

- High efficacy of up to 150 lm/W @ 5000 K
- Lumen Output up to 1900 lm in a single LED package
- Design choice with colour temperatures from 2700K to 5000K
- Guaranteed colour rendering @ CRI >80
- Easy assembly & small footprint (17 mm²) for design freedom

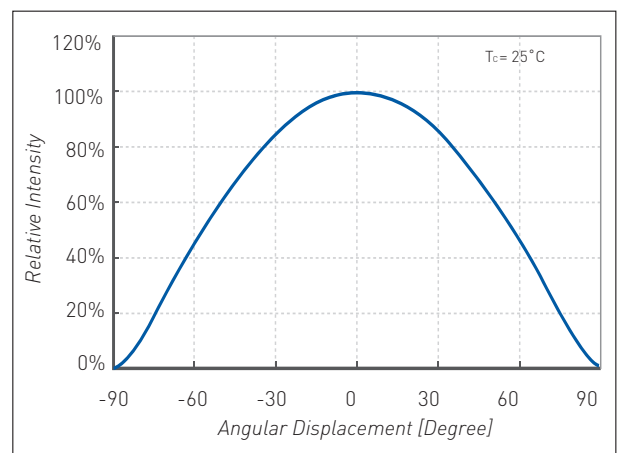
360 mA, 36.5 V



COB-1317



	Colour bin	Luminous flux Φ _v		Efficacy		Colour Rank (Bin)	
		Min. (lm)	Max. (lm)	Min. (lm/W)	Max. (lm/W)		
COB-1317-827-015	2700	13	1300	1400	102	110	W3 (WA)
		14	1400	1500	110	117	
		15	1500	1600	117	125	
		16	1600	1700	125	133	
COB-1317-830-015	3000	13	1350	1450	106	113	V3 (VA)
		14	1450	1560	113	122	
		15	1560	1670	122	131	
		16	1670	1780	131	139	
COB-1317-835-015	3500	14	1400	1510	110	119	U3 (UA)
		15	1510	1620	119	128	
		16	1620	1730	128	136	
		17	1730	1840	136	145	
COB-1317-840-015	4000	15	1430	1540	112	121	T3 (TA)
		16	1540	1660	121	130	
		17	1660	1780	130	139	
		18	1780	1900	139	149	
COB-1317-850-015	5000	15	1430	1560	112	122	RT (RW, RX, RY, RZ)
		16	1560	1680	122	131	
		17	1680	1800	131	141	
		18	1800	1920	141	150	



Beam distribution: view angle 115°

Note: All values with $I_v = 360$ mA at $T_c = 25$ °C

* Flux rank 1F

Electrical specifications

at $T_c = 25$ °C	Min.	Nom.	Max
Forward Current (mA)	-	360	660
Forward Voltage (V)	32.5	35.5	38.5
Power Consumption (W)	-	12.7	25

Mechanical and Thermal Data

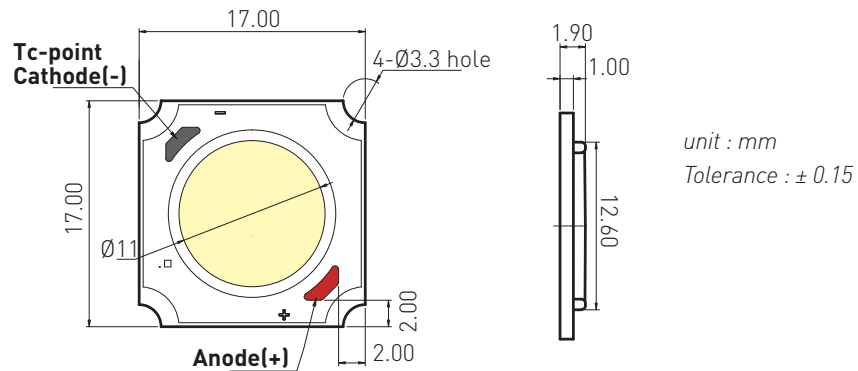
Dimensions 17.0 x 17.0 x t 1.9 (mm)
Thermal Resistance (R_{th,j-c}) 1.6 °C /W

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



MOQ = 270 pcs.

Footprint	17.00 x 17.00 ± 0.15mm
Thickness of PCB	0.9 ± 0.2 mm
Height	1.9 ± 0.2 mm

Packing details	Tray	AL bag = Box
Num. of modules	90	270

Box : 338(L) x 148(W) x 54(h) (Tolerance : ±2 mm)

Chromaticity Co-ordinates

Condition : IF = 360 mA, Ta : 25°C

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

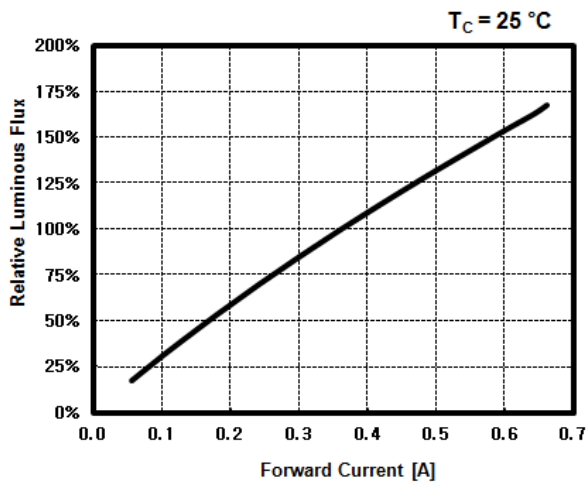
2700 K	3000 K	3500 K
Macadam Ellipse 3-step (WA)	Macadam Ellipse 3-step (VA)	Macadam Ellipse 3-step (UA)
x y θ a b	x y θ a b	x y θ a b
0.4578 0.4101 53.7 0.0081 0.0042	0.4338 0.4030 53.22 0.0083 0.0041	0.4037 0.3917 54.0 0.0093 0.0041

4000 K	5000 K	
Macadam Ellipse 3-step (TA)		Table CIE X CIE Y
x y θ a b		RW 0.3376 0.3616
0.3818 0.3797 53.72 0.0094 0.0040		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
		0.3463 0.3687
		RY 0.3551 0.3760
		0.3533 0.3620
		0.3451 0.3554
		RZ 0.3533 0.3620
		0.3515 0.3487
		0.3440 0.3428

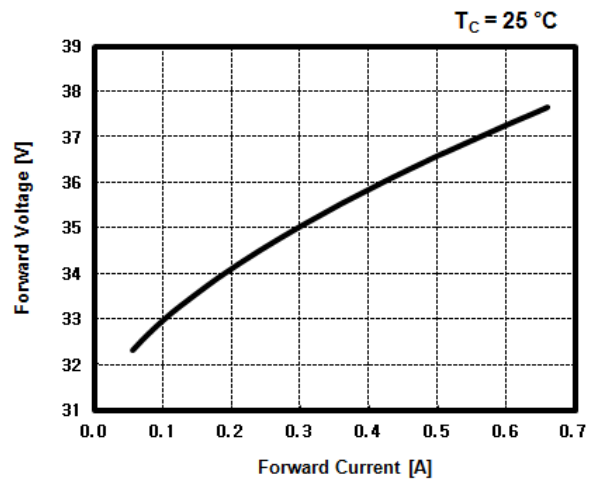
Typical Characteristics

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

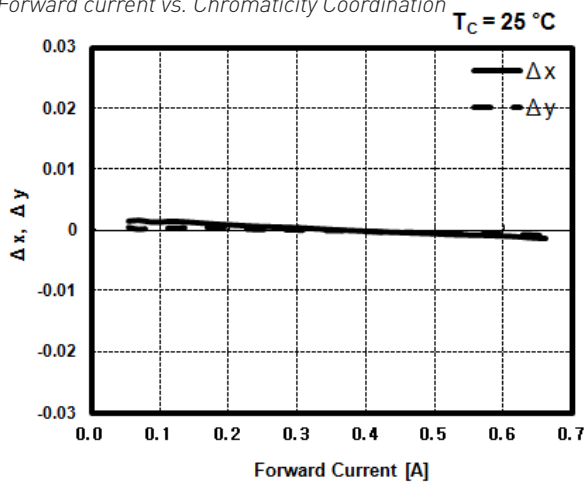
Relative luminous flux versus forward current



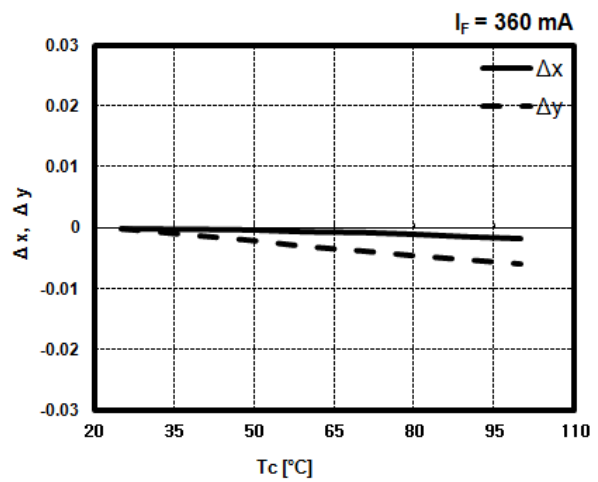
Forward Current vs. Forward Voltage



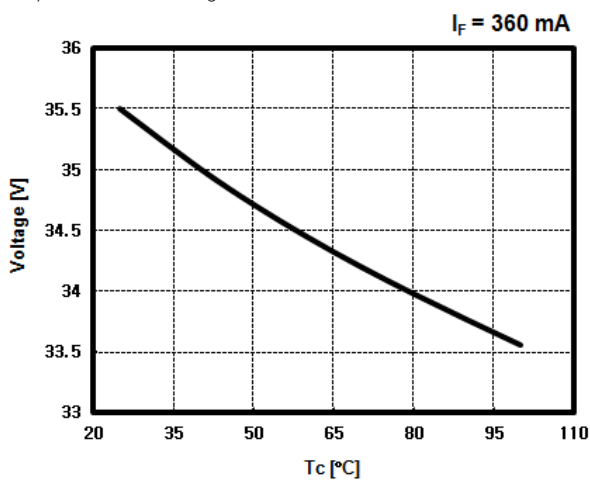
Forward current vs. Chromaticity Coordination



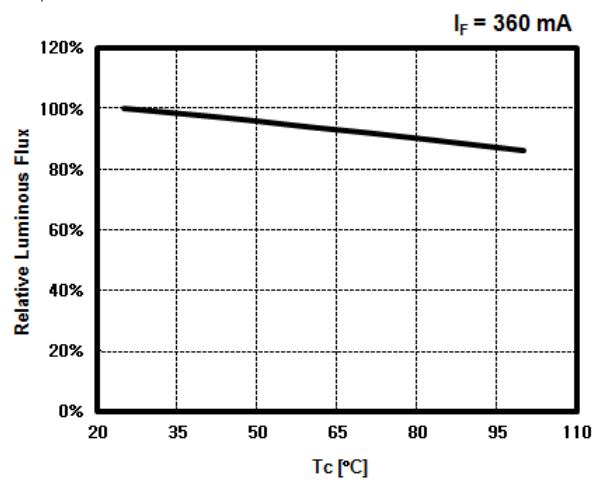
Temperature vs. Chromaticity Coordination



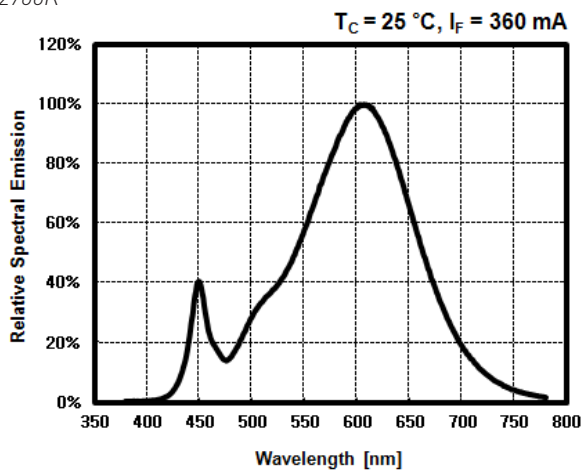
Temperature vs. Voltage



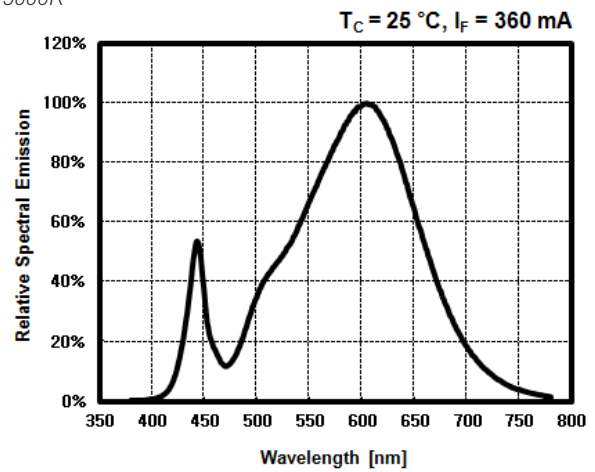
Temperature vs. Relative Luminous Flux



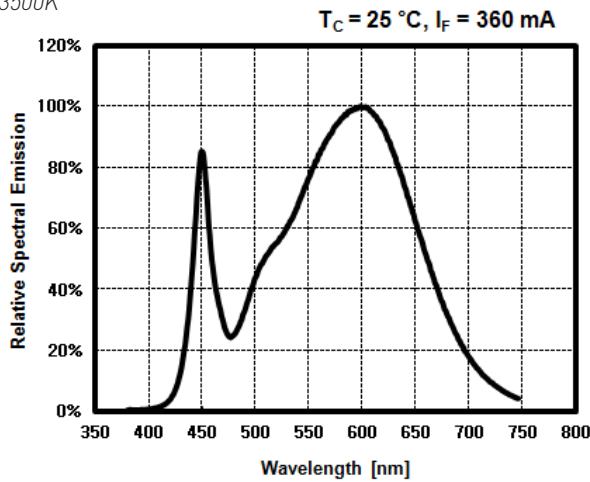
2700K



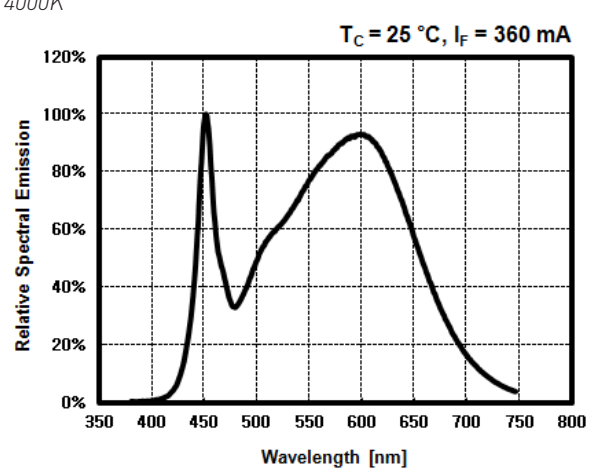
3000K



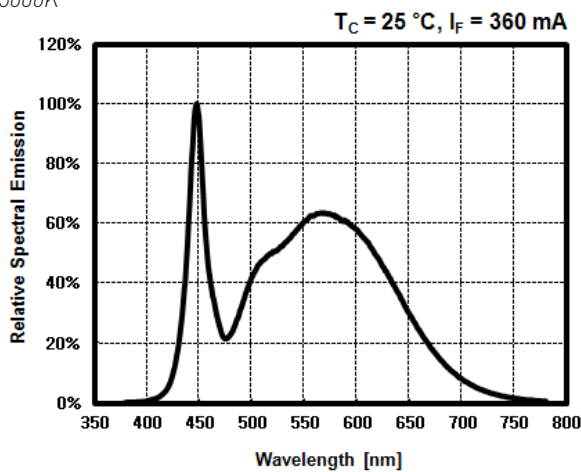
3500K



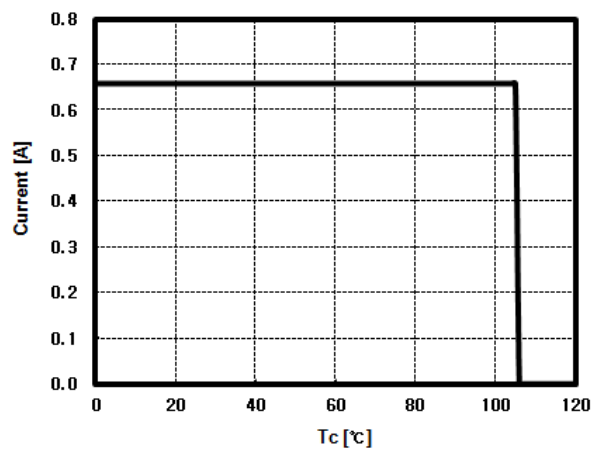
4000K



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 660 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 360 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	
Shock	1500G, 0.5ms, Every 6faces (3axis X 2faces)	5 times
Salt Spray	35°C, salt water 5% 8h spray → 16h leaving alone	2 cycles

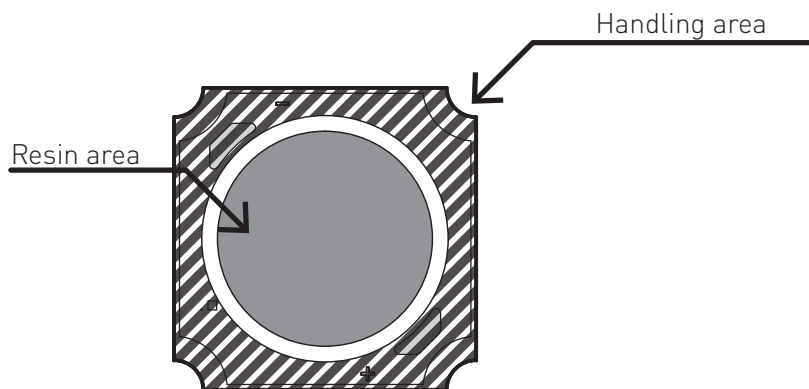
Criteria for Failure

Item	Symbol	Test Condition [T _a = 25°C]	Limit	
			Min.	Max.
Forward Voltage	VF	660 mA	L.S.L. × 0.9	U.S.L. × 1.1
Luminous flux	lm	660 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.