SPECIFICATION FOR CERAMIC COB LED

**Part No:** LCOB35-20W030XXFR60-0640

**Description:**
28*28mm COB LED

**Dice Material:** InGaN

Confirmed by Customer: ________________

Approved by ___________  Checked by ___________  Prepared by [Signature]
LCOB35-20W030XXFR60
BS-Normal CRI Series COB LED

Introduction

Lightspot BS Normal CRI series LED Light engine is based on our main patent--- MCOB (Multi-Chips On Board). Lightspot LEDs combine tens or hundreds power LED chips with a rugged package capable of operating in excess of power. Lightspot LEDs maximumly decrease LED uncomfortable glare and also Zebra strips, at the same time increase LED light efficiency and reduce thermal resistance.

Features:

◇ Area light source, which can avoid glare
◇ More energy efficient than incandescent, halogen and some fluorescent lamps
◇ Industry’s lowest thermal resistance
◇ Long operating life. Lumen maintenance of greater than 70% after 50,000 hours
◇ Low forward voltage operated
◇ Instant light (less than 100ns)
◇ Lead Free product, RoHS compliant
◇ No UV

Application
Automotive interior / exterior lighting
Automotive signal lighting
General Torch
Architectural lighting
LCD TV / Monitor Backlight
Projector light source
Traffic signals
Task lighting
Decorative / Pathway lighting
Remote / Solar powered lighting
Household appliances

Outline Dimensions:

LCOB35-20W030XXFR60

Absolute Maximum Ratings at Ta=25°C:
### Parameter

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Part No.</th>
<th>Symbol</th>
<th>Maximum</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Dissipation</td>
<td></td>
<td>Pd</td>
<td>20</td>
<td>W</td>
</tr>
<tr>
<td>Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)</td>
<td>LCOB35-20W030XXFR60</td>
<td>IF(peak)</td>
<td>800</td>
<td>mA</td>
</tr>
<tr>
<td>Continuous Forward Current</td>
<td></td>
<td>IF</td>
<td>640</td>
<td>mA</td>
</tr>
<tr>
<td>Viewing Angle</td>
<td></td>
<td>JT</td>
<td>120</td>
<td>°C</td>
</tr>
<tr>
<td>Reverse Voltage</td>
<td></td>
<td>VR</td>
<td>50</td>
<td>V</td>
</tr>
<tr>
<td>Thermal Resistance, junction to case</td>
<td>LCOB35-20W030XXFR60</td>
<td>Rθ j-c</td>
<td>2.5</td>
<td>°C/W</td>
</tr>
<tr>
<td>Soldering Temperature °C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating temperature range</td>
<td></td>
<td>Topr</td>
<td>-30°C to +85°C</td>
<td></td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td></td>
<td>Tstg</td>
<td>-40°C to +100°C</td>
<td></td>
</tr>
</tbody>
</table>

#### Warm white

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Part No.</th>
<th>Symbol</th>
<th>Test Condition</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luminous flux</td>
<td>LCOB35-20W030XXFR60</td>
<td>φ</td>
<td>IF=640mA</td>
<td>1900</td>
<td>/</td>
<td>2300</td>
<td>lm</td>
</tr>
<tr>
<td>Viewing Angle</td>
<td></td>
<td>281/2</td>
<td></td>
<td>140</td>
<td></td>
<td></td>
<td>deg</td>
</tr>
<tr>
<td>Forward Voltage</td>
<td>LCOB35-20W030XXFR60</td>
<td>V_F</td>
<td>IF=640mA</td>
<td>30</td>
<td>/</td>
<td>36</td>
<td>V</td>
</tr>
<tr>
<td>Reverse Current</td>
<td></td>
<td>I_R</td>
<td>V_R=50V</td>
<td>100</td>
<td></td>
<td></td>
<td>uA</td>
</tr>
<tr>
<td>Correspondingly</td>
<td></td>
<td>CCT</td>
<td></td>
<td>2870</td>
<td>3045</td>
<td>3220</td>
<td>K</td>
</tr>
<tr>
<td>Color Rendering Index</td>
<td></td>
<td>CRI</td>
<td></td>
<td>60</td>
<td>/</td>
<td>65</td>
<td></td>
</tr>
</tbody>
</table>

1. The luminous intensity data did not include ±10% testing tolerance.
2. Tolerance of CRI is ±2.

### Relative Spectral Power Distribution
Please ensure the maintenance of heat radiation not to exceed Tp temperature over the rating in operation.
To keep $T_p$(PAD-temperature) lower than rating enough heat-radiation performance needs to be secured by using an adequate heat sink.
Typical Polar Radiation Pattern

![Typical Polar Radiation Pattern](image1)

Typical Spatial Radiation Pattern

![Typical Spatial Radiation Pattern](image2)

Typical Polar Radiation Pattern

![Typical Polar Radiation Pattern](image3)
Order Code

LC OB35-10W0 30 XX E R80 0400
X1 X2 X3 X4 X5 X6 X7 X8

Part Number System:

X1: "LC" Abbr."Lighspot Ceramic COB"

X2: COB LED Outline Size: 4008, 4012, 6012; OB25, OB35, OB50

X3: Power. 10W0 repents 10Watt

X4: Color temperature: 27, 30, 35, 40, 45, 50, 57, 65...

X5: Chip specification

X6: Lumen range, 如: 70lm/w ≤ E < 90lm/w; 90lm/w ≤ F < 110lm/w; 110lm/w ≤ G < 130lm/w

X7: Color rendering Index(CRI): 55 ≤ R55 < 60; 60 ≤ R60 < 65; 65 ≤ R65 < 70; 70 ≤ R70 < 75
    75 ≤ R75 < 80; 80 ≤ R80 < 85; 85 ≤ R85 < 90; 90 ≤ R90 < 95

H: Standard Forward Current. 0400 repents 400mA

NOTICE:

- All dimensions are in millimeter.
- Tolerance is ±0.1mm unless otherwise noted.
- It is strongly recommended that the temperature of lead be not higher than 60℃.
- This information in this document is subject to change in order to improve reliability, design or function without prior notice and does not represent a commitment on the part of this company.
- Avoids preserving in the high temperature, the high-moisture, as well as in the acidic environment.