The ECN Roundtable - Adoption Issues of Solid-State Lighting

Moderated by Alix Paultre, our roundtable this month deals with the penetration of solid-state lighting technology into mainstream illumination. Our question this month is: "What do you think is keeping Solid-State Lighting from gaining greater acceptance in the marketplace?"

George Kelly, Illumineer, Avnet Electronics Marketing Americas (www.avnet.com [1]***)***

The explosive revenue growth seen in SSL over the last few years started to slow in 2011, mainly due to a dramatic drop in LED pricing. LED and SSL unit sales continued to grow throughout the year at a blistering pace, and are expected to accelerate throughout 2012 due to the reductions in LED prices. Even so, challenges remain, especially on the business side. The technical challenges are largely resolved.

The main challenge ahead for the SSL industry is primarily that of marketing and consumer-awareness. Consumers are largely uneducated regarding the benefits of SSL such as superior energy efficiency and longevity. Consumers are just now warming up to the benefits of CFLs over incandescent lighting. Introducing a new technology further adds to the confusion and for some consumers, a poor experience with CFLs has added to their level of skepticism. The large lighting manufacturers have the marketing budgets to get the SSL message out.

To date though, these manufacturers have been unwilling to throw their full marketing clout behind SSL. Why is not clear, but it may be because they fear pointing out the benefits of SSL will highlight the deficiencies of their existing incandescent and fluorescent products. Regardless of the reason, this leaves an opportunity for small to medium size SSL manufacturers, who also happen to be traditional distribution customers, to fill the void with innovative SSL products and innovative marketing strategies. The SSL revolution has begun and it is now only a matter of time before it runs its course.

Irene Signorino, Director of Marketing Analog Mixed Signal Group,Microsemi (www.microsemi.com** [2]**)

SSL solutions can bring significant benefits in a wide variety of lighting applications. What is valued most – and will therefore drive the adoption – depends on the specific application. Street lighting customers value the greatly reduced maintenance costs enabled by the longer life expectancy of the fixture. Industrial customers value the reduced utility bills achieved as well through the increased efficiency. Retail customers' bottom line can greatly benefits from the high quality of light and colors achieved by properly mixing and tuning the LEDs. Utility companies will value the lower energy usage achieved by their residential customers.

Widespread adoption of LED for illumination, however, depends on two key components: price to the end user and effective reliable system design. Both factors are important but again what is more important depends on the application. Price to the end user will be key for high volume consumer applications like LED replacement lamps. An effective system design providing reliability, efficiency, color tuning become more and more important for higher power, less commoditized commercial and industrial applications where the higher initial investment can be more easily justified.

A key component of a proper system design is the driver, a critical component for ensuring the fixture's efficiency, life expectancy, current regulations and protections. In addition drivers can also enable remote control and processing capabilities that further enhance the fixture value to the end user.

Links:
[1] http://www.avnet.com
[2] http://www.microsemi.com