

## 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

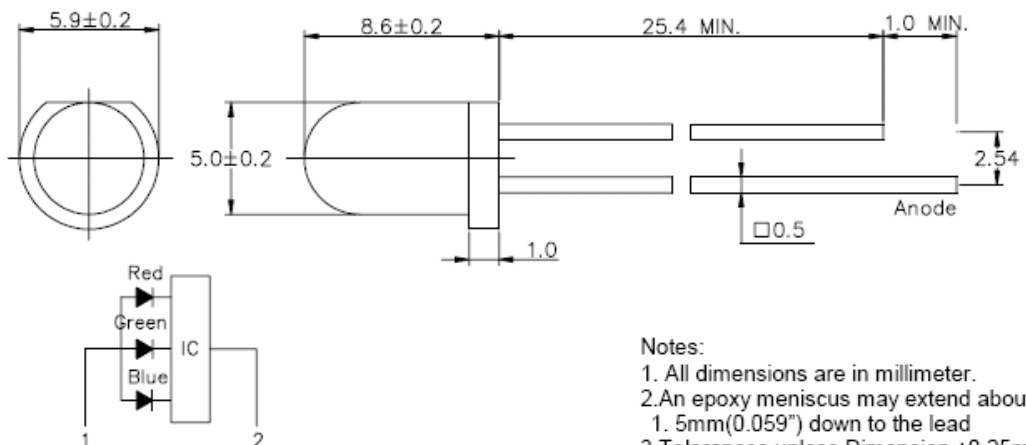
- TV set
- Telephone
- Monitor

### 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



### Absolute Maximum Rating (Ta=25°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	°C
Storage Temperature	$T_{stg}$	-40 ~+100	°C
Soldering Heat (5s)	$T_{sol}$	260	°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 <sub>1/2</sub>	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 <sub>F</sub>	Red	---	2.2	2.6	V	IF=20mA
		Green		3.5	4.0		
		Blue		3.5	4.0		
Cycle	S			5		SEC	IF=20mA

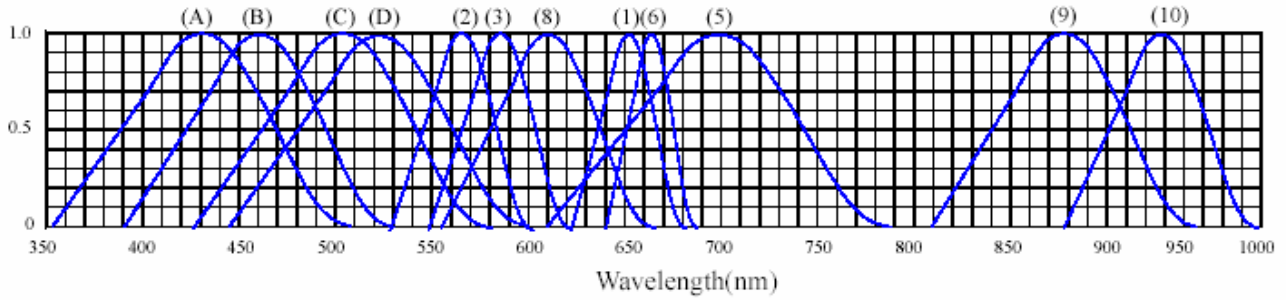
### Reliability test items and conditions

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 <sub>F</sub> =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( $\lambda_p$ )

- (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

