

## MF-13SA-1830-SS-5161-K7 COB Datasheet

### Applications

- Spot lighting
- Down lighting



### Naming Conventions

MF-13SA - 1830 - SS - 5161 - K7

(1) (2) (3) (4)

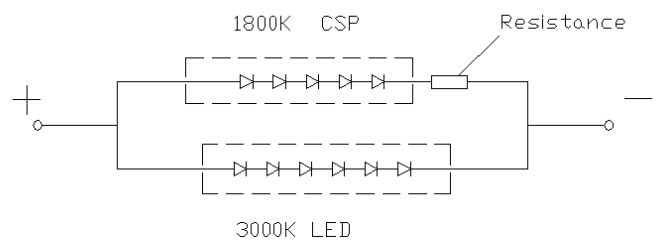
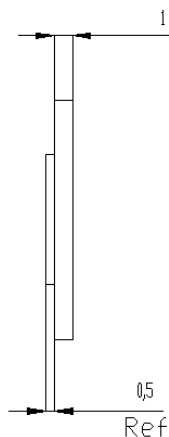
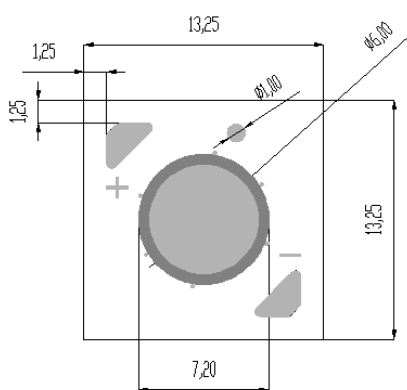
(1) COB Series

(2) CCT Range : 1800K-3000K

(3) CRI Range: > 90

(4) Chip Array

### Package Dimensions



1800K CSP 5 series × 1 parallel = 5 pcs of CSPs  
3000K LED 6 series × 1 parallel = 6 pcs of LEDs

1. All dimensions in millimeters.
2. Tolerance is +/-0.3mm unless otherwise noted.
3. The information in this document is subject to change without notice.

**Absolute Maximum Ratings**

| Item                                   | Symbol | Absolute Maximum Rating | Unit |
|----------------------------------------|--------|-------------------------|------|
| Forward current                        | If     | 400                     | mA   |
| Peak Power                             | P      | 7.5                     | W    |
| Reverse Voltage                        | vr     | -15                     | V    |
| Operating Temperature                  | Topr   | -30~+100                | °C   |
| Storage Temperature                    | Tstg   | -40~100                 | °C   |
| Hand soldering condition               | Tsld   | 3.5sec@350°C            | sec  |
| Case Temperature                       | Tc     | 100                     | °C   |
| LED Junction Temperature               | Tj     | 125                     | °C   |
| Temperature of central silicon Surface | Ts     | 125@IRDA Test           | °C   |

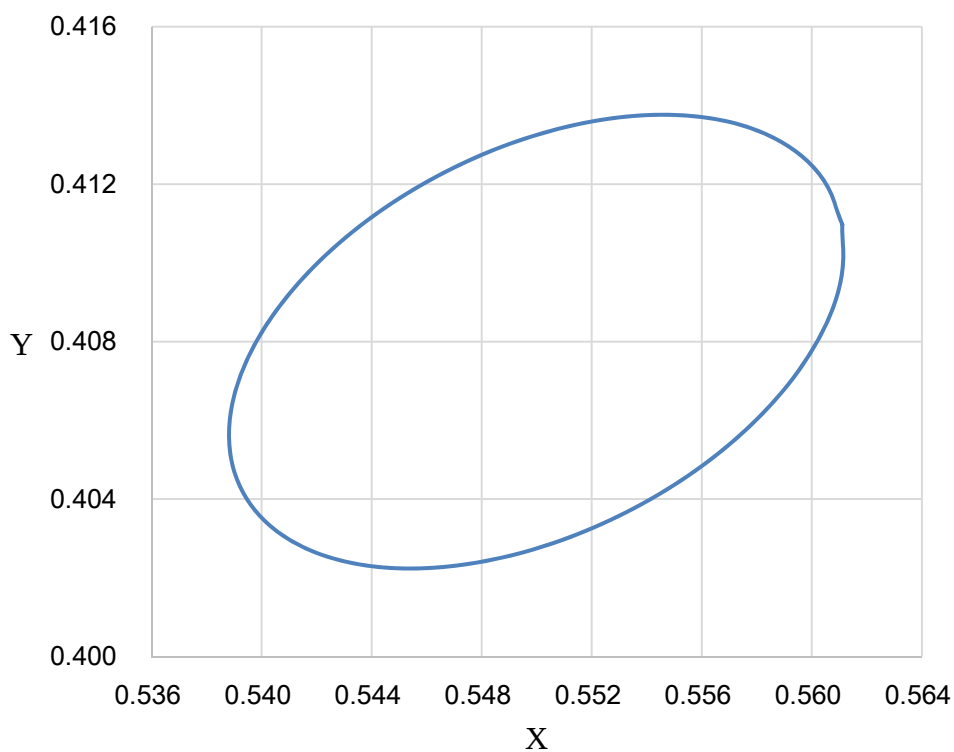
**Characteristics (Tc=25°C)**

| CCT   | Item                          | Symbol | Condition | MIN. | TYP.   | MAX. | Unit |
|-------|-------------------------------|--------|-----------|------|--------|------|------|
| 1800K | Forward Voltage               | VF     | I = 30mA  | -    | 14.5   | -    | V    |
|       | Luminous Flux                 | Φ      |           | -    | 33     | -    | lm   |
|       | Chromaticity Coordinates      | x      |           | -    | 0.5500 | -    | -    |
|       |                               | y      |           | -    | 0.4080 | -    | -    |
|       | General Color Rendering Index | Ra     |           | 90   | -      | -    | -    |
| 3000K | Forward Voltage               | VF     | I = 350mA | -    | 17.5   | -    | V    |
|       | Luminous Flux                 | Φ      |           | -    | 550    | -    | lm   |
|       | Chromaticity Coordinates      | x      |           | -    | 0.4338 | -    | -    |
|       |                               | y      |           | -    | 0.4030 | -    | -    |
|       | General Color Rendering Index | Ra     |           | 90   | -      | -    | -    |

**Notes:**

1. Luminous flux is measured with an accuracy of +/- 5 %.
2. CRI is measured with an accuracy of +/- 1
3. Some color and CRI bins may have limited availability, please contact us before ordering.
4. All measurements were made under the standardized environment of Shineon.

### Chromaticity Characteristics (Tc=25°C)

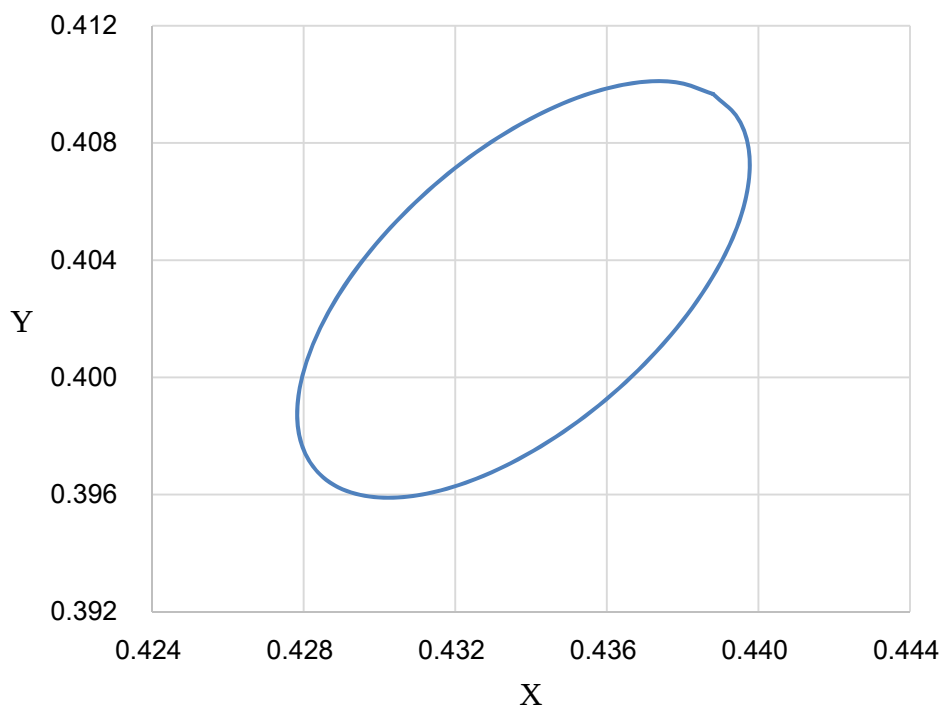


| Bin Code | Nominal CCT    | Center Point |        | Oval parameter |         |        |
|----------|----------------|--------------|--------|----------------|---------|--------|
|          |                | x            | y      | a              | b       | Theta° |
| 183      | 1800K (3-step) | 0.5500       | 0.4080 | 0.0115         | 0.00511 | 15     |

Notes:

1. Chromaticity coordinate bins are measured with an accuracy of +/- 0.005.

## Chromaticity Characteristics (Tc=25°C)

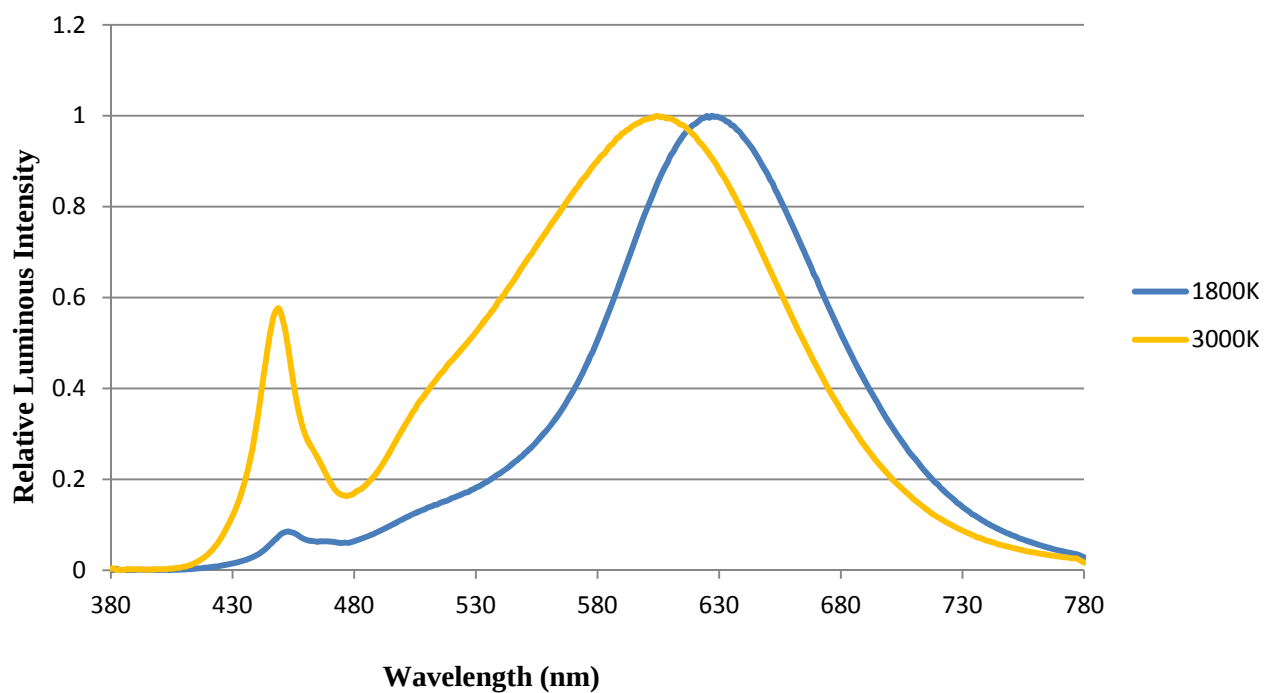


| Bin Code | Nominal CCT    | Center Point |        | Oval parameter |         |        |
|----------|----------------|--------------|--------|----------------|---------|--------|
|          |                | x            | y      | a              | b       | Theta° |
| 303      | 3000K (3-step) | 0.4338       | 0.4030 | 0.00834        | 0.00408 | 53.17  |

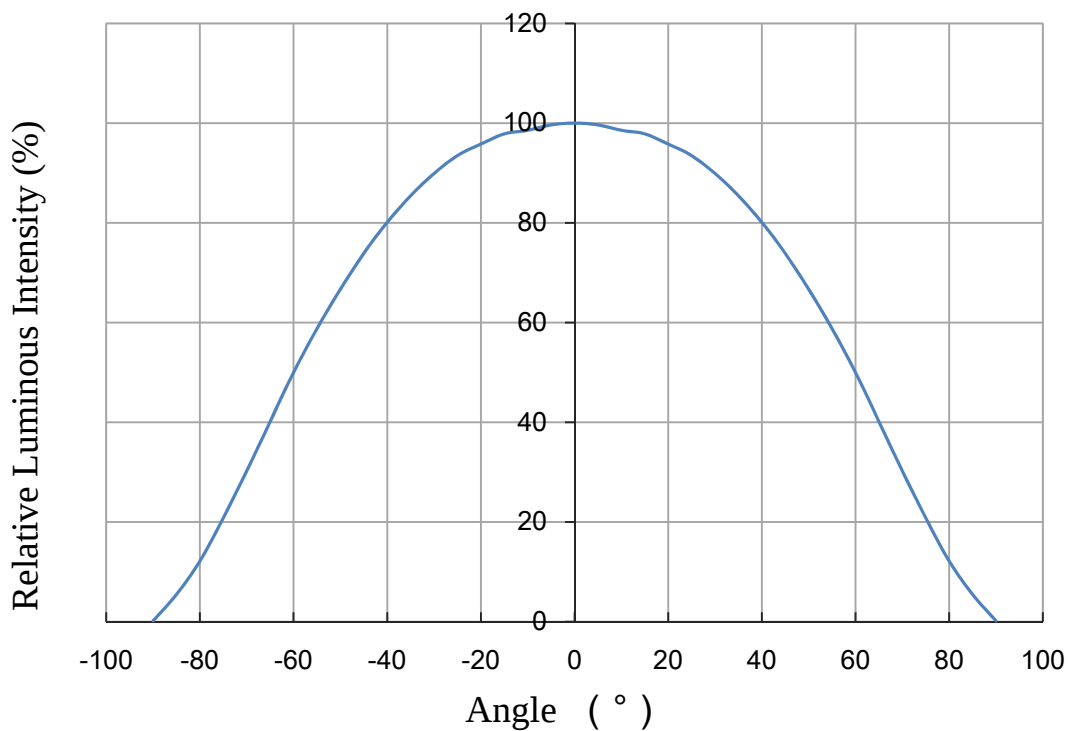
### Notes:

1. The chromaticity center refers to ANSI C78.377:2008
2. 5% tolerance for luminous intensity may be caused by measurement inaccuracy.
3. Measurement Uncertainty of the Forward Voltage : +/- 3%.
4. Chromaticity coordinate bins are measured with an accuracy of +/- 0.005.

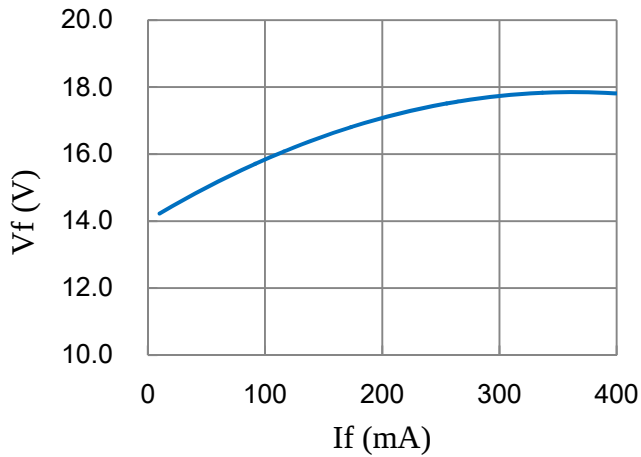
### Typical Relative Spectral Power Distribution (Tc=25°C)



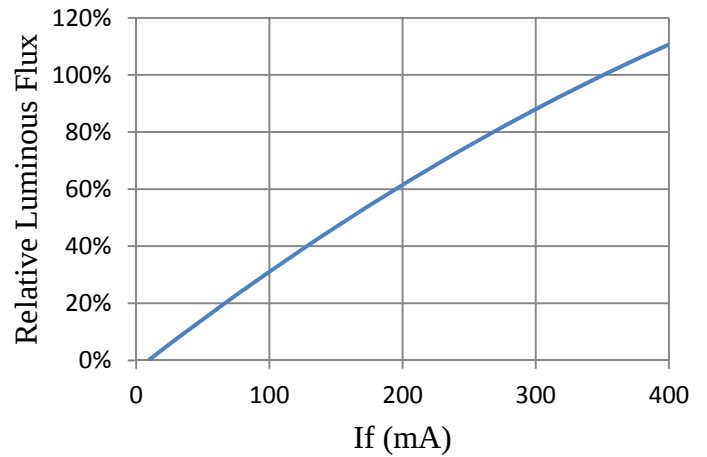
### Typical Spatial Distribution (Tc=25°C)



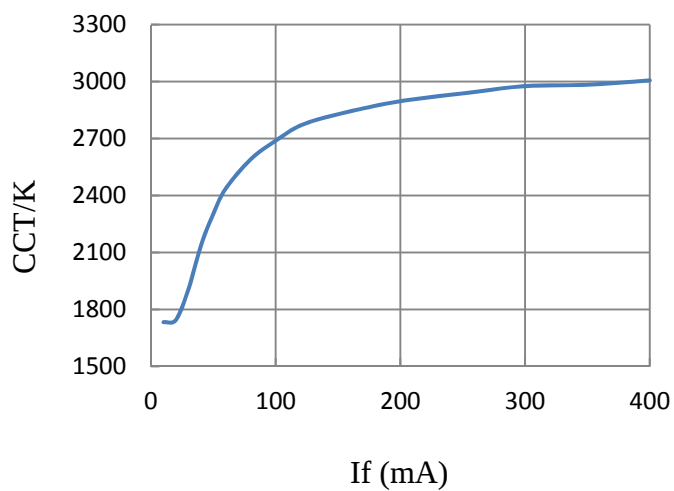
**Forward Current vs. Forward Voltage**  
( $T_c = 25^\circ\text{C}$ )



**Forward Current vs. Luminous Flux**  
( $T_c = 25^\circ\text{C}$ )



**Forward Current vs. CCT**  
( $T_c = 25^\circ\text{C}$ )



## PACKING

