



SHENZHEN GUOYEXING OPTOELECTRONICS CO., LTD.

SPECIFICATION FOR APPROVAL

Customer: _____

Description: _____ SMD LED _____

Model: _____ GYX-SD-HP111 _____

Lot No.: _____

No.: _____ SD-0400373 _____

Date: _____ 2007-09-27 _____

Enclosure is the specification

SHENZHEN GUOYEXING OPTOELECTRONICS CO., LTD.			
Production Dept.	Quality Dept.	Engineering Dept.	Marketing Dept.

APPROVED SIGNATURES			

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GYX-SD-HP111

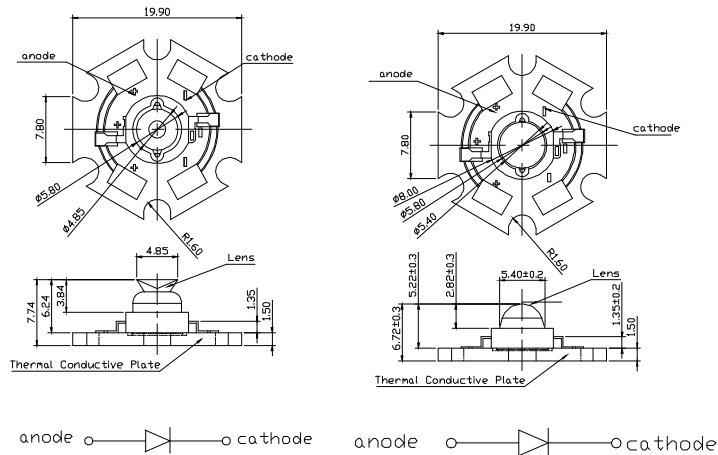
Features And Applications

- 1) 1W High Power LED.
- 2) Low forward voltage operated.
- 3) Wide viewing angle.
- 4) Long operating life(up to 100,000 hours).
- 5) Istant light(less than 100ns).
- 6) More Energy Efficient than incandescent and halogen lamps.
- 7) No UV.
- 8) Ideal for Indoor and Outdoor Commercial lighting、Uplighters and Downlighters、reading lights、LCD Backlights/Light guides、Portable flashlight、Bollards/Security/Garden lighting and general lighting.
- 9) Various colors and lens types available.

Description

The White、Red、Amber、TrueGreen、Blue source color devices are made with InGaN、AlGaInP/GaAs、AlGaInP/GaAs、InGaN、InGaN Light Emitting Diode.

Package Dimensions



viewing angle : $\pm 80^\circ$

viewing angle : 140°

Notes:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.1 unless otherwise noted.
3. Specifications are subject to change without notice.



Electrical / Optical Characteristics at $I_F=350mA(T_A=25^\circ C)$

Part Number	Color	Symbol	Parameter	Min.	Typ.	Max.	Units
GYX-SD-HP111QWC	White/ Warm White	Flux	Luminous Flux (正白)	65	70	75	lm
			Luminous Flux (暖白)	50	55	60	
		V _F	Forward Voltage (正白)	3.4	3.7	4.0	V
			Forward Voltage (暖白)	3.4	3.7	4.0	
		CCT	Color Temperature (正白)	5500	6000	6500	K
			Color Temperature (暖白)	3000	3500	4000	
		R _{θ J-B}	Thermal Resistance Junction to Board	-	20	-	°C/W
ΔV _F /ΔT	Temperature Coefficient Of Forward Voltage	-	-2	-	mV/°C		
I _R (V _R =5V)	Reverse Current	-	-	50	uA		
GYX-SD-HP111SURC	Red	Flux	Luminous Flux	35	40	45	lm
		V _F	Forward Voltage	2.2	2.3	2.5	V
		λ _D	Dominate Wavelength	625	630	635	nm
		R _{θ J-B}	Thermal Resistance Junction to Board	-	20	-	°C/W
		ΔV _F /ΔT	Temperature Coefficient Of Forward Voltage	-	-2	-	mV/°C
		I _R (V _R =5V)	Reverse Current	-	-	50	uA
GYX-SD-HP111SYC	Amber	Flux	Luminous Flux	13	16	20	lm
		V _F	Forward Voltage	2.1	2.3	2.5	V
		λ _D	Dominate Wavelength	588	589	590	nm
		R _{θ J-B}	Thermal Resistance Junction to Board	-	20	-	°C/W
		ΔV _F /ΔT	Temperature Coefficient Of Forward Voltage	-	-2	-	mV/°C
		I _R (V _R =5V)	Reverse Current	/	/	/	uA
GYX-SD-HP111ZGC	True Green	Flux	Luminous Flux	50	55	60	lm
		V _F	Forward Voltage	3.4	3.5	3.7	V
		λ _D	Dominate Wavelength	520	522	523	nm
		R _{θ J-B}	Thermal Resistance Junction to Board	-	20	-	°C/W
		ΔV _F /ΔT	Temperature Coefficient Of Forward Voltage	-	-2	-	mV/°C
		I _R (V _R =5V)	Reverse Current	-	-	50	uA
GYX-SD-HP111QBC	Blue	Flux	Luminous Flux	2	3	4	lm
		V _F	Forward Voltage	2.8	3.0	3.2	V
		λ _D	Dominate Wavelength	465	467	468	nm
		R _{θ J-B}	Thermal Resistance Junction to Board	-	20	-	°C/W
		ΔV _F /ΔT	Temperature Coefficient Of Forward Voltage	-	-2	-	mV/°C
		I _R (V _R =5V)	Reverse Current	-	-	50	uA

Note:

1. Flux is measured with an accuracy of ±15%.
2. CCT selection acc. To CCT groups and an accuracy of ±400K.
3. forward Voltage is measured with an accuracy of ±0.2V.
4. Wavelength is measured with an accuracy of ±3nm.
5. Various viewing angle available(2θ 1/2): 40°, ±80°, 140°. Angle is measured with an accuracy of ±15°.

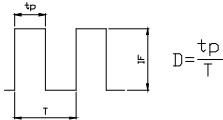


Absolute Maximum Ratings at TA=25° C

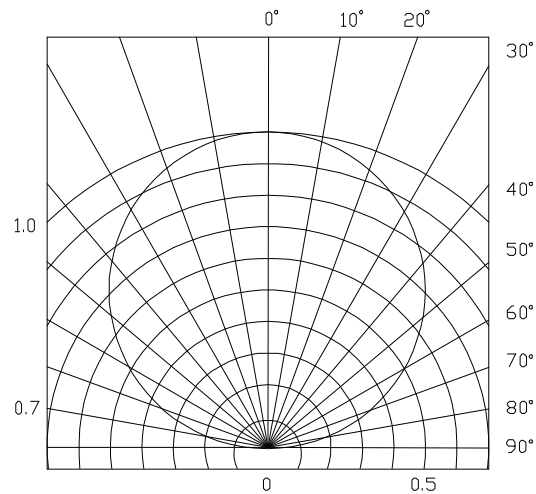
Parameter	Symbol	Rating	Units
DC Forward Current	I _F	350	mA
Peak pulse current; (t _p ≤ 100us, Duty cycle=0.005)*1	I _{pulse}	500	mA
Reverse Voltage	V _R	5	V
LED junction Temperature(at 350 mA)	T _j	125	°C
Operating Temperature	T _{opr}	-30~+110	°C
Storage Temperature	T _{stg}	-40~+120	°C
Manual Soldering Time at 260° C(Max.)	T _{sol}	5	seconds

Note:

- Duty Cycle:



Typical Radiation Pattern for Lambertian

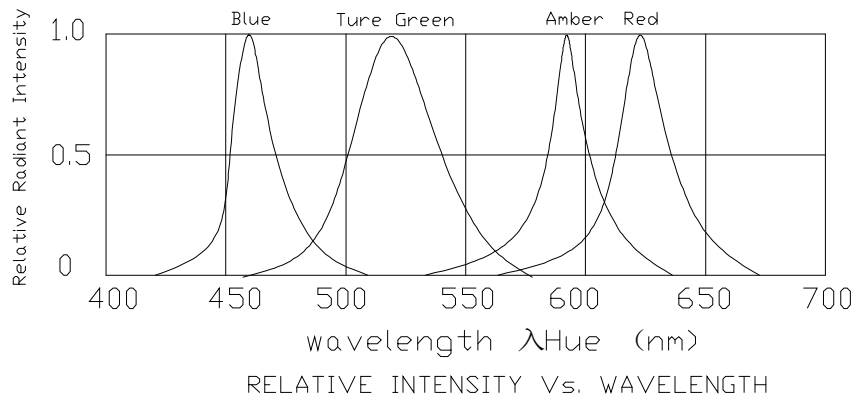
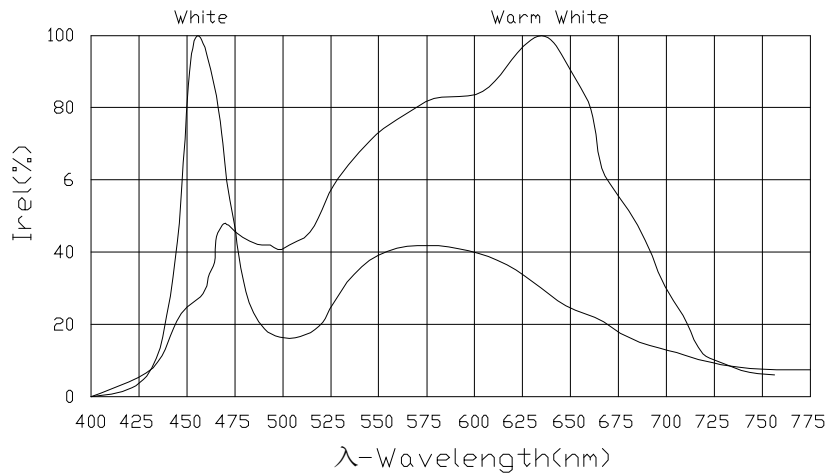


SPATIAL DISTRIBUTION

发光角度图解

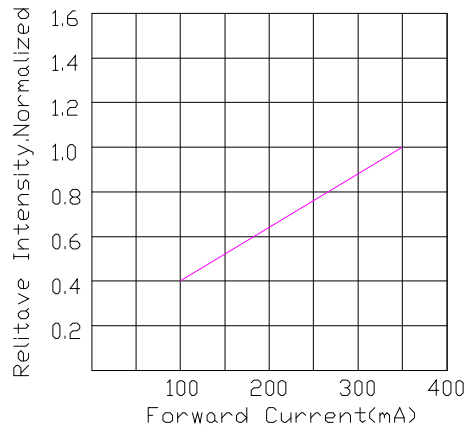


Electrical & Optical Curves

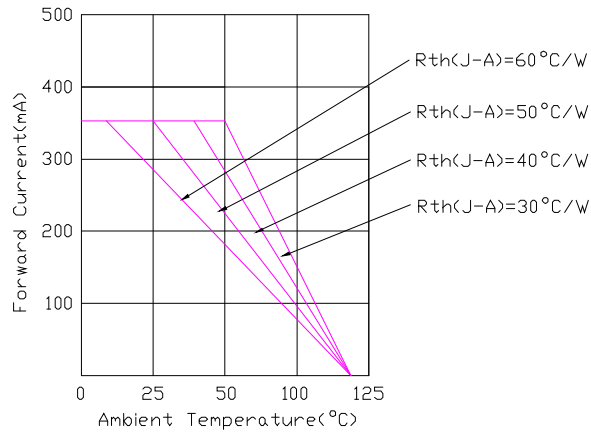




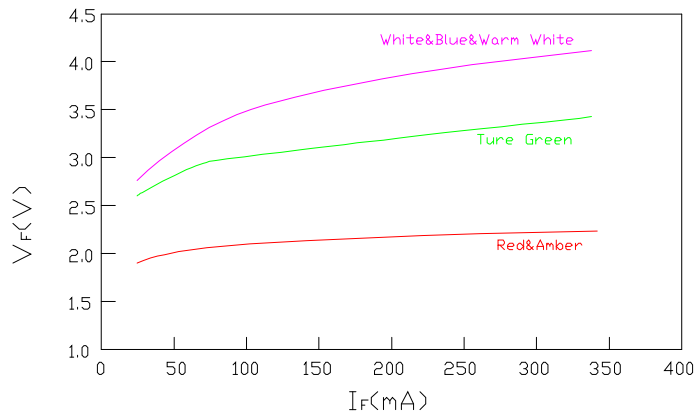
Current & Luminous Flux



Operating Current & Ambient Temperature

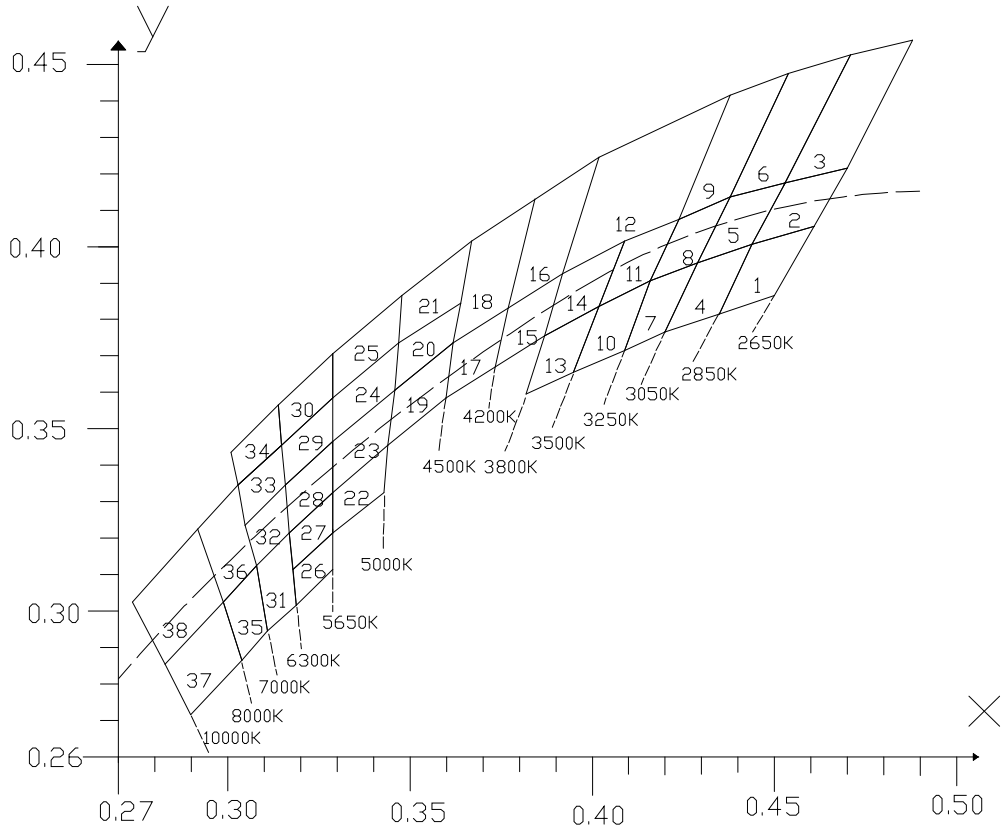


Operating Current & Forward Voltage





(1) Color Bin Limits (IF=350MA)



Bin code	X	Y	Tc (K)	Bin code	X	Y	Tc (K)
1	0.444	0.399	2650-2850	2	0.444	0.399	2650-2850
	0.461	0.404			0.461	0.404	
	0.45	0.385			0.47	0.42	
	0.435	0.38			0.453	0.416	
3	0.453	0.416	2650-2850	4	0.429	0.394	2850-3050
	0.47	0.42			0.444	0.399	
	0.488	0.455			0.435	0.38	
	0.471	0.451			0.42	0.375	
5	0.438	0.412	2850-3050	6	0.454	0.446	2850-3050
	0.429	0.394			0.438	0.412	
	0.444	0.399			0.453	0.416	
	0.453	0.416			0.471	0.451	
7	0.409	0.37	3050-3250	8	0.424	0.406	3050-3250
	0.416	0.389			0.416	0.389	
	0.429	0.394			0.429	0.394	
	0.42	0.375			0.438	0.412	



Bin code	X	Y	Tc (K)	Bin code	X	Y	Tc (K)
9	0.438	0.44	3050-3250	10	0.402	0.382	3250-3500
	0.424	0.406			0.416	0.389	
	0.438	0.412			0.409	0.37	
	0.454	0.446			0.395	0.364	
11	0.409	0.4	3250-3500	12	0.392	0.391	3250-3800
	0.402	0.382			0.387	0.374	
	0.416	0.389			0.402	0.382	
	0.424	0.406			0.409	0.4	
13	0.392	0.391	3500--3800	14	0.392	0.391	3500--3800
	0.387	0.374			0.387	0.374	
	0.402	0.382			0.402	0.382	
	0.409	0.4			0.409	0.4	
15	0.387	0.374	3800-4200	16	0.392	0.391	3800-4200
	0.392	0.391			0.402	0.423	
	0.377	0.381			0.384	0.412	
	0.374	0.368			0.377	0.381	
17	0.374	0.368	4200-4500	18	0.377	0.381	4200-4500
	0.377	0.381			0.384	0.412	
	0.362	0.372			0.367	0.4	
	0.36	0.357			0.362	0.372	
19	0.362	0.372	4500-5000	20	0.364	0.383	4500-5000
	0.36	0.357			0.362	0.372	
	0.344	0.344			0.346	0.359	
	0.346	0.359			0.347	0.372	
21	0.364	0.383	4500-5000	22	0.329	0.331	5000-5650
	0.367	0.4			0.344	0.344	
	0.348	0.385			0.343	0.331	
	0.347	0.372			0.329	0.32	
23	0.329	0.331	5000-5650	24	0.329	0.345	5000-5650
	0.329	0.345			0.329	0.357	
	0.346	0.359			0.347	0.372	
	0.344	0.344			0.346	0.359	
25	0.329	0.357	5000-5650	26	0.329	0.321	5650-6300
	0.329	0.369			0.329	0.31	
	0.348	0.385			0.319	0.3	
	0.347	0.372			0.318	0.31	
27	0.329	0.331	5650-6300	28	0.329	0.345	5650-6300
	0.329	0.32			0.329	0.331	
	0.318	0.31			0.317	0.32	
	0.317	0.32			0.316	0.333	



Bin code	X	Y	Tc (K)	Bin code	X	Y	Tc (K)
29	0.329	0.345	5650-6300	30	0.329	0.369	5650-6300
	0.316	0.333			0.329	0.357	
	0.315	0.344			0.315	0.344	
	0.329	0.357			0.314	0.355	
31	0.308	0.311	6300-7000	32	0.308	0.311	6300-7000
	0.317	0.32			0.305	0.322	
	0.319	0.3			0.316	0.333	
	0.311	0.293			0.317	0.32	
33	0.305	0.322	6300-7000	34	0.301	0.342	6300-7000
	0.303	0.333			0.314	0.355	
	0.315	0.344			0.315	0.344	
	0.303	0.333			0.303	0.333	
35	0.304	0.285	7000-8000	36	0.308	0.311	7000-8000
	0.299	0.301			0.299	0.301	
	0.308	0.311			0.292	0.321	
	0.311	0.293			0.303	0.333	
37	0.299	0.301	8000-10000	38	0.299	0.301	8000-10000
	0.283	0.284			0.304	0.285	
	0.274	0.301			0.29	0.27	
	0.292	0.321			0.283	0.284	

(2) Forward Voltage Bin limits(I_F=20MA)< V_F 值等级>

Grade(等级)	F	G	H	I	J	K	L	M	N
Range(范围)	2.7-2.9	2.9-3.1	3.1-3.3	3.3-3.5	3.5-3.7	3.7-3.9	3.9-4.1	4.1-4.3	4.3-4.5

Tolerance for each Bin limit is ±0.1v.