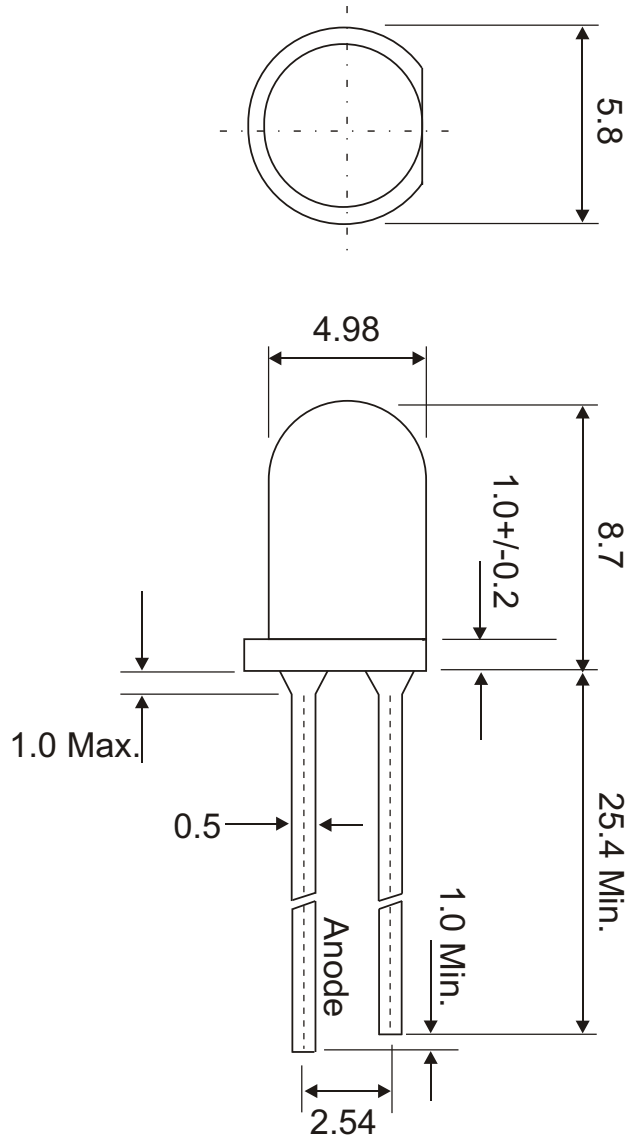


■ PACKAGE DIMENSIONS :



Chips Material	Emitting Color	Lens Shape	Lens Color
InGaN	White	5mm Round	Water Clear

Notes :

1. Lead spacing is measured where the leads emerge from the package
2. Protruded resin under flange 1.5mm( 0.059" ) Max.
3. All dimensions are in millimeters, Tolerance is 0.25mm unless otherwise noted.
4. This is a static sensitive devices, not to be handled by unauthorized personnel.
5. ESD Class ( Mil Std-883d Method 3015.7 ) based on Human Body Model : 1000V



## ■ Electro-Optical Characteristics ( Ta=25°C )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I <sub>v</sub>	See Page 4 for our * Ranking System*			mcd	I <sub>F</sub> = 20 mA
Viewing Angle *	2θ 1/2		15		deg.	I <sub>F</sub> = 20 mA
Chromaticity Coordinates		See Page 4 for our * Ranking System*				I <sub>F</sub> = 20 mA
Spectrum Radiation Bandwidth	Δλ		25		nm	I <sub>F</sub> = 20 mA
Forwards Voltage	V <sub>F</sub>	See Page 4 for our * Ranking System*			V	I <sub>F</sub> = 20 mA
Recommended Working Current		15	20	25	mA	

\* θ1/2 is the off-axis angle where the luminous intensity is 1/2 the peak intensity.

## ■ Absolute Maximum Ratings ( Ta=25°C )

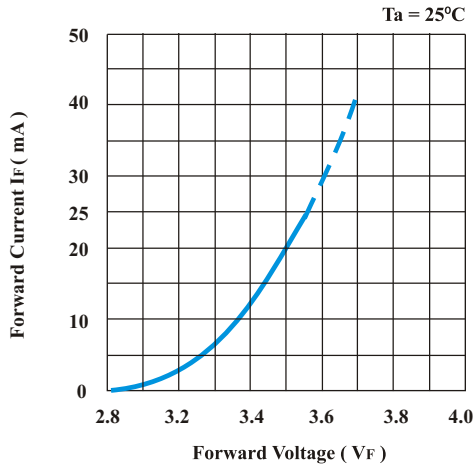
Characteristic	Symbol	Ratings	Unit
Power Dissipation	P <sub>D</sub>	130	mW
Forward Current	I <sub>F</sub>	30	mA
Peak Forward Current #	I <sub>PF</sub>	100	mA
Reverse Voltage	V <sub>R</sub>	5	V
Reverse Current	I <sub>R</sub>	50	μA
Operation Temperature Range	T <sub>opr</sub>	-30 ~ + 80	°C
Storage Temperature Range	T <sub>stg</sub>	-40 ~ + 100	°C
Soldering Temperature Range *	T <sub>sol</sub>	250°C for 3 seconds ( max. )	

# Duty ratio = 1/16 , Pulse width = 0.1ms

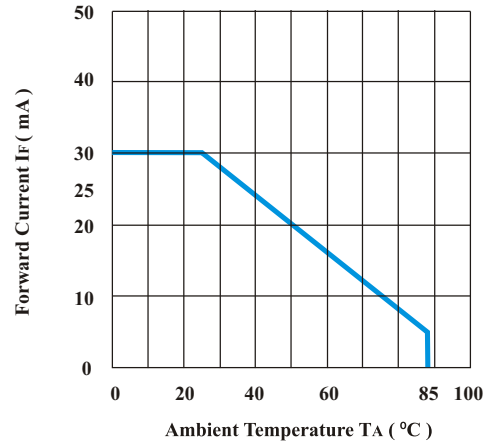
\* Lead soldering temperature range ( 1.6mm from Body )

■ Typical Electro-Optical Characteristics Curves

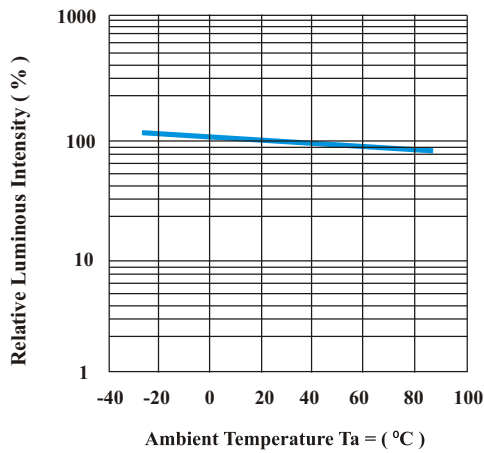
Forward Current vs Forward Voltage



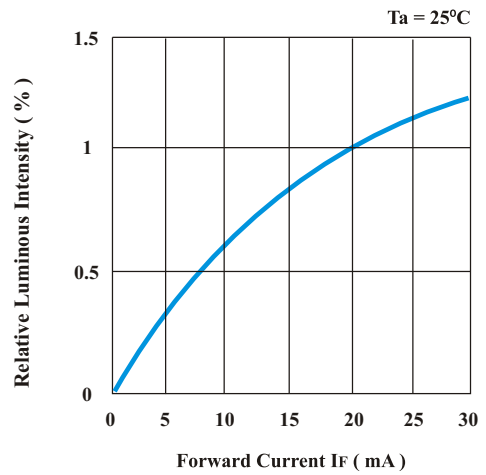
Forward Current Derating Curve



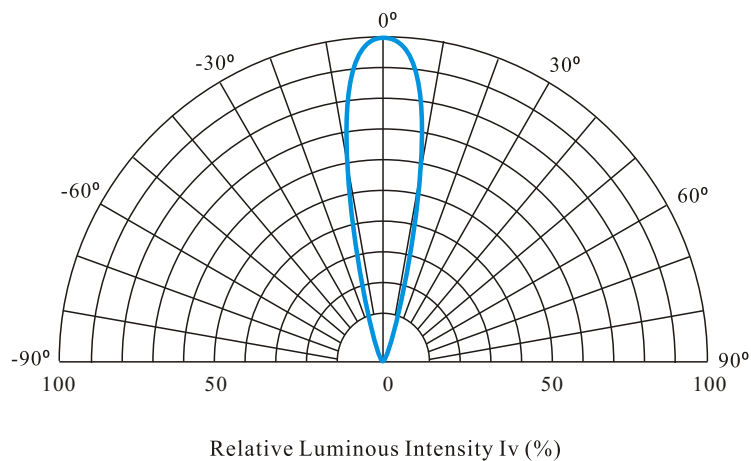
Luminous Intensity vs Ambient Temperature



Luminous Intensity vs Forward Current



Radiation Diagram



## ■ Ranking System ( Ta = 25°C , If = 20mA )

### ► Color Classification Data for White LEDs

Bin #	Top		Right		Bottom		Left	
	X	Y	X	Y	X	Y	X	Y
A	0.26	0.31	0.26	0.25	0.22	0.22	0.22	0.28
B	0.29	0.33	0.29	0.27	0.26	0.25	0.26	0.31
C	0.32	0.35	0.32	0.29	0.29	0.27	0.29	0.33
D	0.36	0.38	0.36	0.32	0.32	0.29	0.32	0.35

### ► Luminous Intensity ( Iv )

Rank Code	Range in ( mcd )
A1	300 ~ 500
A2	500 ~ 800
A3	800 ~ 1000
A4	1000 ~ 1400
A5	1400 ~ 2000

Rank Code	Range in ( mcd )
A6	2000 ~ 3000
A7	3000 ~ 4000
A8	4000 ~ 6000
A9	6000 ~ 8000
A10	8000 ~ 11000

### ► Forward Voltage ( Vf ) with 0.2V in Difference

Rank Code	Range in ( V )
21	2.8 ~ 3.0
22	3.0 ~ 3.2
23	3.2 ~ 3.4
24	3.4 ~ 3.6
25	3.6 ~ 3.8
26	3.8 ~ 4.0

#### Notes :

- 1 . The above data is adjustable. For further information please feel free to contact our Eng. Dept
- 2 . The tolerance for the forward current is +/- 0.1V
- 3 . The tolerance for the luminous intensity is +/- 15%