



BRIGHTTEK
BRIGHTTEK (EUROPE) LIMITED

Brighten up The World With LED!



ISO/TS 16949:2009



BS EN ISO 14001:2004



QC 080000 IECQ HSPM

PRODUCT DATASHEET



- ▶ COB Module
- ▶ 13.5x13.5x1.4mm
- ▶ Warm White 3500K

NOW63M13



Release Date: 25 November 2022 Version: A1.0



1 A 1 A C O B M o d u l e

1A1A COB Module

RoHS
Compliant



FEATURES:

- **Package:** Top View COB Light Engine Module
- **Forward Current:** 220~400mA
- **Forward Voltage (typ.):** 35.1V
- **Luminous Flux (typ.):** 935lm@220mA
- **Colour:** Warm White
- **Colour Temperature (CCT):** 3500K
- **Viewing angle:** 120°
- **Materials:**
 - Die: InGaN
 - Resin: Silicon (Yellow Diffused)
 - Package: EMC
- **Operating Temperature:** -40~+100°C
- **Storage Temperature:** -40~+120°C
- **Grouping parameters:**
 - Forward Voltage
 - Luminous Flux
 - CIE Chromaticity
- **Soldering methods:** Reflow Soldering
- **MSL Level:** 3 according to J-STD020
- **Packing:** 80pcs/tray; in carton

APPLICATIONS:

- Commercial Lighting
- Tunnel Light
- Spotlight
- General Lighting

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
DC Forward Current	I _F	400	mA
Power Dissipation	P _D	14240	mW
Junction Temperature	T _J	125	°C
Operating Temperature	T _{OPR}	-40~+100	°C
Storage Temperature	T _{STG}	-40~+120	°C
Thermal Resistance	R _{thj-sp}	1.0	°C/W
Colour Rendering Index (CRI)	R ₉	83	---
	R _a	95	

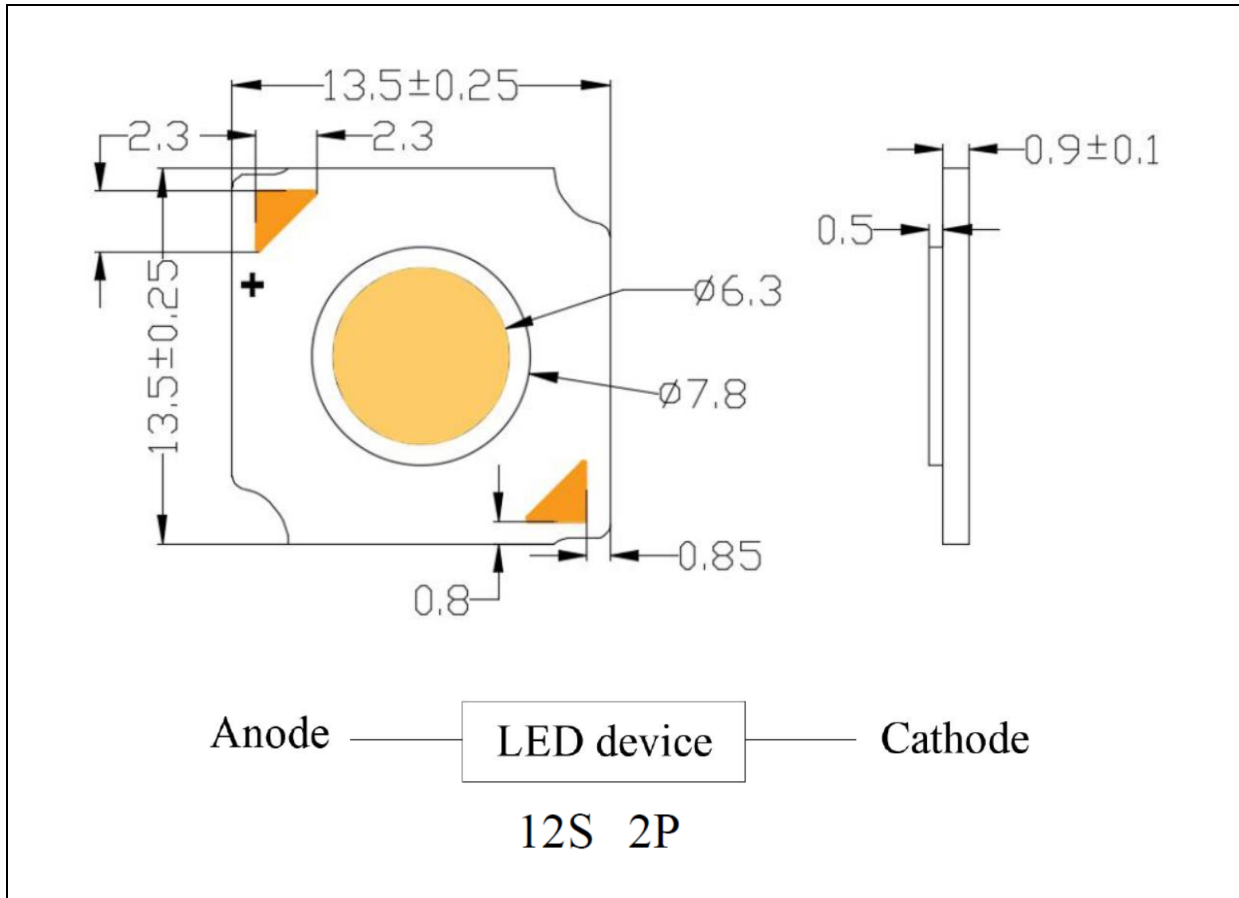
Electrical & Optical Characteristics (Ta=25°C, RH=60%)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V _F	33.0	35.1	---	V	I _F =220mA
Luminous Flux	Φ _V	870	935	1030	lm	I _F =220mA
Chromaticity Coordinates	X	---	0.4073	---	---	I _F =220mA
	Y	---	0.3917	---		
Colour Temperature	CCT	---	3500	---	K	I _F =220mA
Viewing Angle	2θ _{1/2}	---	120	---	deg	I _F =220mA

- Luminous flux (Φ_V) ±10%, Forward Voltage (V_F) ±0.1V, CRI ±2

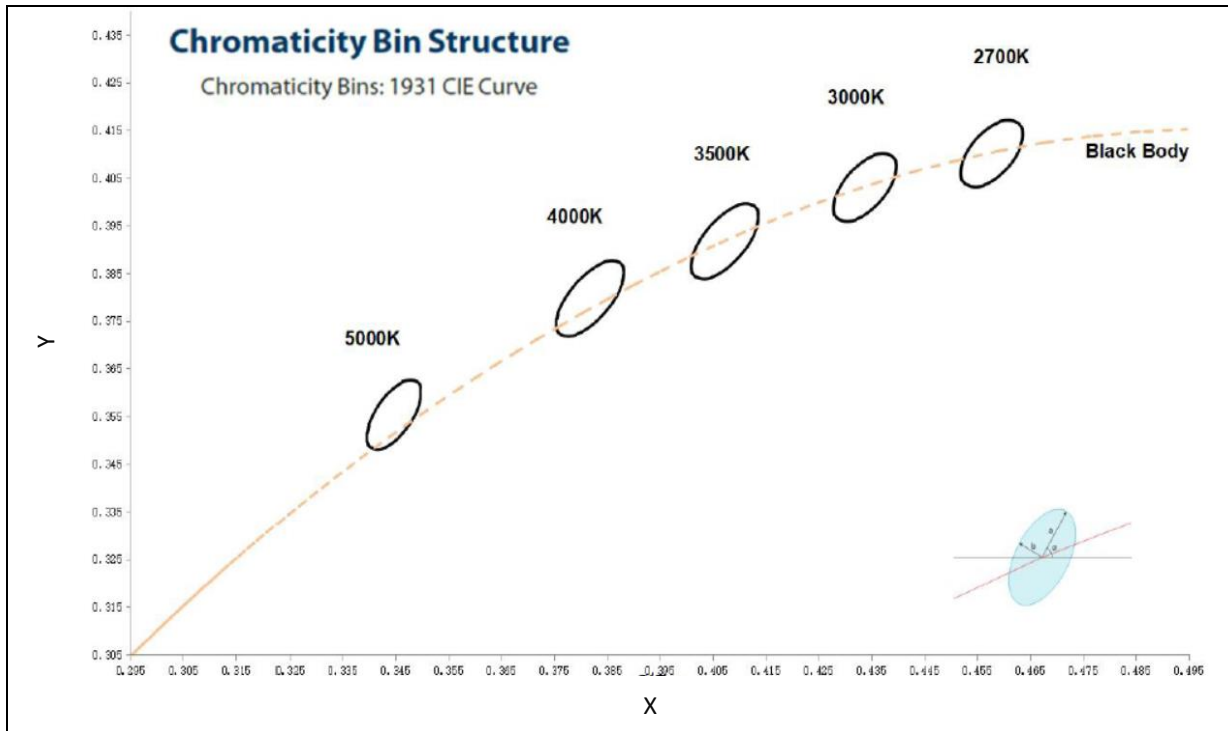
OUTLINE DIMENSION:

Package Dimension:



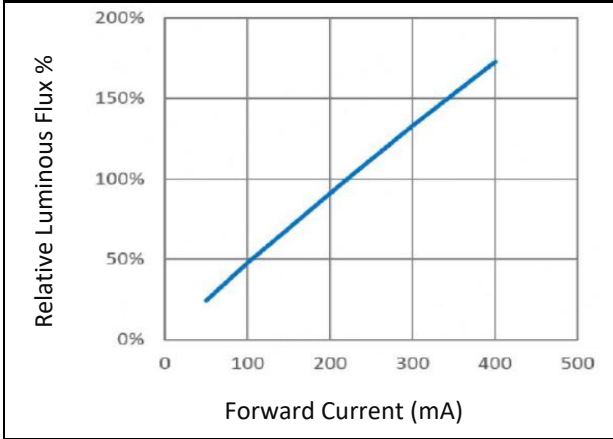
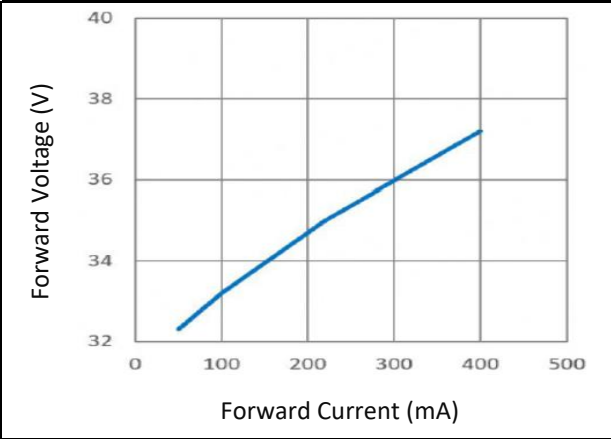
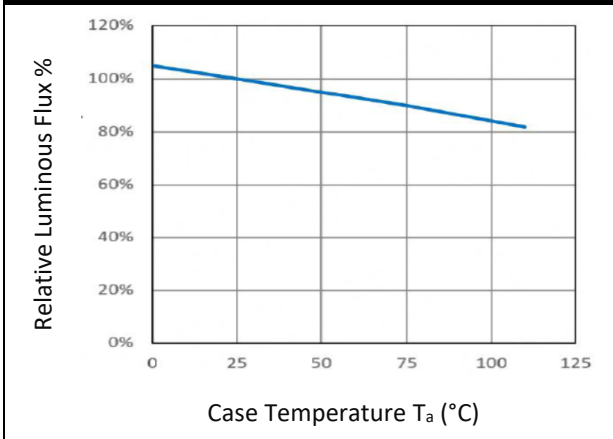
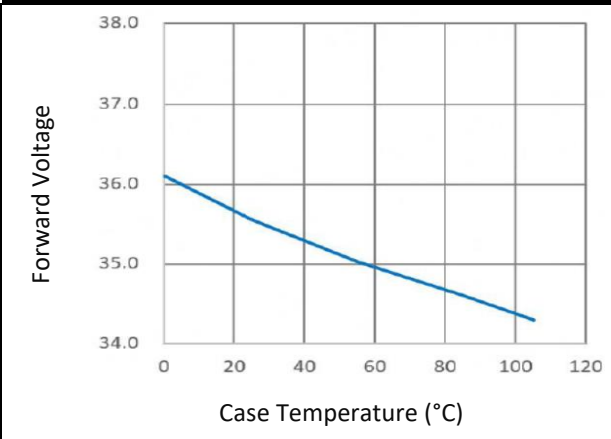
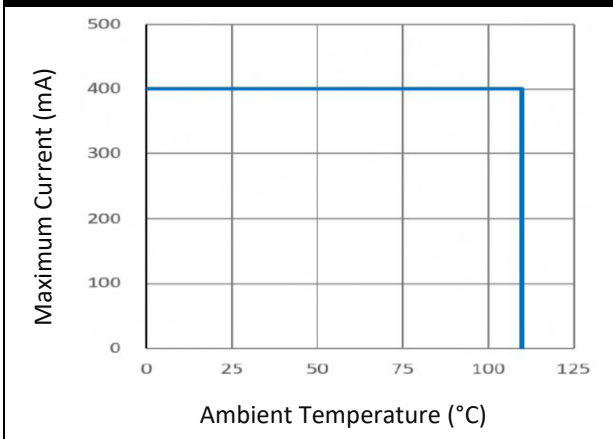
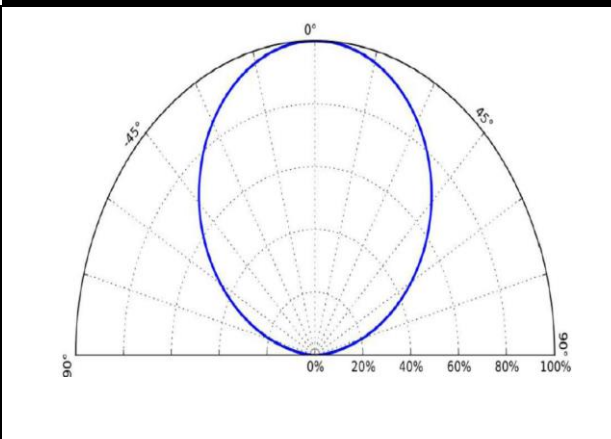
1. All dimensions are in millimetre (mm).
2. Tolerance ± 0.2 mm, unless otherwise noted.

CIE CHROMATICITY DIAGRAM:



Chromaticity Coordinates Classifications ($I_F = 220\text{mA}$):

Code	Centre		Radius		Angle
	X	Y	a	b	Φ
35M3	0.4073	0.3917	0.009270	0.004140	54.00

ELECTRO-OPTICAL CHARACTERISTICS:
Relative Luminous Flux v.s. Forward Current

Forward Current v.s. Forward Voltage

Relative Luminous Flux v.s. Case Temp.

Forward Voltage v.s. Case Temp.

Forward Current Derating Curve

Directive Radiation


PRECAUTIONS OF USE:

Storage:

It is recommended to store the products in the following conditions:

- Humidity: 60% R.H. Max.
- Temperature: 5°C~30°C (41°F ~86°F).

Shelf life in sealed bag: 12 months at 5°C~30°C and <60% R.H.

Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp-proof box with desiccating agent <10% R.H. and apply baking before use.

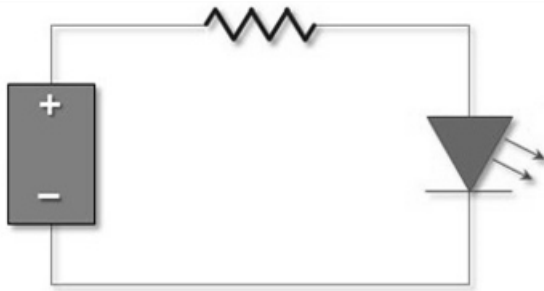
Baking:

It is recommended to bake the LED before soldering if the pack has been unsealed for longer than 24hrs. The suggested baking conditions are as followings:

- 60±3°C x 24hrs and <5%RH, taped / reel package.

It's normal to see slight color fading of carrier (light yellow) after baking in process.

Testing Circuit:



Must apply resistor(s) for protection (over current proof).

Cleaning:

Use alcohol-based cleaning solvents such as isopropyl alcohol to clean the LED carrier / package. Avoid putting any stress force directly on to the LED lens.

ESD (Electrostatic Discharge):

Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrostatic glove is recommended when handling the LED all time. All devices, equipment, machinery, work tables, and storage racks must be properly grounded.

In the events of manual working in process, make sure the devices are well protected from ESD at any time.

REVISION RECORD:

Version	Date	Summary of Revision
A1.0	25/11/2022	Datasheet set-up.