

SPECIFICATIONS FOR UPEC FLUX TYPE WHITE LED

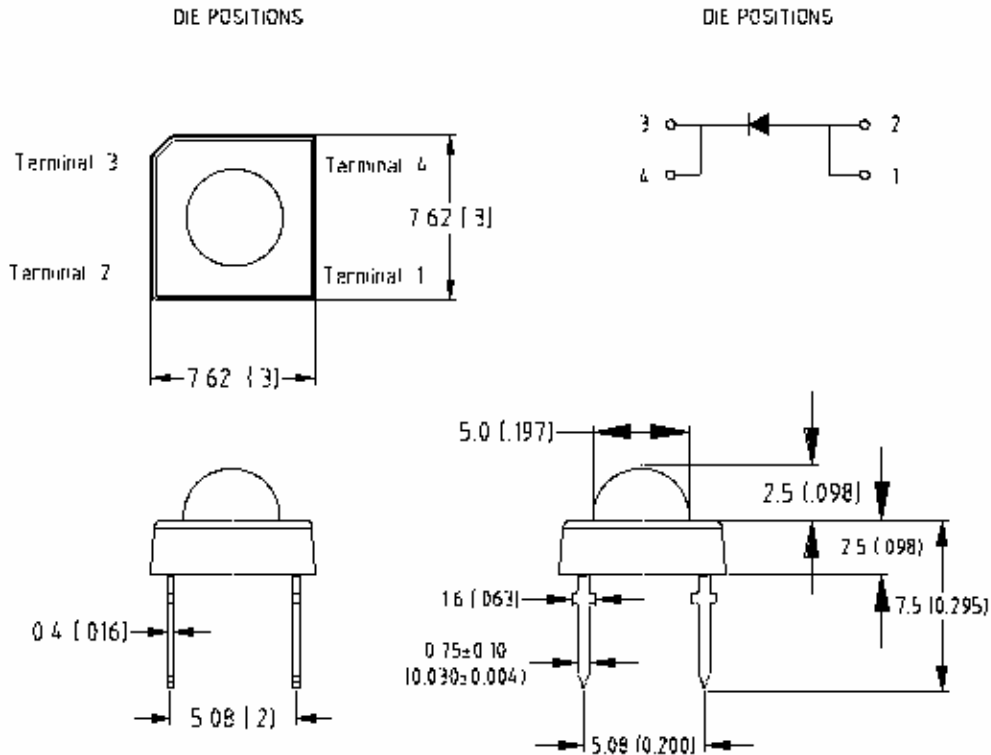
MODEL: UE-FR500NW0-1TN

CONFIDENTIAL

Features

- High intensity
- General purpose leads
- Reliable and rugged

Package Dimensions



Part NO.	Chip Material	Lens Color	Source Color
UE-FR500NW0-1TN	GaN	Water Clear	White

Notes

- All dimensions are in millimeters (inches).
- Tolerance is $\pm 0.25\text{mm}$ (.010") unless otherwise noted.
- Protruded resin under flange is 1.0mm (.04") max.
- Lead spacing is measured where the leads emerge from the package.
- Specifications are subject to change without notice.
- Precautions for ESD:
STATIC SHIELD Electricity and surge damages the LED. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.
- This data-sheet only valid for six months.

Mark	Date	Description Appro.	Approved	Checked	Symbol	UPEC LED
-	Nov/16/06	NEW	FERRE	AFRA	Name	UE-FR500NW0-1TN
					Drawing No	

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Max	Unit
Power Dissipation	PD	120	mW
Pulse Forward Current	IPF	100	mA
Forward Current	IF	30	mA
Reverse Voltage	VR	5	V
Operating Temperature Range	Topr	- 40 to + 80	°C
Storage Temperature Range	Tstg	- 40 to + 80	°C
Lead Soldering Temperature [1.6mm (0.063inch) From Body] 260 °C For 5 Seconds			

Electrical / Optical Characteristics at Ta=25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	Iv	600	1300	2500	mcd	I _F =20mA (Note 1)
Viewing Angle	2θ _{1/2}	---	75	---	Deg	(Note 2)
Forward Voltage	V _F	---	3.5	4.0	V	I _F = 20mA
Reverse Current	I _R	---	---	100	µA	V _R = 5V

BIN	LN	LO	LP	LQ	LR	---
Range	460-690	690-1000	1000-1500	1500-2200	2200-3300	---

Measurement Uncertainty of the Luminous Intensity: ± 15%

Color Ranks

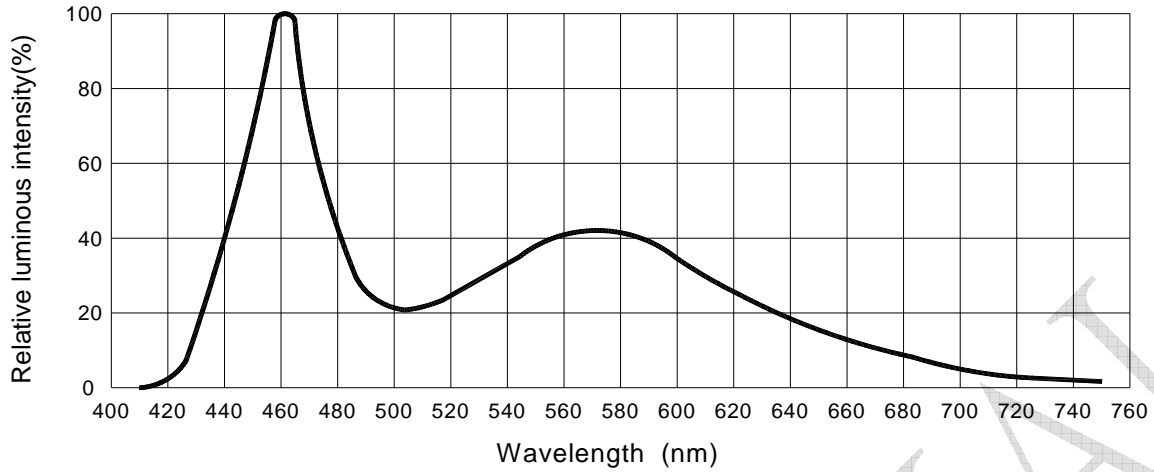
Rank	X1	Y1	X2	Y2	X3	Y3	X4	Y4
A0	0.307	0.339	0.338	0.316	0.319	0.289	0.287	0.311
A1	0.287	0.311	0.319	0.289	0.299	0.267	0.271	0.287
A2	0.271	0.287	0.299	0.267	0.284	0.245	0.253	0.266
A3	0.253	0.266	0.284	0.245	0.265	0.225	0.236	0.247
Tolerance	X=±0.02				Y=±0.02			

Notes

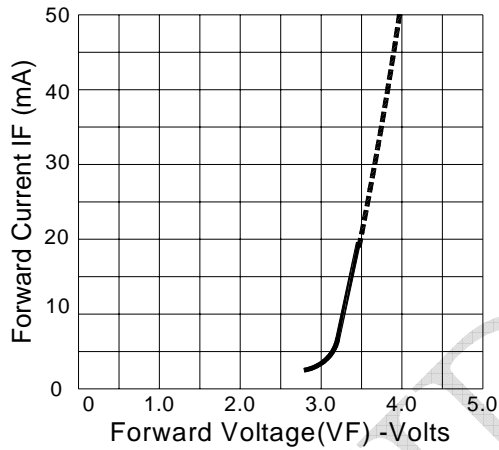
- Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
- θ_{1/2} is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

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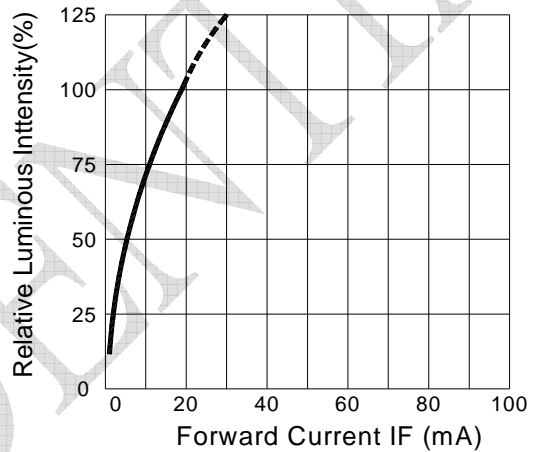
Typical Electrical / Optical Characteristics Curves



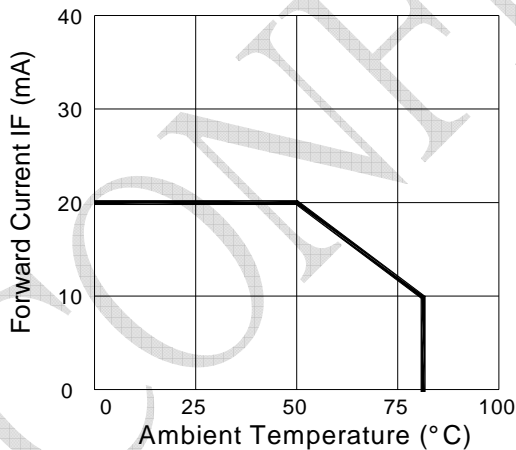
Forward Current VS. Forward Voltage



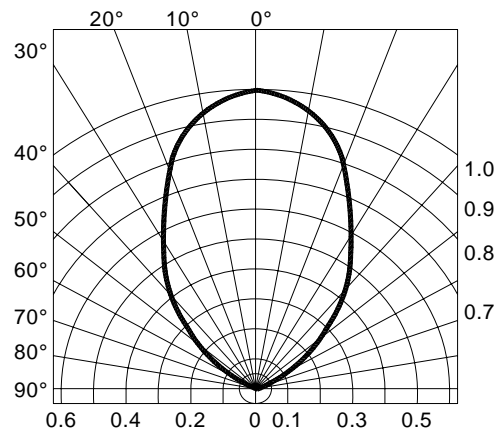
Luminous Intensity VS. Forward Current



Forward Current VS. Ambient Temperature



Radiation Diagram



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Reliability Test Items and Conditions

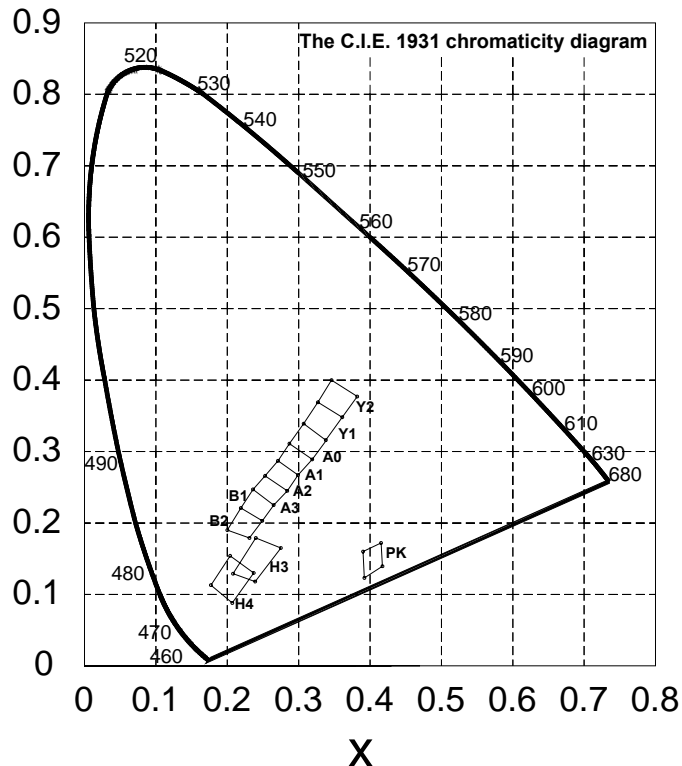
No.	Item	Test Conditions	Test Hours / Cycle	Sample Q'ty	Ac/Re
1	Solder Heat	TEMP : 260°C±5°C	5 sec	30 pcs	0/1
2	Temperature Cycle	H : +85°C 30min. ∫ 5min. L : -35°C 30min.	50 cycle	30 pcs	0/1
3	Thermal Shock	H : +85°C ∫ 5min. L : -35°C 5min.	50 cycle	30 pcs	0/1
4	DC Operating Life	I _F = 20mA	1000 hrs	30 pcs	0/1
5	High Temperature / High Humidity	65°C/85~90%R.H.	1000 hrs	30 pcs	0/1

Judgment Criteria

Forward Voltage Vf	V _{fmax} Increase <1.2x
Reverse Current Ir	I _{rmax} Increase <2x
Luminous Intensity Iv	Iv Decay < 50%

Note : Measurement shall be taken after the tested samples have been returned to normal ambient conditions (generally after two hours)

The C.I.E. 1931 color rank (Tolerance ±0.02)



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