

ARL-5013RGBW-B-7color Fast

FEATURES

- Choice of various viewing angles.
- Available on Tape and Reel.
- Reliable and robust.
- Fast flash type
- Pb free



DESCRIPTIONS

- The series is specially designed for applications requiring higher brightness
- The LED lamps are available with different colors, intensities, epoxy colors, etc

USAGE NOTES:

- The ultra bright LED is an electrostatic insensitive device, so static electricity and surge will damage the LED. It is required to wear a wrist-band when handling the LED. All device, equipment, machinery, desk and ground must be properly grounded
- When using LED, it must use a protective resistor in series with DC current about 20Ma

APPLICATIONS

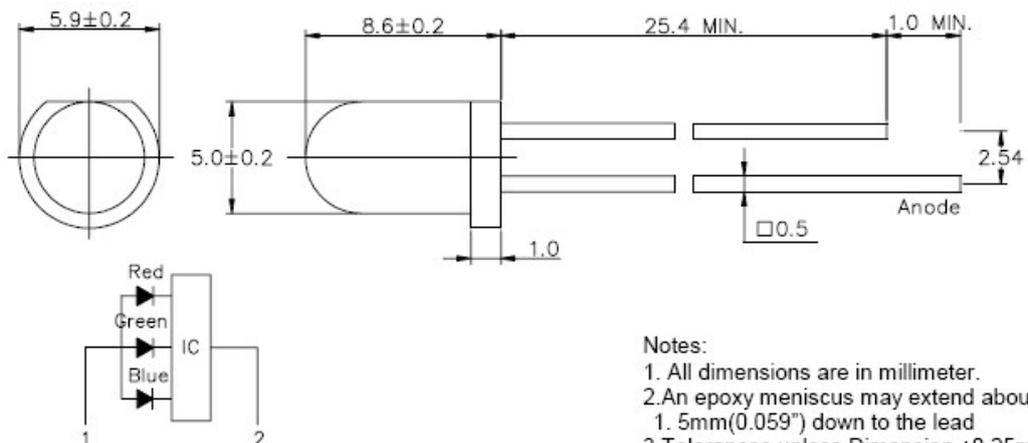
- TV set
- Telephone
- Monitor

Device Selection Guide

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

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 ± 0.25 mm

Absolute Maximum Rating ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Absolute Maximum Rating	Unit
Forward Pulse Current	I_{FPM}	100	mA
Forward Current	I_{FM}	30	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	140	mW
Operating Temperature	T_{opr}	-40 ~+80	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~+100	$^\circ\text{C}$
Soldering Heat (5s)	T_{sol}	260	$^\circ\text{C}$

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Device	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	Iv	Red	---	300	400	mcd	IF=20mA(Note1)
		Green					
		Blue					
Viewing Angle	2θ _{1/2}	Red	---	40	---	Deg	(Note 2)
		Green					
		Blue					
Peak Emission Wavelength	λp	Red	---	630	---	nm	IF=20mA
		Green		525			
		Blue		470			
Spectral Line Half-Width	dλ		---	20	---	nm	IF=20mA
				35			
				20			
Forward Voltage	V _F	Red	---	2.2	2.6	V	IF=20mA
		Green		3.5	4.0		
		Blue		3.5	4.0		
Cycle	S			5		SEC	IF=20mA

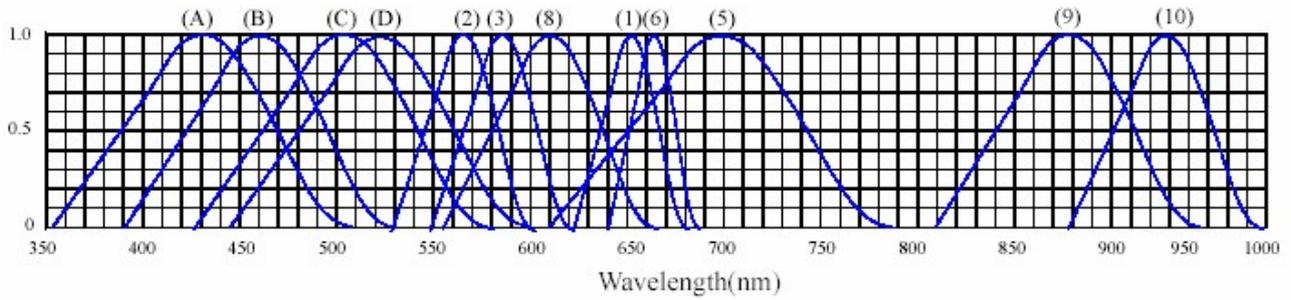
Reliability test items and conditions

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 Electro-Optical Characteristics Curves



RELATIVE INTENSITY VS. WAVELENGTH(λ_p)

- (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

