

Multi-Chip-On-Board Technology (MCOB)

The multi-chip-on-board-LED is a new generation of “surface”-chip-LED. In contrary to conventional single-chip-diodes, for MCOB-diodes many single semiconductors (dies) with very high packing density are directly applied onto the carrier material and coated with a corporate silicone-phosphor layer.

The enormous advantage of this technology lies in the uniformity of the light emission as the modules shine as one coherent surface and no single spots of light are visible.

As for the carrier material aluminium is used in addition the MCOB possess the advantage of a significantly better heat dissipation. This is even optimized by the patent pending direct connection of the MCOB to the enclosure and, thereby, substantially contributes to an increase of efficiency and service life.

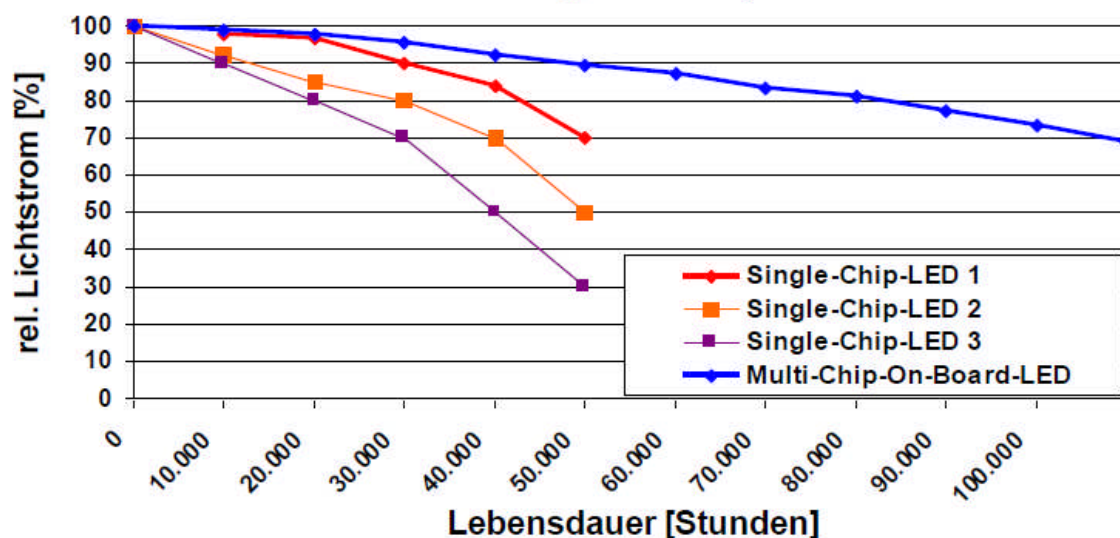
Advantages:

- Very uniform light emission
- Longer service life and reduced failure rate
- Minimum drop in luminous flux
- In combination with a sophisticated reflector technology larger luminaire spacing can be realized

The high quality and extremely stable performance of the MCOB-LED provides for extensive cost saving effects, already during the street lighting project planning phase, as the aging effects and failure rates are almost insignificant!

LED service life and drop in luminous flux by comparison / example

LED-Lebensdauer und Lichtstromrückgang im Vergleich/ Beispiel



Relative Luminous Flux [%]

Service Life [Hours]



L90-B10 at 50,000 hours, L70-B10 at 100,000 hours:

The MCOB-LED curve shown in the graphic indicates a relative luminous flux of 90 % after 50,000 lighting hours and a relative luminous flux of 70 % after more than 100,000 hours.

MCOB – constant power consumption without readjustment of luminous flux!!

Other manufacturers compensate the accelerating drop in luminous flux of conventional LED modules by means of a readjustment. This means that the LED, as time progresses, also have to be operated with increasingly higher current. Consequently, this so called constant luminous flux control leads to an increasing energy consumption across the service lifetime!! In addition, caused by higher thermal load, this leads to a further reduction of the lifetime, often less than 50,000 hours.

By virtue of the outstanding technology and quality of the multi-chip-on-board-LED used by us a luminous flux readjustment can be abandoned. Furthermore, due to lower current flow and the resulting lower thermal load, the service life of the MCOB is significantly longer (> 100,000 hours).

BöSha luminaires are operated with a constant current during the entire service life. Consequently, the operators of lighting installations have a reliable planning basis.