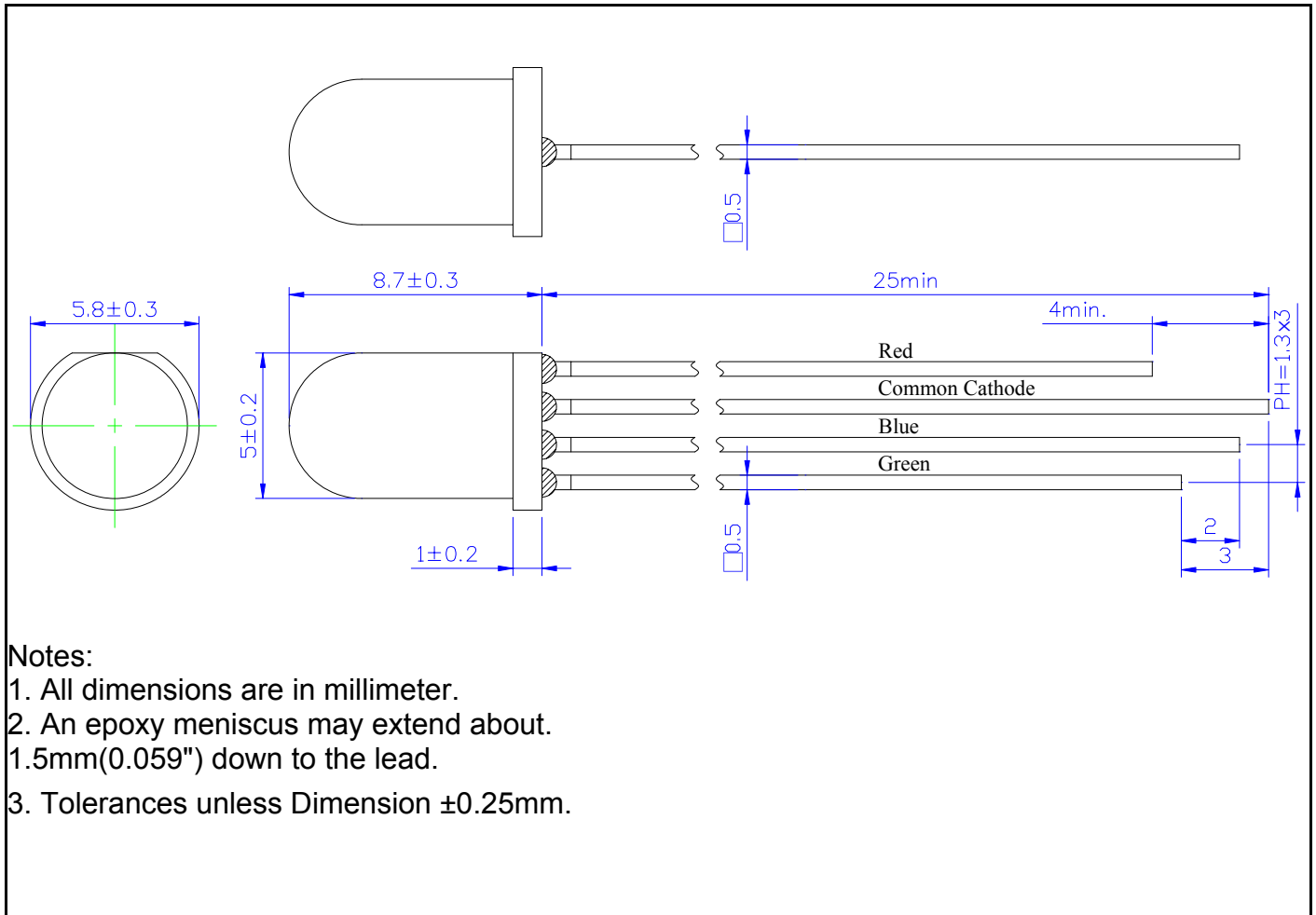


Part No.	AL-513RGBC-C-002	Diff No.002
5 mm	Round	Type : LED Lamps

■ Package Dimension:



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.

■ Features :

- Choice of various viewing angles.
- Available on Tape and Reel.
- Reliable and robust.

■ Descriptions :

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

■ Applications :

- TV set
- Monitor
- Telephone

Part No. **AL-513RGBC-C-002** Diff No.002

5 mm

Round

Type : LED Lamps

LED Parts P/N.	Chip		Lens Color
	Material	Emitted Color	
AL-513RGBC-C-002	AlGaInP	Super Red	Water Clear
	InGaN	Super Green	
	InGaN	Super Blue	

■ Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating			Unit
		Red	Green	Blue	
Continuous Forward Current	I _F	30	30	30	mA
Operating Temperature	T _{opr}	-40~+85	-20~+80		°C
Storage Temperature	T _{stg}	-40~+85	-30~+100		°C
Soldering Temperature	T _{sol}	260±5			°C
Electrostatic Discharge	ESD	1000			V
Power Dissipation	P _D	120			mW
Peak Forward Current (Duty 1/10@1KHz)	I _F (Peak)	100			mA
Reverse Voltage	V _R	5			V

Part No. **AL-513RGBC-C-002** Diff No.002

5 mm

Round

Type : LED Lamps

■ **Electronic Optical Characteristics :**

Parameter	Color	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Red	I_v	840	1200	/	mcd	$I_F=20mA$
	Green		2590	3700	/		
	Blue		490	700	/		
Viewing Angle	Red	$2\theta 1/2$	/	20	/	deg	---
	Green		/		/		
	Blue		/		/		
Peak Wavelength	Red	λ_p	/	630	/	nm	$I_F=20mA$
	Green		/	517	/		
	Blue		/	472	/		
Dominant Wavelength	Red	λ_d	/	625	/	nm	$I_F=20mA$
	Green		/	515	/		
	Blue		/	470	/		
Spectrum Radiation Bandwidth	Red	$\Delta\lambda$	/	20	/	nm	$I_F=20mA$
	Green		/	30	/		
	Blue		/	35	/		
Forward Voltage	Red	V_F	/	2.0	2.4	V	$I_F=20mA$
	Green		/	3.5	4.0		
	Blue		/	3.5	4.0		
Reverse Current	Red	I_R	/	/	10	μA	$V_R=5V$
	Green		/	/			
	Blue		/	/			

Part No. **AL-513RGBC-C-002** Diff No.002

5 mm

Round

Type : LED Lamps

■ Reliability test items and conditions :

The reliability of products shall be satisfied with items listed below.

Confidence level: 90%

LTPD: 10%

NO	ITEM	Test Conditions	Test hours/cycle	Sample Q'ty	Ac/Re
1	Solder Heat	Temp : 260°C±5°C	5 sec	22 pcs	0/1
2	Temperature Cycle	H : +100°C 15min ∧ 5min L : -40°C 15min	50 cycles	22 pcs	0/1
3	Thermal Shock	H : +100°C 15min ∧ 10sec L : -10°C 15min	50 cycles	22 pcs	0/1
4	High Temperature Storage	Temp : 100°C	1000 hrs	22 pcs	0/1
5	Low Temperature Storage	Temp : -40°C	1000 hrs	22 pcs	0/1
6	DC Operating Life	I _F =20mA	1000 hrs	22 pcs	0/1
7	High Temperature / High Humidity	85°C / 85%RH	1000 hrs	22 pcs	0/1

Part No.

AL-513RGBC-C-002

Diff No.002

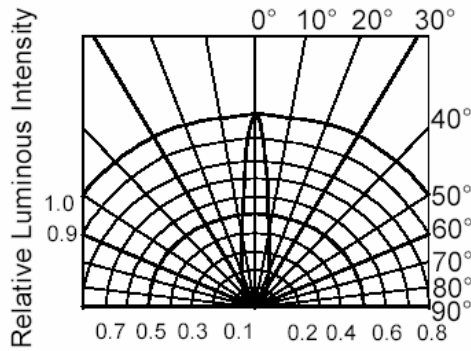
5 mm

Round

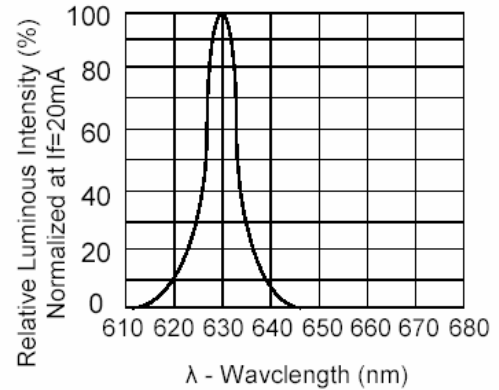
Type : LED Lamps

■ **Typical electro-optical characteristics curves :**

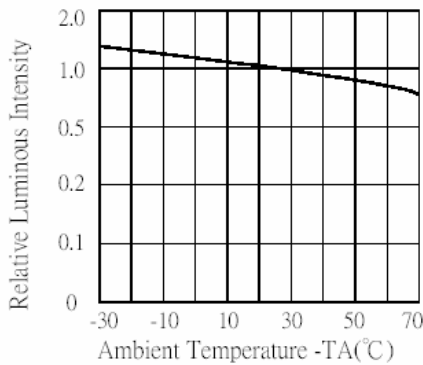
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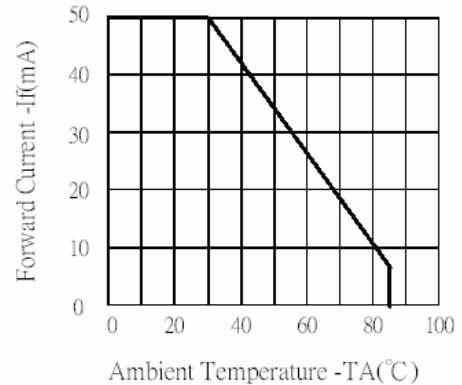
RADIATION DIAGRAM



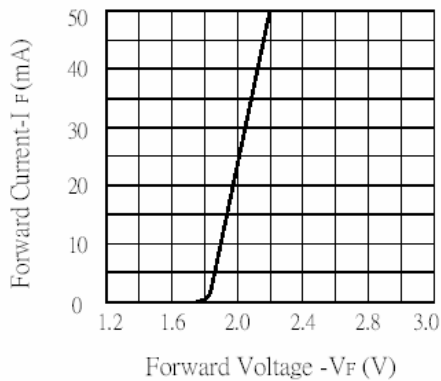
RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH



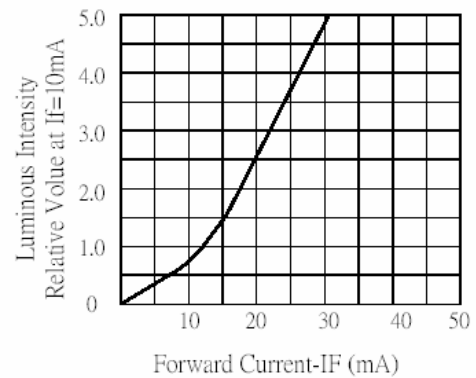
LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE



FORWARD CURRENT Vs. AMBIENT TEMPERATURE



FORWARD CURRENT Vs. FORWARD VOLTAGE



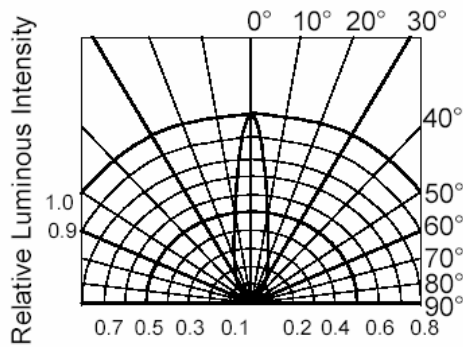
LUMINOUS INTENSITY Vs. FORWARD CURRENT

(Red)

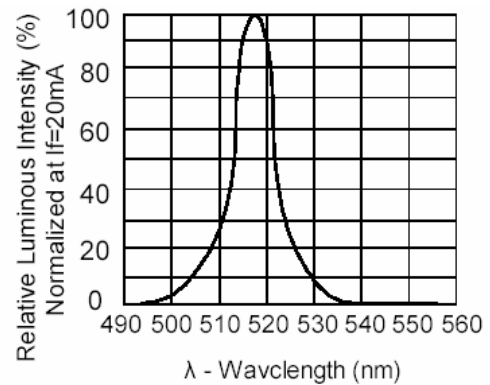
Part No. **AL-513RGBC-C-002** Diff No.002
 5 mm Round Type : LED Lamps

■ **Typical electro-optical characteristics curves :**

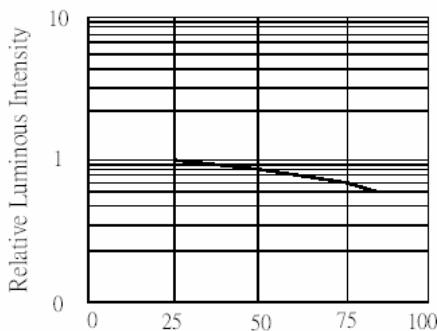
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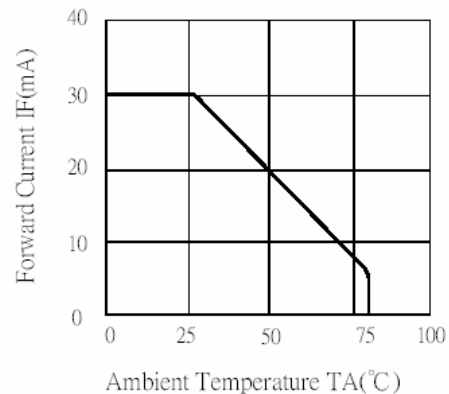
RADIATION DIAGRAM



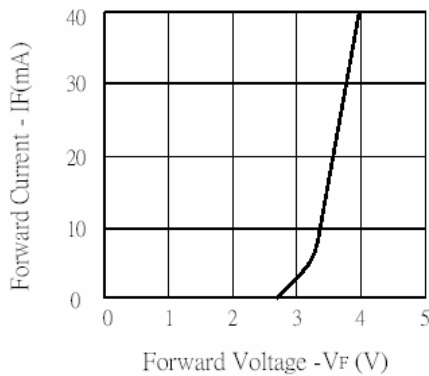
RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH



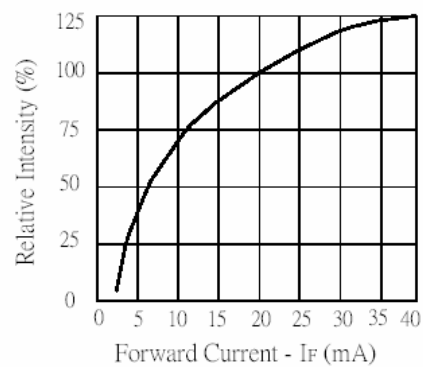
LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE



FORWARD CURRENT Vs. AMBIENT TEMPERATURE



FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT

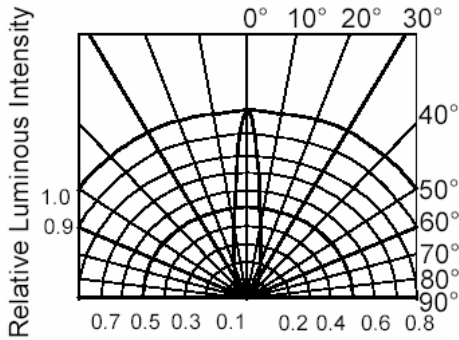
(Green)

■ **Typical electro-optical characteristics curves :**

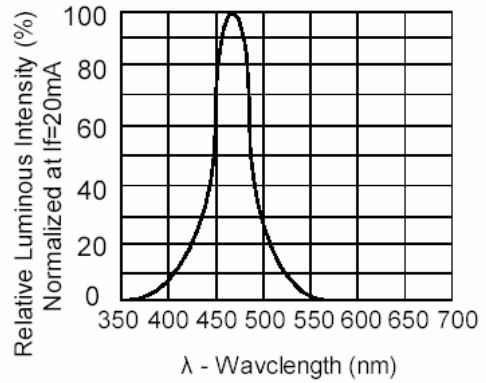
Part No. **AL-513RGBC-C-002** Diff No.002

5 mm Round Type : LED Lamps

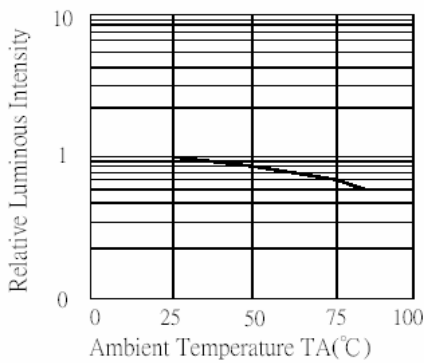
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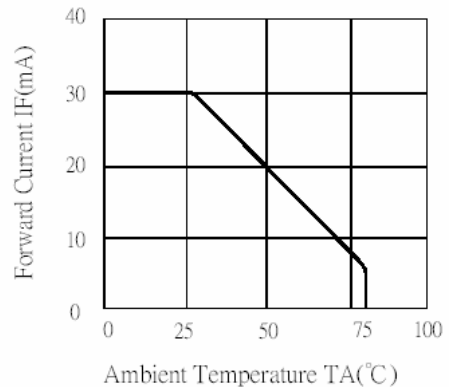
RADIATION DIAGRAM



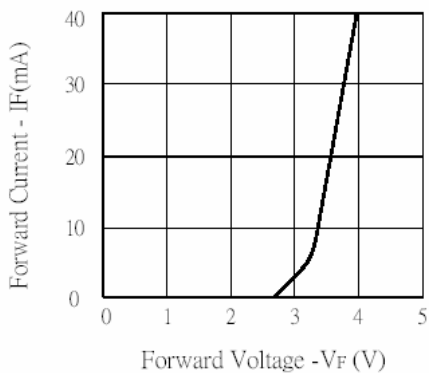
RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH



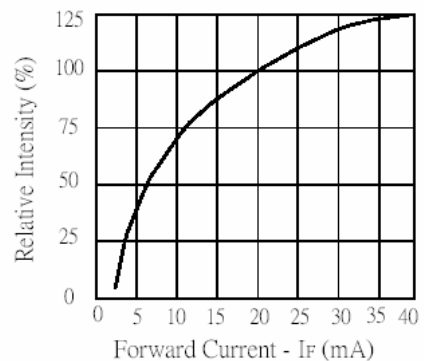
LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE



FORWARD CURRENT Vs. AMBIENT TEMPERATURE



FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT

(Blue)