

SPECIFICATION

MODEL : LCP-XPW25-700B4

Ceramic P serial



LED SMC SEMICONDUCTOR
KOREA

Part No. LCP-XPW25-700B4

Supplier name :
LED SMC Semiconductor

Acknowledgment number :

Product Acknowledgment

Customer Name :

Customer Model :

Customer Part Number :

Supply-side model :

Acknowledgment Effective Date :

Manufacturers		Client Confirm (Quality)		Client Confirm (R & D)	
Prepared		Qualified <input type="checkbox"/>		Qualified <input type="checkbox"/>	
		Unqualified <input type="checkbox"/>		Unqualified <input type="checkbox"/>	
Audit		Audit		Audit	
Approve		Approve		Approve	

(After both sides confirmed the Acknowledgment qualified,must be signed and sealed)

Supply-side Address :

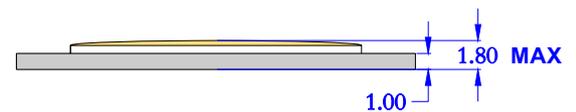
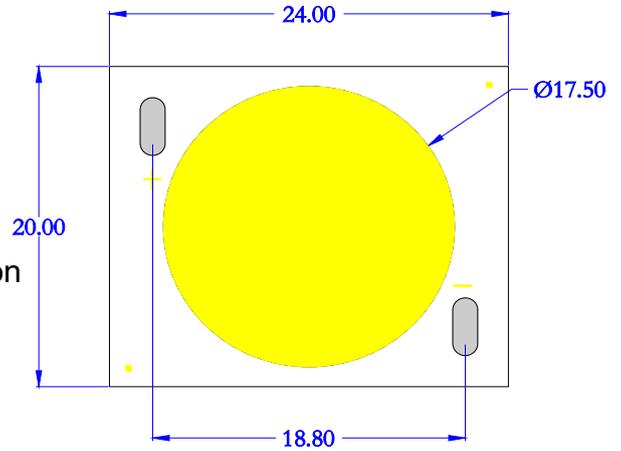
PartNo. LCP-XPW25-700B4

Features :

- Higher luminous efficiency and thermal dissipation
- Higher flexibility
- Higher reflectivity
- More reliable and longer life
- Lower coefficient of thermal expansion and contraction
- More flat under high temperatures
- High voltage resistant

Typical Applications :

- Spot light
- Bulb
- Down Light
- cornering lamp
- Panel Light
- Street Light



Product Picture:

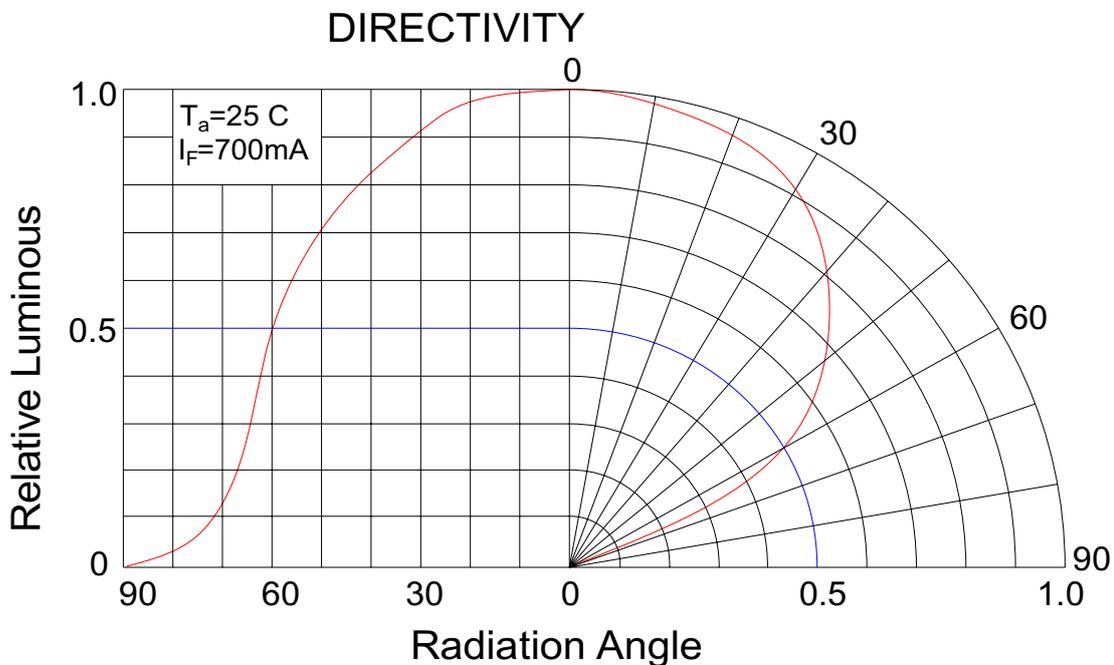


NOTES:

- All dimensions are millimeter.
- Tolerance is ± 0.1 mm unless otherwise noted.
- It is strongly recommended that the temperature of lead be not higher than 85°C.
- The appearance and specifications of the product may be modified for improvement without notice.

PartNo. LCP-XPW25-700B4

Typical Radiation Pattern



Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Test Condition	Value		Unit
			Min.	Max.	
DC Forward Current	I_F	----	----	910	mA
Peak Pulse Current	I_{peak}	Duty=1/10 1kHz	----	1400	mA
Power Dissipation	P_d	----	----	36	W
LED Junction Temperature	T_J	----	----	125	$^\circ\text{C}$
Operating Temperature	T_{opr}	----	-25	+85	$^\circ\text{C}$
Storage Temperature	T_{str}	----	-40	+100	$^\circ\text{C}$
ESD Sensitivity	----	HBM	8000	----	V
Soldering Temperature	----	----	220 $^\circ\text{C}$ for 5 Seconds max		

PartNo. LCP-XPW25-700B4

Electrical and optical characteristics (T_a = 25°C)

Parameter	Symbol	Test Condition	Value			Unit	
			Min.	Typ.	Max.		
Forward Voltage	V _F	I _F = 700mA		36		V	
Luminous Flux	Φ _v			2800	----	lm	
Viewing Angle	2θ 1/2			----	120	----	Deg.
Color Temperature	CCT		5000	-----	6500	K	
Color Rendering	R _a		70			--	
Thermal Resistance	R _J	-----		1		°C/W	

Luminous Flux Bins (T_a = 25°C) Unit:lm

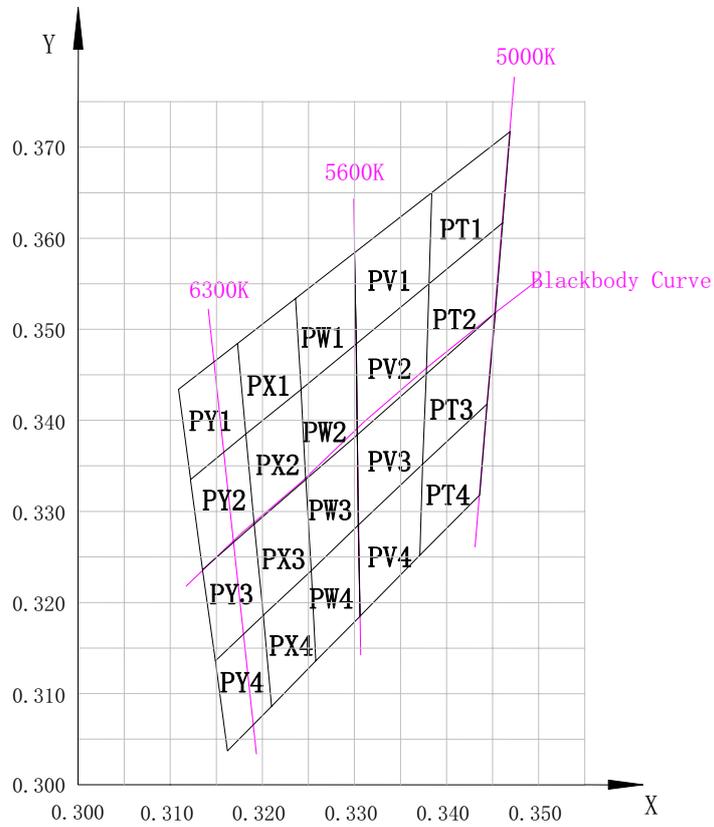
Bin	P2	Q2	R2
Min	2600	2800	3000
Max	2800	3000	3500

PartNo. LCP-XPW25-700B4

Chromaticity Coordinates Ranks($I_F=700mA$ $T_a=25^\circ C$)

Bin	x1	y1	x2	y2	x3	y3	x4	y4
PT1	0.3384	0.3650	0.3381	0.3550	0.3461	0.3617	0.3469	0.3717
PT2	0.3381	0.3550	0.3378	0.3451	0.3453	0.3518	0.3461	0.3617
PT3	0.3378	0.3451	0.3374	0.3352	0.3444	0.3418	0.3453	0.3518
PT4	0.3374	0.3352	0.3371	0.3252	0.3436	0.3318	0.3444	0.3418
PV1	0.3300	0.3584	0.3302	0.3484	0.3381	0.3550	0.3384	0.3650
PV2	0.3302	0.3484	0.3303	0.3384	0.3378	0.3451	0.3381	0.3550
PV3	0.3303	0.3384	0.3304	0.3285	0.3374	0.3352	0.3378	0.3451
PV4	0.3304	0.3285	0.3306	0.3185	0.3371	0.3252	0.3374	0.3352
PW1	0.3236	0.3534	0.3242	0.3434	0.3302	0.3484	0.3300	0.3584
PW2	0.3242	0.3434	0.3247	0.3335	0.3303	0.3384	0.3302	0.3484
PW3	0.3247	0.3335	0.3253	0.3235	0.3304	0.3285	0.3303	0.3384
PW4	0.3253	0.3235	0.3258	0.3136	0.3306	0.3185	0.3304	0.3285
PX1	0.3173	0.3484	0.3182	0.3385	0.3242	0.3434	0.3236	0.3534
PX2	0.3182	0.3385	0.3191	0.3286	0.3247	0.3335	0.3242	0.3434
PX3	0.3191	0.3286	0.3201	0.3186	0.3253	0.3235	0.3247	0.3335
PX4	0.3201	0.3186	0.3210	0.3086	0.3258	0.3136	0.3253	0.3235
PY1	0.3109	0.3434	0.3122	0.3335	0.3182	0.3385	0.3173	0.3484
PY2	0.3122	0.3335	0.3135	0.3236	0.3191	0.3286	0.3182	0.3385
PY3	0.3135	0.3236	0.3149	0.3136	0.3201	0.3186	0.3191	0.3286
PY4	0.3149	0.3136	0.3162	0.3037	0.3210	0.3086	0.3201	0.3186

PartNo. LCP-XPW25-700B4



Notes :

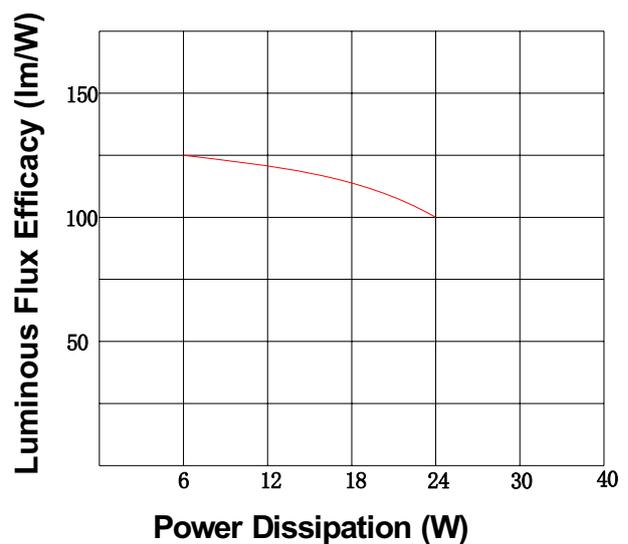
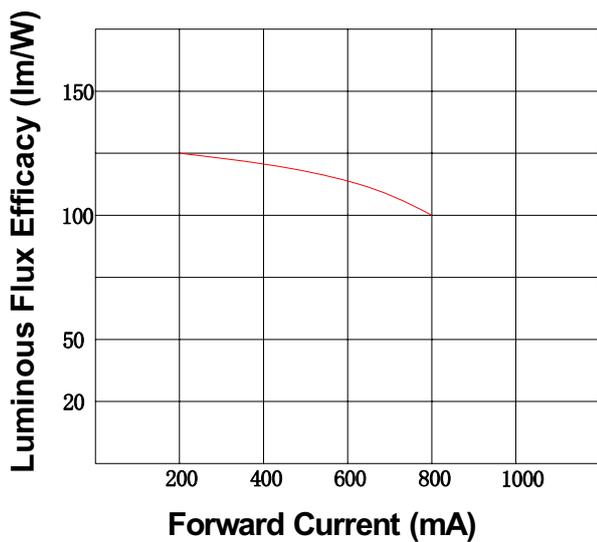
1. * Ranking at $T_C=25^\circ\text{C}$
2. * It is strongly recommended that the temperature of lead be not higher than 85°C
3. * Tolerance of measurements of the Forward Voltage is $\pm 2\%V$
4. * Tolerance of measurements of the Luminous Flux is $\pm 10\%$
5. * Tolerance of measurements of the Color Rendering R_a is ± 3
6. * Chromaticity Coordinates (x,y) is measured with an accuracy of ± 0.01

Part No. LCP-XPW25-700B4

Luminous Flux Efficacy characteristics

Current vs Luminous Flux efficacy (lm/W) $T_a=25^{\circ}\text{C}$

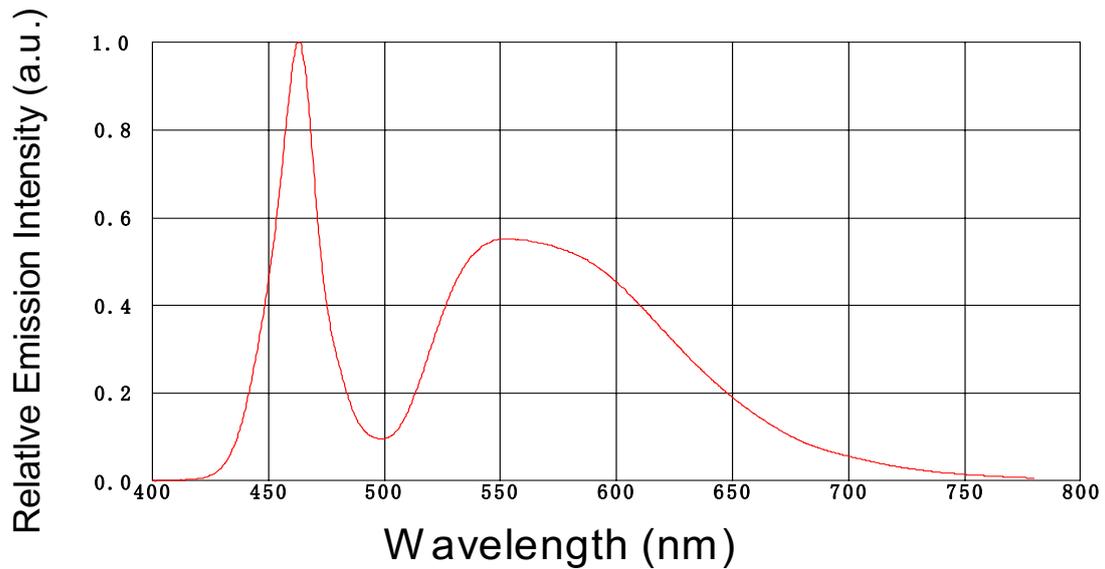
Current (mA)	Forward Voltage (V)	Power Dissipation (W)	Luminous Flux Efficacy (lm/W)
200	33.6	6.72	125
400	34.8	13.92	120
600	35	21.6	115
700	36	26.04	110
900	40	40	100



PartNo. LCP-XPW25-700B4

Characteristic spectrum : $T_J=25^{\circ}\text{C}$

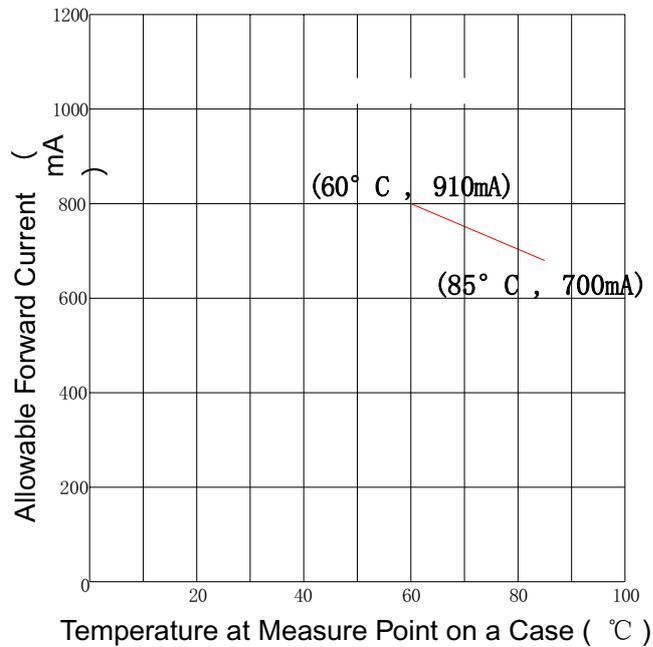
White



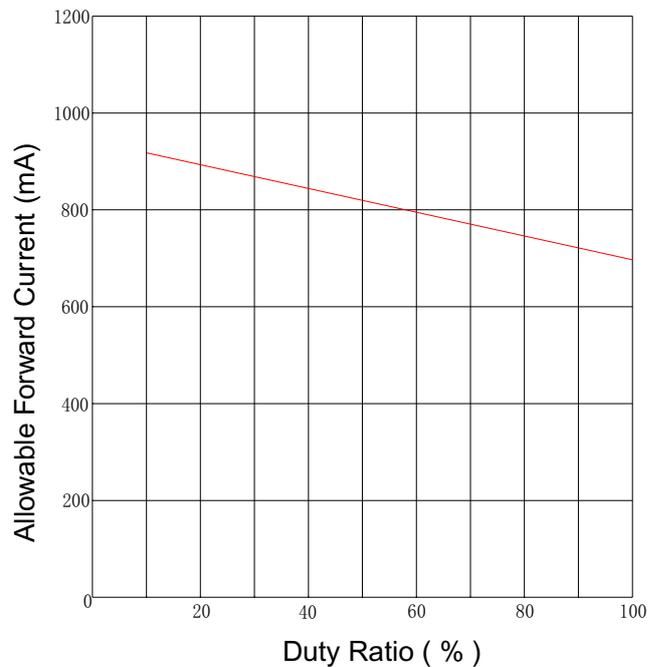
PartNo. LCP-XPW25-700B4

Derating characteristics :

Temperature at Measure Point on a CaseVs Allowable Forward Current

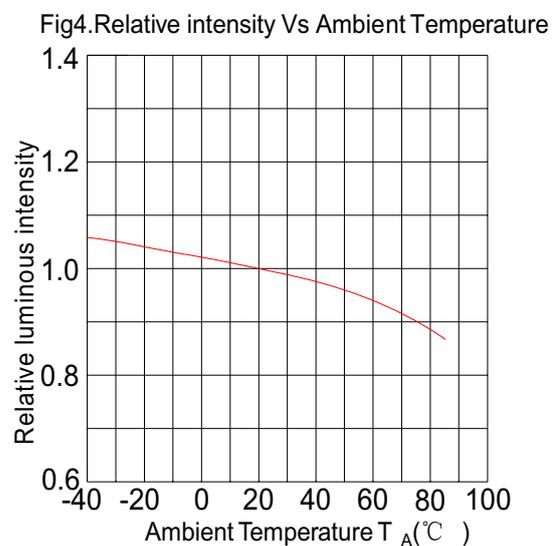
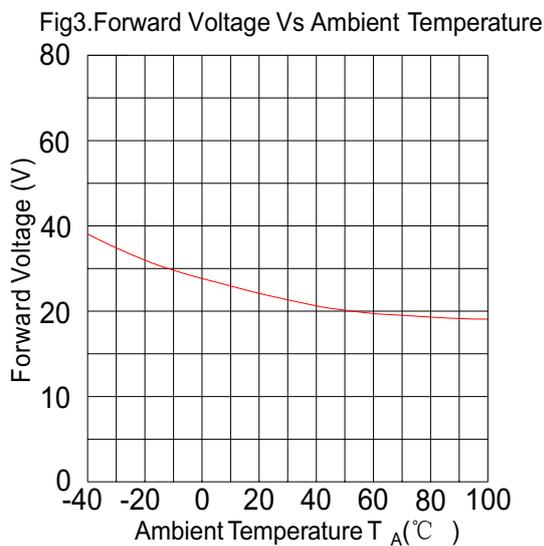
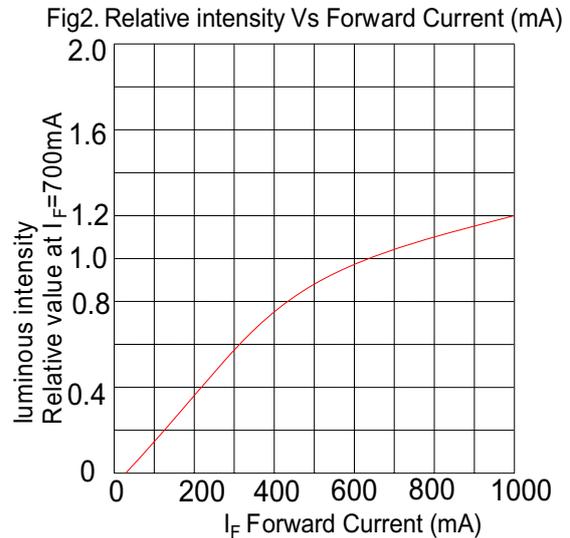
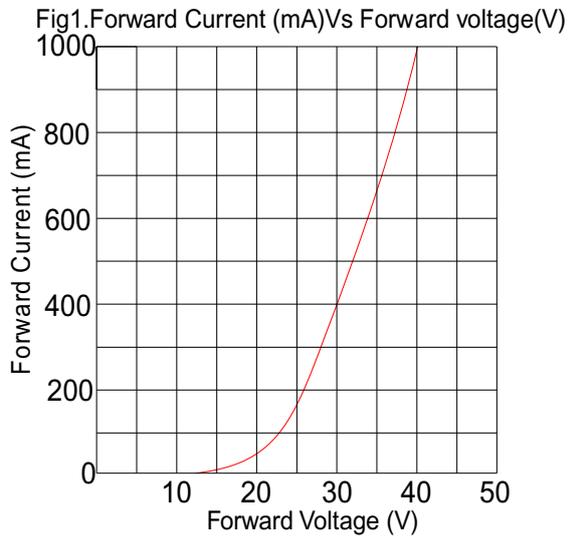


Duty RatioVs Allowable Forward Current



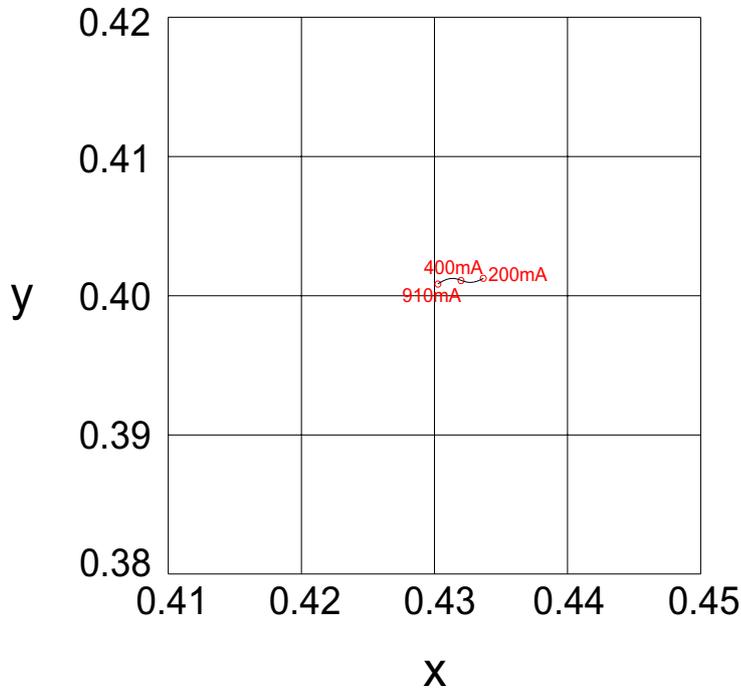
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Typical electrical/optical characteristic curves :

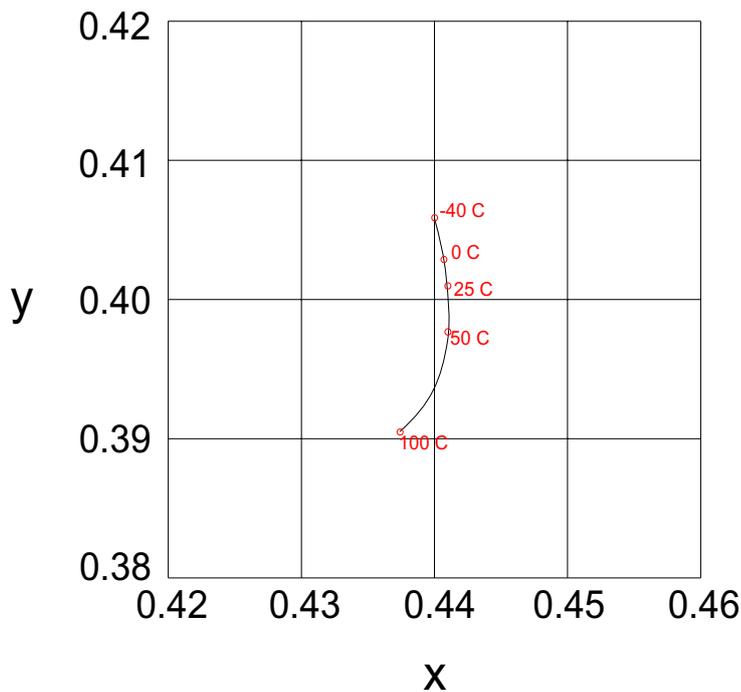


PartNo. LCP-XPW25-700B4

Forward Current Vs Chromaticity Coordinate



Ambient Temperature Vs Chromaticity Coordinate



PartNo. LCP-XPW25-700B4

Reliability

Tests and Results

Test	Reference Standard	Test Conditions	Test Duration	Units Failed/ Tested
Temperature Cycle	JEITA ED-4701 100 105	-40°C (30min) ∼ 25°C (5min) ∼ 100°C (30min) ∼ 25°C (5min)	100cycles	0/10
High Temperature Storage	JEITA ED-4701 200 201	T _A =100°C	1000hours	0/10
Temperature Humidity Storage	JEITA ED-4701 100 103	T _A =60°C RH=90%	1000hours	0/10
Low Temperature Storage	JEITA ED-4701 200 202	T _A =-40°C	1000hours	0/10
High Temperature Operating Life		T _C =85°C T _F =910mA	1000hours	0/10
Electrostatic Discharges	JEITA ED-4701 300 304	HBM 8KV 3KΩ 100Pf 3pulses negative		0/10
Temperature Cycle *1	Smc-opt	-40°C (30min) ∼ (90s) ∼ 110°C (30min) ∼ (90s) -40°C	300cycles	0/10
Temperature Humidity Storage*2	Smc-opt	T _A =85°C RH=85% T _F =700mA	1000hours	0/10

NOTES:

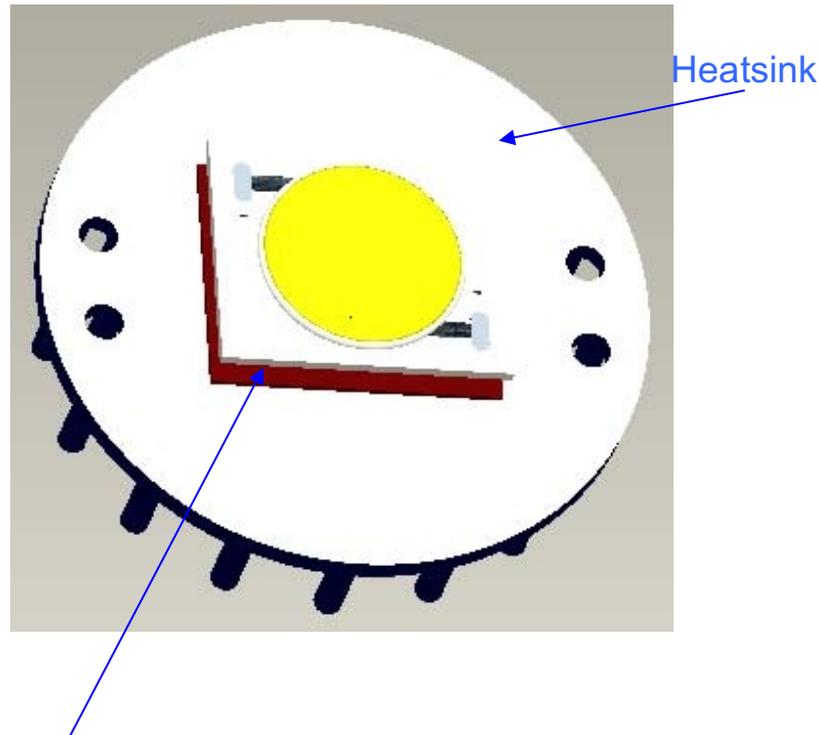
* Measurements are performed after allowing the LEDs to return to room temperature

Failure Criteria

Items	Conditions	Failure Criteria
Forward Voltage (V _F)	I _F =700mA	>Initial value x 1.1
Luminous Flux (Φ _v)	I _F =700mA	<Initial value x 0.7

PartNo. LCP-XPW25-700B4

Recommended installation screw pitch



Thermal conduction materials

If you can not solve the heat problem, the product will destroy easily. Suggest that the surface of the heat sink is $35\text{cm}^2/\text{W}$