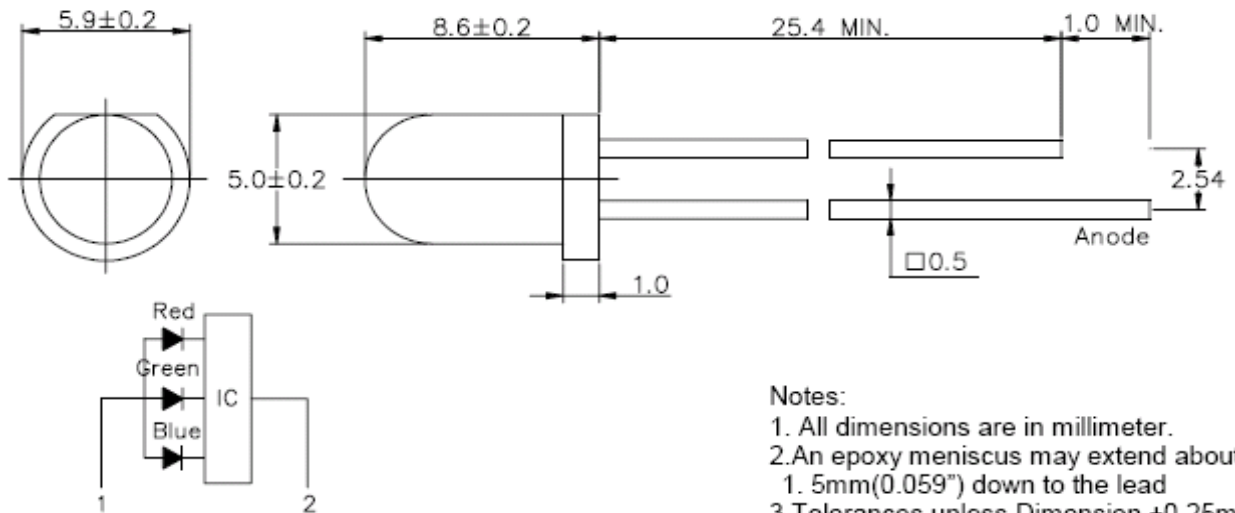




ARL-10003RGBW-B-7color Fast

PACKAGE DIMENSIONS



Notes:

1. All dimensions are in millimeter.
2. An epoxy meniscus may extend about 1.5mm(0.059") down to the lead
3. Tolerances unless Dimension $\pm 0.25\text{mm}$

- Notes:**
1. Other dimensions are in millimeters, tolerance is 0.25mm except being specified.
 2. Protruded resin under flange is 1.5mm Max LED.
 3. Bare copper alloy is exposed at tie-bar portion after cutting

FEATURES

- Electricity control IC embedded
- Fancy, fun, hottest in the market.
- Lens size 10mm
- Viewing Angles 40°..
- Operating voltage range : 3V-5V DC.
- Blinking frequency : 1.8-2.4Hz
- Frequency tolerance : $\pm 20\%$
- RoHS compliant

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

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

DEVICE SELECTION GUIDE

Part No.	Chip		Lens Color
	Material	Emitted Color	
ARL-10003RGBW-B-7color Fast	AlGaInP	Red	White Diffused
	InGaN	Green	
	InGaN	Blue	

ABSOLUTE MAXIMUM RATING (T_a = 25°C)

Parameter	Symbol	Absolute Maximum Rating	Units
Forward Pulse Current	I _{FPM}	100	mA
Forward Current	I _{FM}	30	mA
Reverse Voltage	V _R	5	V
Operating Temperature	Topr	-40 ~ +80	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Soldering Temperature	Tsol	260	°C

ELECTRICAL / OPTICAL CHARACTERISTICS at TA=25°C

Parameter	Symbol	Device	Min	Typ.	Max.	Units	Test Conditions
Luminous Intensity	I _v	Red Green Blue	---	300 300 300	400 400 400	mcd	IF=20mA
Viewing Angle	2θ1/2	Red Green Blue	---	40	---	Deg	
Peak Emission Wavelength	λ _p	Red Green Blue		630 525 470		nm	IF=20mA
Spectral Line Half-Width	λ	Red Green Blue		20 35 20		nm	IF=20mA
Forward Voltage	V _F	Red Green Blue		2.2 3.5 3.5	2.6 4.0 4.0	V	IF=20mA
Cycle	S			5		sec	IF=20mA

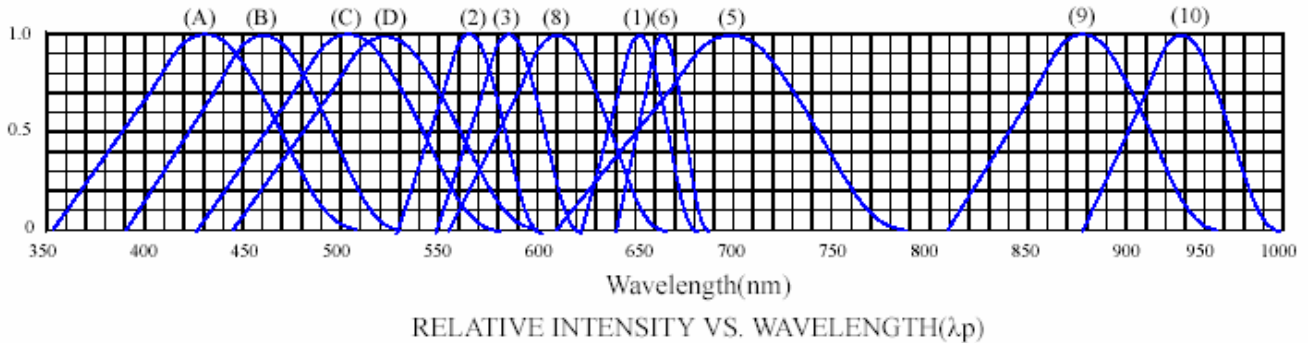
RELIABILITY TEST ITEMS AND CONDITIONS

NO	Item	Test Conditions	Test Hours/Cycle	Sample Size	Ac/Re
1	Solder Heat	TEMP : 260°C ± 5°C	5 SEC	76 PCS	0/1
2	Temperature Cycle	H : +85°C 30min ┆ 5min L : -55°C 30min	50 CYCLES	76 PCS	0/1
3	Thermal Shock	H : +100°C 5min ┆ 10set L : -10°C 5min	50 CYCLES	76 PCS	0/1
4	High Temperature Storage	TEMP : 100°C	1000 HRS	76 PCS	0/1
5	Low Temperature Storage	TEMP : -55°C	1000 HRS	76 PCS	0/1
6	DC Operating Life	TEMP : 25°C I _F =20mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C / 85%RH	1000 HRS	76 PCS	0/1

FLASHING MODE

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

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 | |

CHARACTERISTICS DIAGRAMS

