

Part No.

AL-513FRGBC

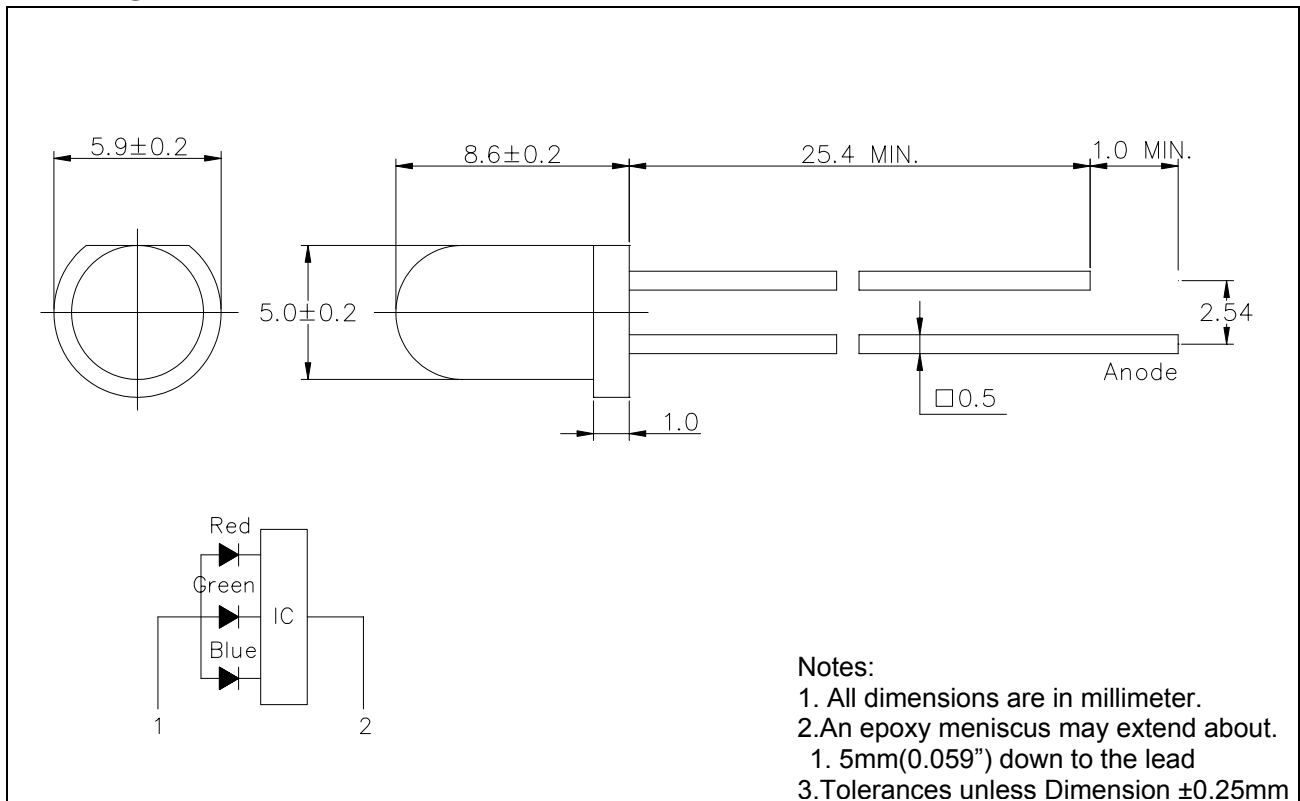
Diff No.

5 mm

Round

Type : LED Lamps

Package Dimension :



■ 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 colors, intensity, epoxy colors etc.

■ Applications :

- TV set
- Monitor
- Telephone

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PART NO.	Chip		Lens Color
	Material	Emitted Color	
AL-513FRGBC	AlGaInP	U/B Red	Water Clear
	InGaN	U/B Green	
	InGaN	Blue	

■ Absolute Maximum Ratings at Ta=25℃

Parameter	Symbol	Rating	Unit
Reverse Current	V _R	100	μA
Peak Current	I _F (Peak)	100	mA
Operating Temperature	Topr	-30 to +80	℃
Storage Temperature	Tstg	-30℃ to +80	℃
Soldering Temperature	Tsol	260 ± 5	℃
Derating Linear 25℃		0.4	mA/℃

■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _V	R	/	1000	/	mcd I _F =10mA
		G	/	1800	/	
		B	/	550	/	
Viewing Angle	201/2	R	/	25	/	deg I _F =20mA
		G	/	21	/	
		B	/	21	/	
Peak Wavelength	λ _p	R	/	630	/	nm I _F =20mA
		G	/	535	/	
		B	/	475	/	
Dominant Wavelength	λ _d	R	/	625	/	nm I _F =20mA
		G	/	520	/	
		B	/	470	/	
Forward Voltage	V _F	R	/	2.1	2.6	V I _F =20mA
		G	/	3.5	4.0	
		B	/	3.5	4.0	

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■ 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

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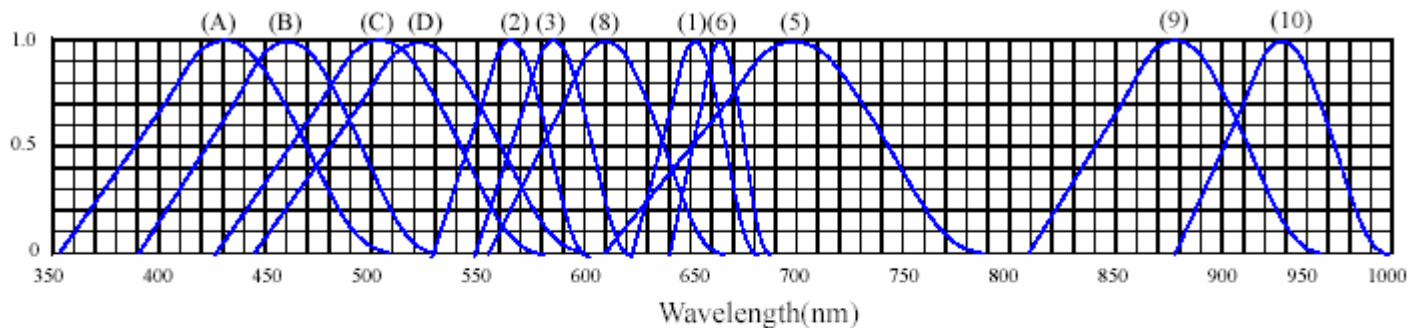
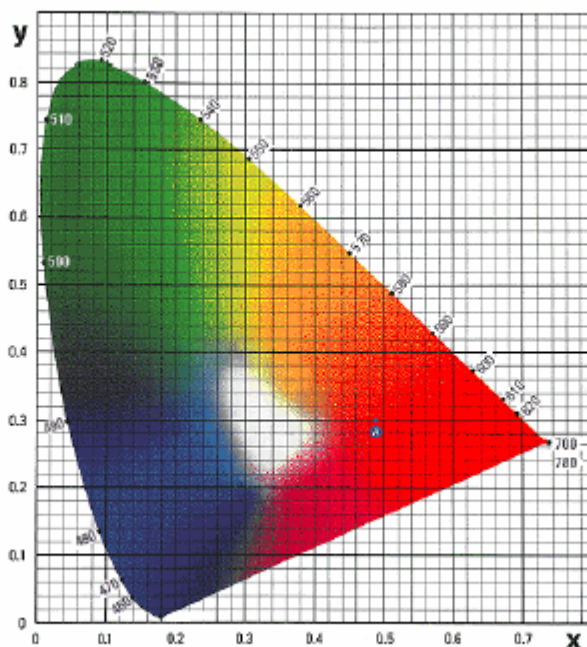
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◆ TYPICAL ELECTRICAL-OPTICAL CHARACTERISTICS CURVES



RELATIVE INTENSITY VS. WAVELENGTH(λ_p)

- (1) GaAsP/GaAs 655nm/Red
- (2) GaP 568nm/ Yellow Green
- (3) GaAsP/GaP 585nm/Yellow
- (4) GaAsP/GaP 635nm/Orange & Hi-Eff Red
- (5) GaP 700nm/Bright Red
- (6) GaAlAs/GaAs 660nm/Super Red
- (8) GaAsP/GaP 610nm/Super Red

- (9)- GaAlAs 880nm
- (10)-GaAs/GaAs&GaAlAs/GaAs 940nm
- (A)- GaN 430nm/Blue
- (B)- InGaN 470nm/Blue
- (C)- InGaN 502nm/Ultra Green
- (D)- InGaN 523nm/Ultra Green

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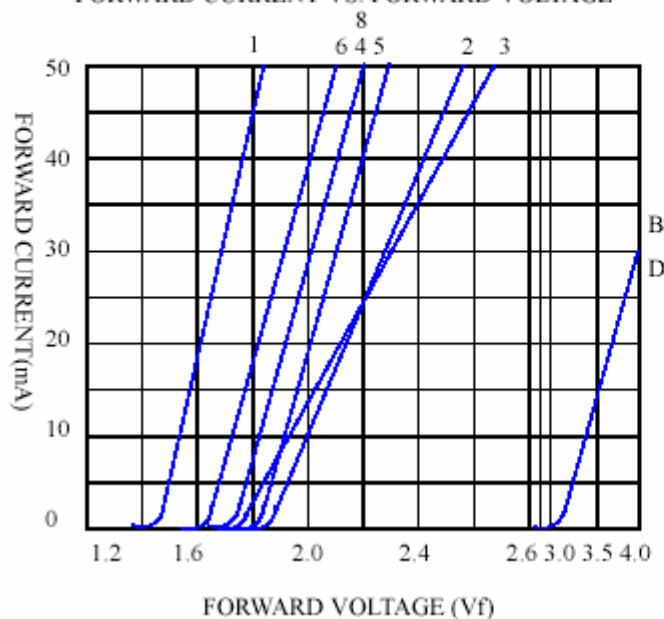
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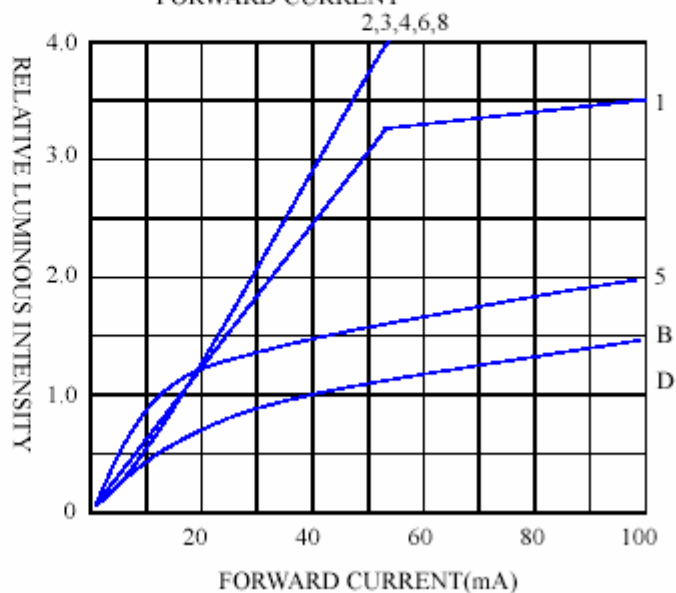
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◆ CHARACTERISTICS DIAGRAMS

FORWARD CURRENT VS. FORWARD VOLTAGE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



FORWARD CURRENT VS. AMBIENT TEMPERATURE

