

- High efficacy of up to 149 lm/W @ 5000 K
- Lumen Output up to 3800 lm in a single LED package
- Design choice with colour temperatures from 2700K to 5000K
- Guaranteed colour rendering @ CRI >80
- Easy assembly & small footprint (21.5 mm²) for design freedom

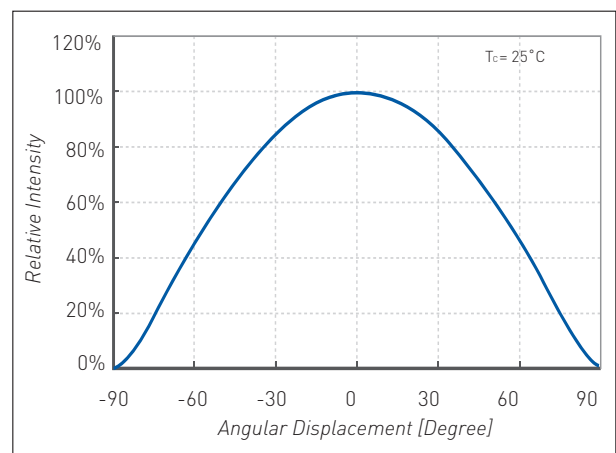
720 mA, 35.5 V



COB-2621



	Colour bin (K)	Flux (1F)* (lm)	Luminous flux Φ _v (lm)		Efficacy (lm/W)		Colour Rank (Bin)
			Min.	Max	Min.	Max	
COB-2621-827-030	2700	27	2510	2710	98	106	W3 (WA)
		28	2710	2920	106	114	
		29	2920	3130	114	122	
		30	3130	3340	122	131	
COB-2621-830-030	3000	27	2680	2890	105	113	V3 (VA)
		28	2890	3110	113	122	
		29	3110	3330	122	130	
		30	3330	3550	130	139	
COB-2621-835-030	3500	27	2780	3000	109	117	U3 (UA)
		28	3000	3220	117	126	
		29	3220	3440	126	134	
		30	3440	3660	134	143	
COB-2621-840-030	4000	27	2850	3080	112	121	T3 (TA)
		28	3080	3310	121	129	
		29	3310	3540	129	138	
		30	3540	3770	138	147	
COB-2621-850-030	5000	31	2890	3130	113	122	RT (RW, RX, RY, RZ)
		32	3130	3360	122	131	
		33	3360	3590	131	140	
		34	3590	3820	140	149	



Beam distribution: view angle 115°

Note: All values with $I_v = 720\text{mA}$ at $T_c = 25^\circ\text{C}$

* Flux rank 1F

Electrical specifications

at $T_c = 25^\circ\text{C}$	Min.	Nom.	Max
Forward Current (mA)	-	720	1300
Forward Voltage (V)	32.5	35.5	38.5
Power Consumption (W)	-	25.6	50

Mechanical and Thermal Data

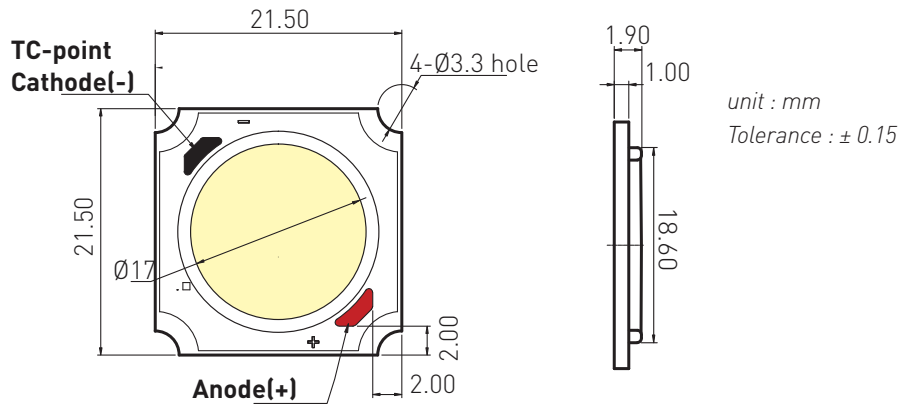
Dimensions	21.5 x 21.5 x t 1.9 (mm)
Thermal Resistance	0.9°C/W

Colour Rendering Index

CRI > 80

Operating Conditions and Characteristics

Max LED junction temperature	150 °C
Operating temperature range	-40...+105 °C
Storage temperature range	-40...+120 °C



Footprint	21.50 x 21.50 ± 0.15 mm
Thickness of PCB	0.9 ± 0.2 mm
Height	1.9 ± 0.2 mm

MOQ = 180 pcs.

Packing details	1 Tray	1 AL bag = Box
Num. of modules	60	180

Box : 338(L) x 148(W) x 60(h) (Tolerance : ±2 mm)

Chromaticity Co-ordinates

Condition : IF = 720 mA, Ta : 25°C

1) The Chromaticity Coordinates refers to ANSI C78.377-2008

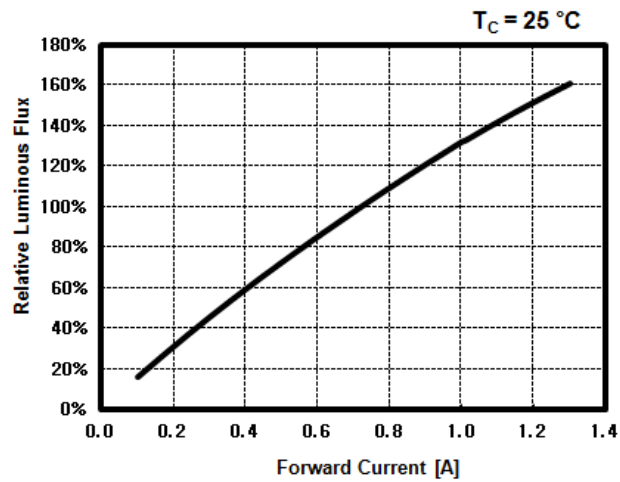
2700 K		3000 K		3500 K										
CIE1931 chromaticity diagram(E-Star)		CIE1931 chromaticity diagram(E-Star)		CIE1931 chromaticity diagram(E-Star)										
Macadam Ellipse 3-step (WA)		Macadam Ellipse 3-step (VA)		Macadam Ellipse 3-step (UA)										
x	y	θ	a	b	x	y	θ	a	b	x	y	θ	a	b
0.4578	0.4101	53.7	0.0081	0.0042	0.4338	0.4030	53.22	0.0083	0.0041	0.4037	0.3917	54.0	0.0093	0.0041

4000 K		5000 K						
CIE1931 chromaticity diagram(E-Star)		CIE1931 chromaticity diagram(E-Star)						
Macadam Ellipse 3-step (TA)		B.B Locus						
x	y	θ	a	b	Table		CIE X	CIE Y
0.3818	0.3797	53.72	0.0094	0.0040	RW	0.3376	0.3616	
						0.3463	0.3687	
						0.3451	0.3554	
						0.3371	0.3490	
					RX	0.3371	0.3490	
						0.3451	0.3554	
						0.3440	0.3428	
						0.3366	0.3369	
					RY	0.3463	0.3687	
						0.3551	0.3760	
						0.3533	0.3620	
						0.3451	0.3554	
						0.3451	0.3554	
					RZ	0.3533	0.3620	
						0.3515	0.3487	
						0.3440	0.3428	

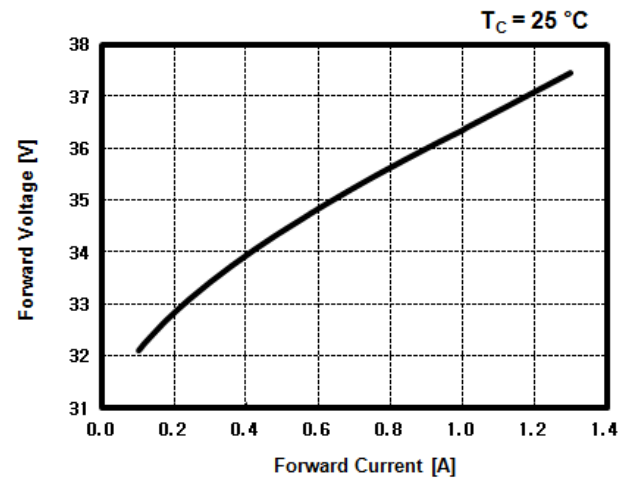
Typical Characteristics

Condition : $T_a : 25^\circ\text{C}$

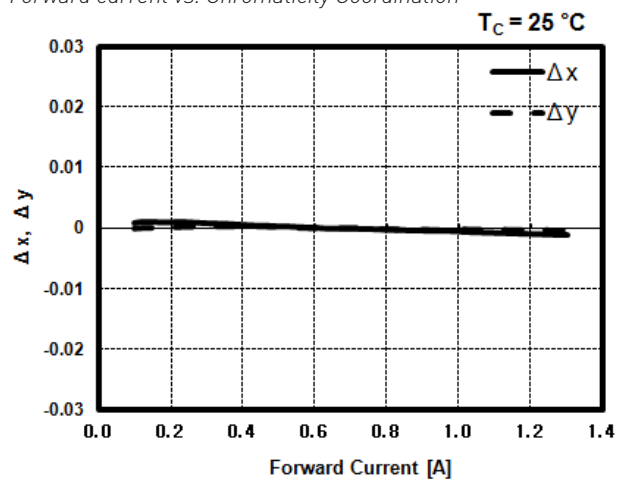
Relative luminous flux versus forward current



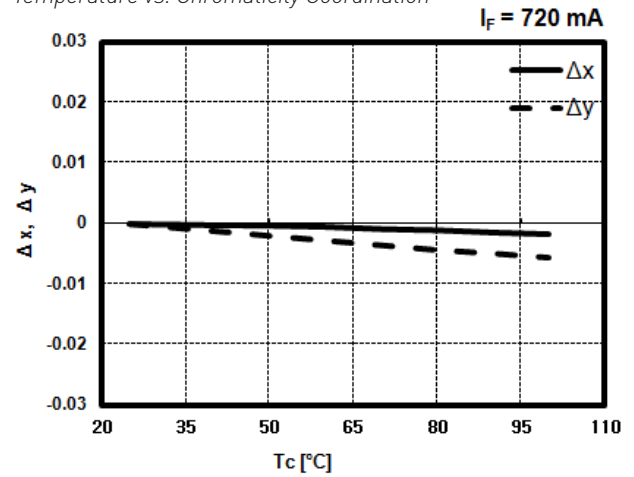
Forward Current vs. Forward Voltage



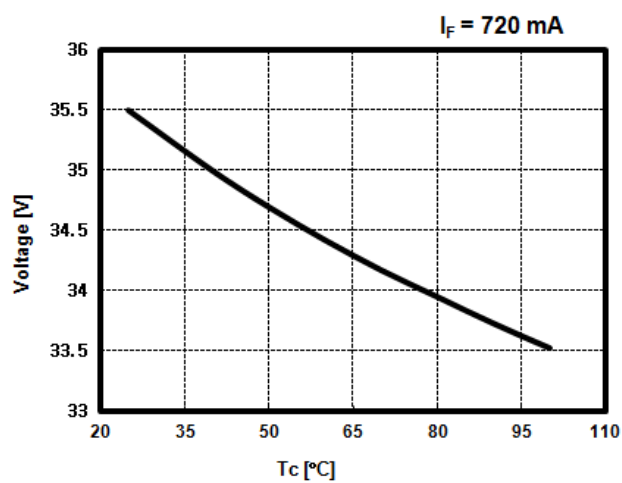
Forward current vs. Chromaticity Coordination



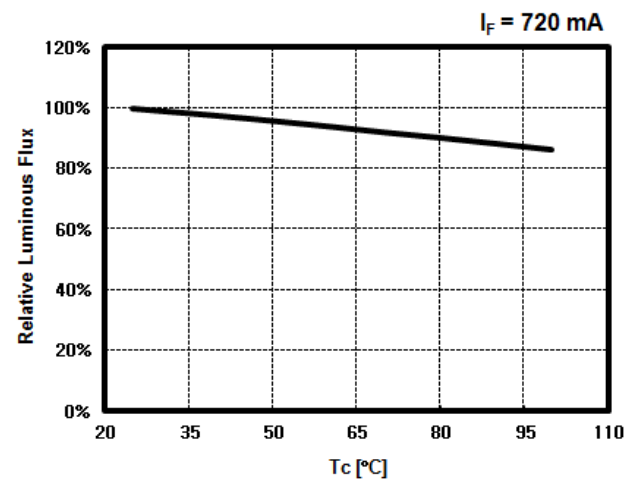
Temperature vs. Chromaticity Coordination



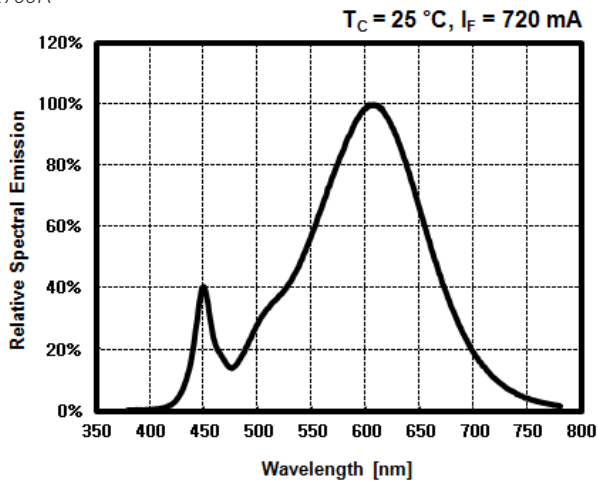
Temperature vs. Voltage



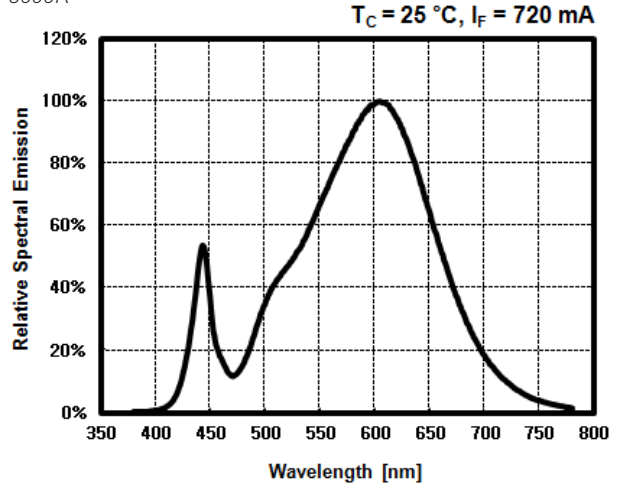
Temperature vs. Relative Luminous Flux



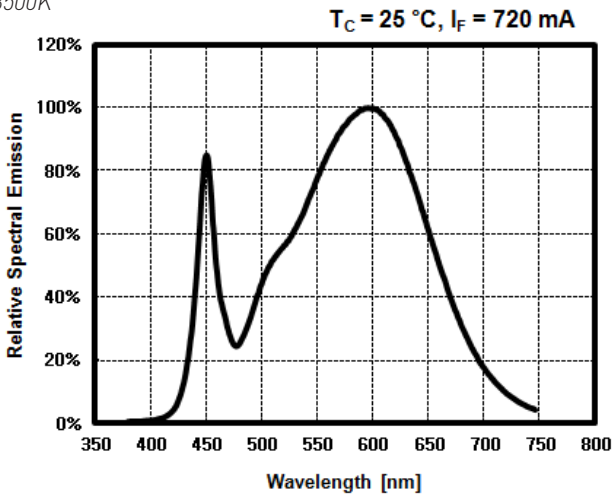
2700K



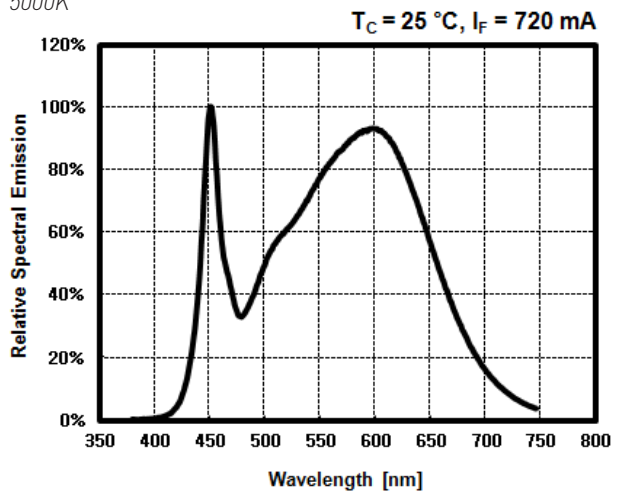
3000K



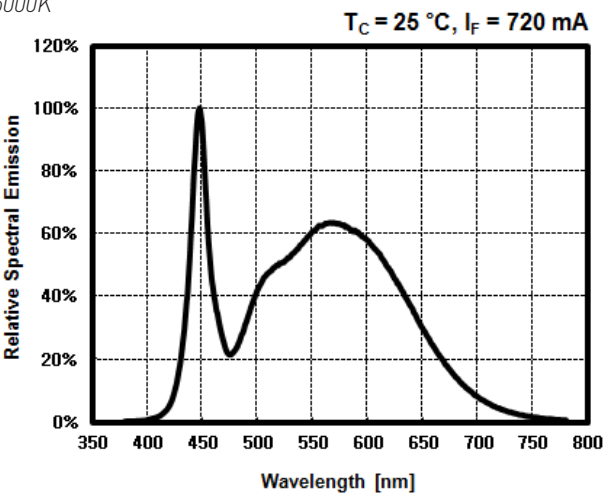
3500K



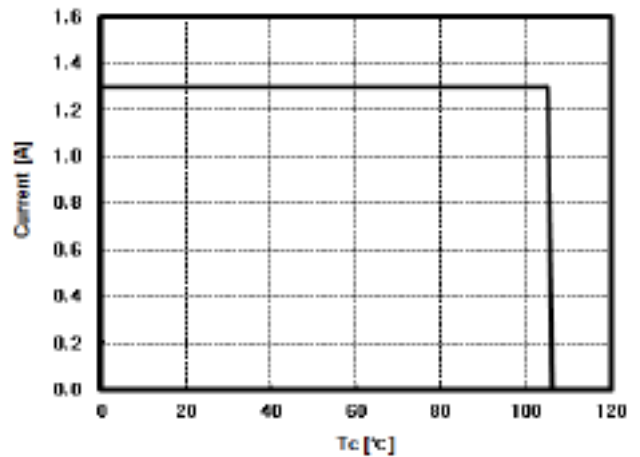
5000K



5000K



Derating Curve



Test Items

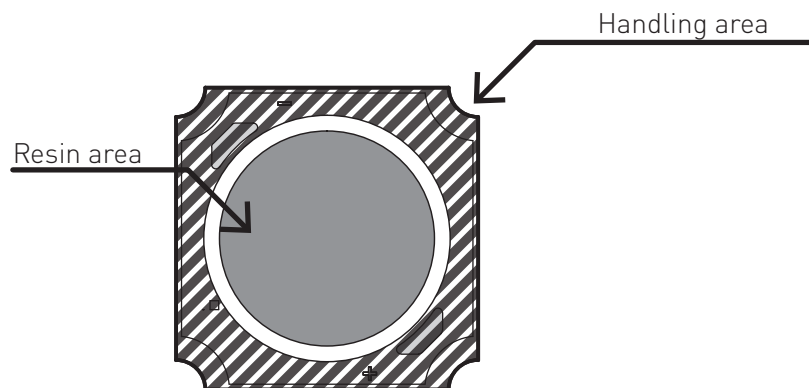
Test Items	Test Conditions	Test Hours/Cycles
Room Temperature life test	25°C, I _F = Max	1,000 h
High Temperature humidity life test	85°C, 85% RH, DC Derating I _F = Max	1,000 h
High Temperature life test	105°C, DC Derating I _F = Max	1,000 h
Low Temperature life test	-40°C, DC 1300 mA	1,000 h
High Temperature Storage	120°C	1,000 h
Low Temperature Storage	-40°C	1,000 h
Thermal Shock	-45°C/15min → 125°C/15min	200 cycles
	Temperature changes in 5min.	
Temperature Cycle On/Off test	-40 / 85°C, each 20min, 100min transfer	100 cycles
	Power On/off each 5min, DC 720 mA	
Temperature humidity Cycle Storage	-10°C ↔ 25°C, 95%RH ↔ 85°C, 95%RH [24h/1Cycle]	100 cycles
ESD(HBM)	R1 : 10 MΩ, R2 : 1.5 kΩ, C : 100 pF	5 times (± 5 kV)
ESD(MM)	R1 : 10 MΩ, R2 : 0 kΩ, C : 200 pF	5 times (± 0.5 kV)
Vibration	20~80 Hz (Displacement:0.06 inch, Max 20 G)	4 times
	80~2kHz (Max 20 G)	
Shock	Min. Frequency ↔ Max. Frequency 4min transfer	5 times
	1500G, 0.5ms, Every 6faces (3axis X 2faces)	
Salt Spray	35°C, salt water 5% 8h spray → 16h leaving alone	2 cycles

Criteria for Failure

Item	Symbol	Test Condition [T _a = 25°C]	Limit	
			Min.	Max.
Forward Voltage	VF	1300 mA	L.S.L. × 0.9	U.S.L. × 1.1
Luminous flux	lm	1300 mA	L.S.L. × 0.7	U.S.L. × 1.3

* U.S.L. : Upper Standard Level L.S.L. : Lower Standard Level

- 1) Shelf life in sealed bag : 12 months at < 40°C and < 90% relative humidity(RH)
- 2) Peak package body temperature : 240°C.
- 3) After this bag is opened, devices that will be subjected to reflow solder or other high temperature processes must be :
 - a. Mounted within 672 hours at factory conditions of equal to or less than 30°C / 60% RH, or
 - b. Stored at < 10% RH
- 4) Devices require bake, before mounting, if :
 - a. Humidity Indicator Card is > 65% when read at 23 ± 5°C, or
 - b. 3a is not met.
- 5) If baking is required, devices must be baked for 1 hours at 60 ± 5°C
Note : If device containers cannot be subjected to high temperature or shorter bake times are desired, reference IPC / JEDEC J-STD-033 for bake procedure.
- 6) The LEDs are sensitive to the static electricity and surge current. It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs. If voltage exceeding the absolute maximum rating is applied to LEDs, it may cause damage or even destruction to LED devices. Damaged LEDs may show some unusual characteristics such as increase in leakage current, lowered turn-on voltage, or abnormal lighting of LEDs at low current.
- 7) Please do not following behavior in resin area.(Handling, Pressing, Touching, Rubbing, Contacting tweezers, Cleaning) But it's ok in handling area.



- 8) VOCs (volatile organic compounds) may be occurred by adhesives, flux, hardener or organic additives which is used in luminaires (fixture) and LED silicone bags are permeable to it. It may lead a discoloration when LED expose to heat or light. This phenomenon can give a significant loss of light emitted(output) from the luminaires (fixtures). In order to prevent these problems, we recommend you to know the physical properties for the materials used in luminaires, It requires to select carefully.