



CHINA INTERNATIONAL CO.
SHENZHEN FURUIER PHOTOELECTRIC CO., LTD.

SPECIFICATION FOR APPROVAL

CUSTOMER :

ARTICLE : 5mm Standard Round White LED

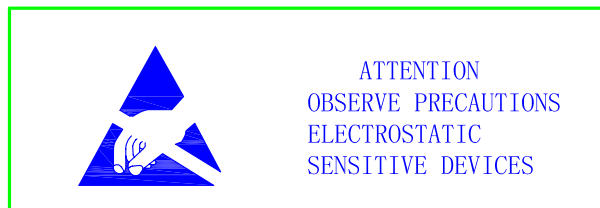
PART NO : FLR-50T04-HW9

DATE : 2011-07-26

CUSTOMER MODEL :

RoHS PRODUCT

Authorized Signature





∅ Absolute Maximum Rating

Item	Symbol	Absolute Maximum Rating	Unit
Forward Current	IF	20	mA
Peak Forward Current	IFP	120	mA
Reverse Voltage	VR	5	V
Power Dissipation	PD	85	mW
Operation Temperature	Topr	-35~+80	℃
Storage Temperature	Tstg	-40~+80	℃
Lead Soldering Temperature	Tsol	Max. 260° for 3sec Max.	

*IFP Conditions:Pulse Width≤10msec duty≤1/10

*Tsol Conditions:4mm from the base of the epoxy bulb

∅ Typical Optical/Electrical Characteristics

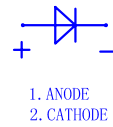
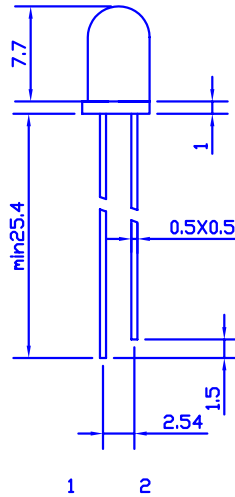
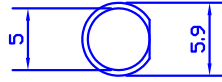
Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF=20mA	--	3.0	3.4	V
Reverse Current	IF	VR=5V	--	--	10	uA
50% Power Angle	$2\theta_{1/2}$	IF=20mA	--	15	--	deg
Luminous Intensity	IV	IF=20mA	14000	17000	--	mcd
Chromaticity coordinates		IF=20mA	--	x=0.28 y=0.29	--	--
Recommend Forward Current	IF(rec)	--	--	10~20	--	mA

Notes:

1. Absolute maximum ratings Ta=25° C .
2. Tolerance of measurement of forward voltage±0.1V.
3. Tolerance of measurement of peak Wavelength±2.0nm.
4. Tolerance of measurement of luminous intensity±15%.



ØPackage Dimensions And Materials



1. ANODE
2. CATHODE

□ 0.5 SQUARE*2

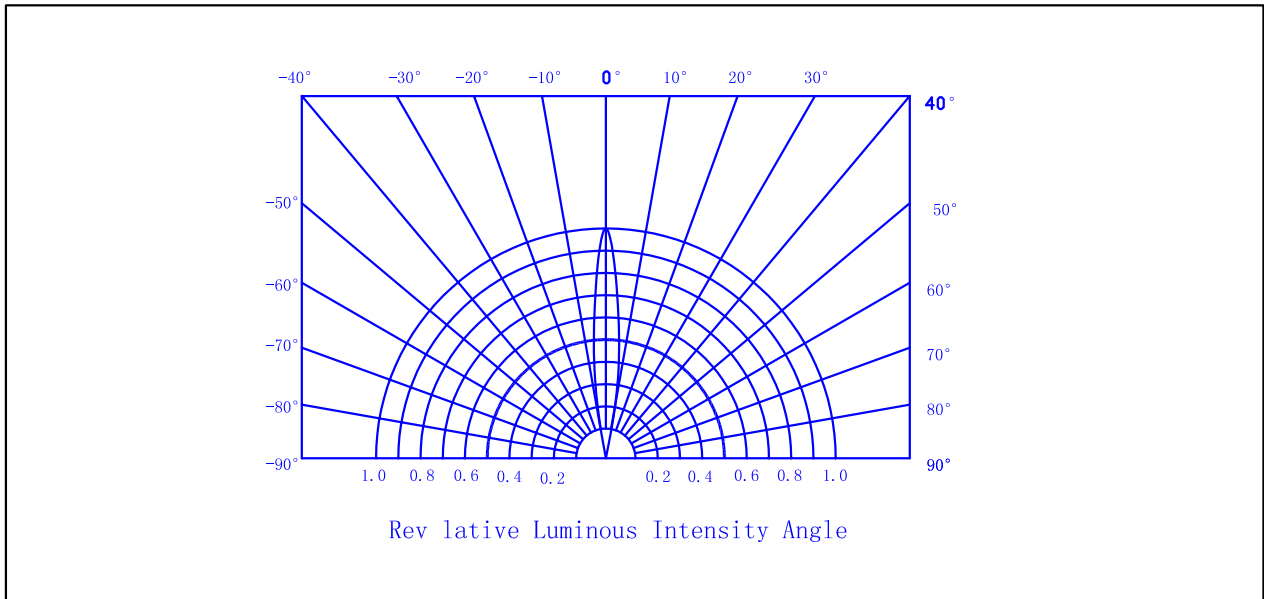
Chip		Lens Color
Dice Material	Emitting Color	
InGaN	WHITE	WATER CLEAR

Notes:

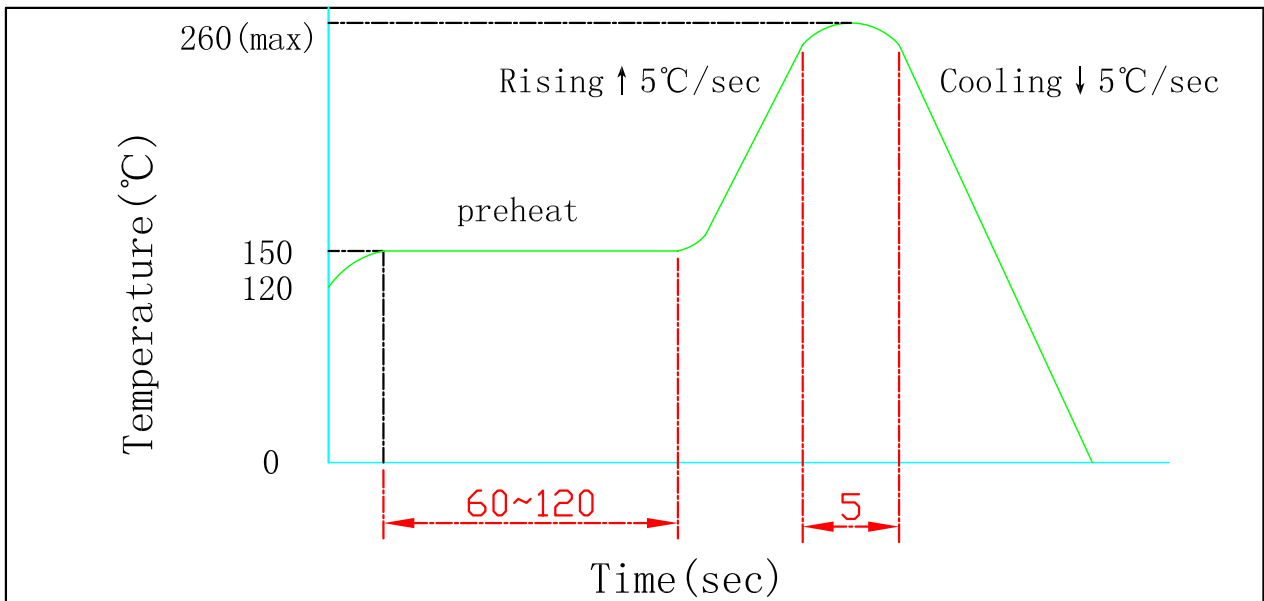
1. All dimension units are millimeters
2. All dimension tolerance is ± 0.2 mm unless otherwise noted
3. An epoxy meniscus may extend about 1.5mm down the leads
4. Burr around bottom of epoxy may be 0.5mm max



∅ Spatial Distribution



∅ Reflow Temp/Time



∅ Soldering iron

Basic spec is ≤ 5 sec when 260°C. If temperature is higher, time should be shorter (+10°C-1sec) Power dissipation of iron should be smaller than 15W, and temperatures should be controllable. surface temperature of the device should be under 230°C



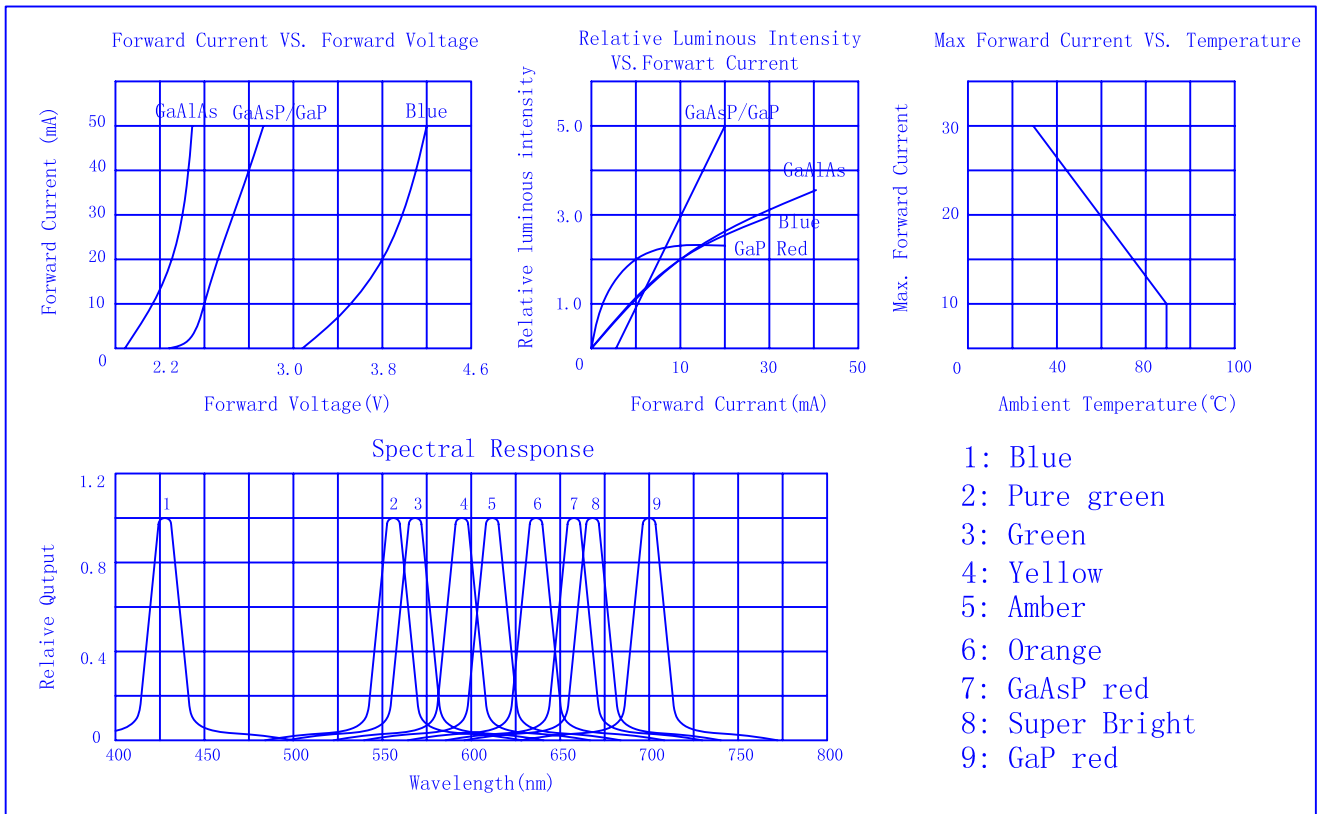
Electro-Optical Characteristic (Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITIONS	Green		Orange		GaP Red		HI-EFF		Yellow		GaAlAs		Blue		UNIT
			TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	
Forward Voltage	VF	IF=20mA	2.3	2.8	2.2	2.8	2.3	2.8	2.2	2.8	2.2	2.8	1.8	2.5	3.5	4.5	V
Reverse Current	IR	VR=5V		100		100		100		100		100		100		100	uA
Wavelength	λP	IF=20mA	570		635		700		625		590		660		430		nm
Spectral Line Halfwidth	$\Delta \lambda$	IF=20mA	30		35		100		35		35		20		30		nm

Absolute Maximum Ratings (Ta=±25°C)

PARAMETER	Green	Orange	Gap Red	HI-EFF	Yellow	GaAlAs	Blue	UNIT
Reverse Voltage Per Segment or D.P.	5	5	5	5	5	5	5	V
Average Forward Current (IF)	25	25	25	25	25	30	50	mA
Peak Forward Current Per Segment Or Dp	200	200	200	200	200	200	200	mA
Power Dissipation	85	85	85	85	85	100	120	mW
Operating Temperature Range	-40°C ~ +80°C							
Recommend Storage Temperature Range	10°C ~ 30°C							
Lead Solder Temperature (4mm From Body)	260°C for 3sec							
Life: 100000H								

Typical Electron-Optical Characteristic Curves 25°C Free Air Temperature Unless Otherwise Specified



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