

LED Driver ICs for Displays and Lighting

From Cell Phones to Street Lights

ABSTRACT

This landmark report provides a comprehensive evaluation of market trends in LED driver ICs for displays and lighting applications.

The report is structured in eight Sections and addresses the market, vendors, products, and technologies.

[Section One](#) provides an [introductory overview](#) of the report contents and two major lighting systems:

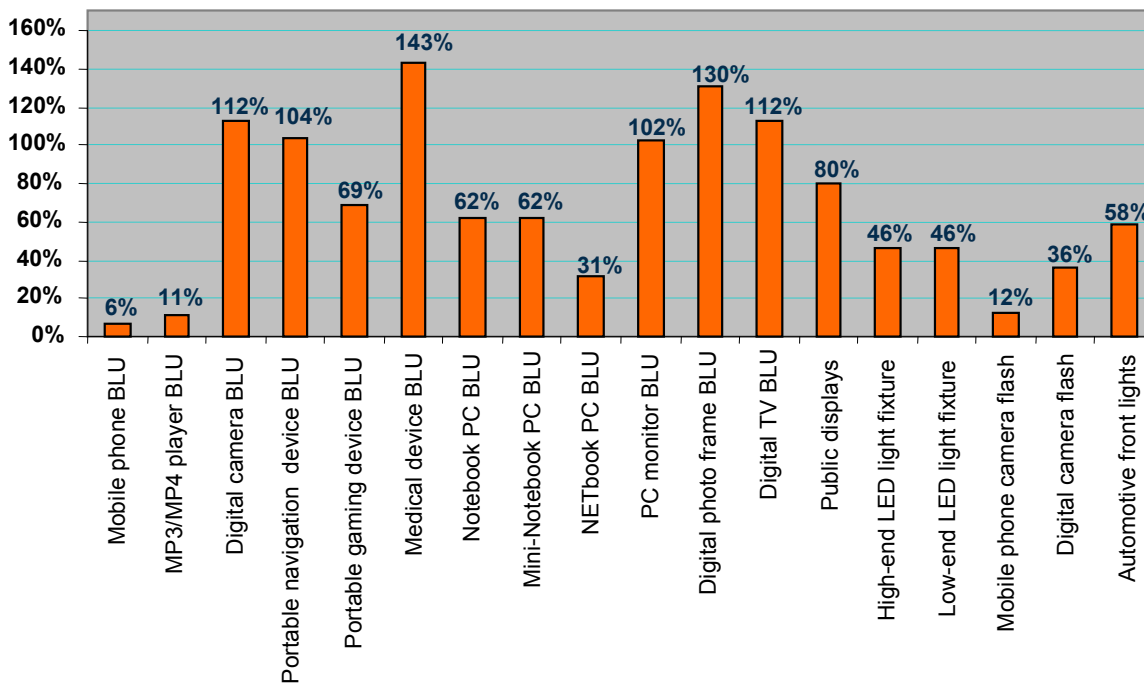
- LED display backlight units (BLU)
- LED light fixtures (luminaires)

[Section Two](#) is an executive summary – it provides the key [findings and implications](#) for business decision-makers at foundries and IC vendors.

[Section Three](#) addresses the [market dynamics and trends](#): market segmentation and segment penetration, and growth and size during the 2008 to 2013 period and beyond. Data tables include total 2008 to 2013 demand for LED driver ICs and wafers for each of the 18 analyzed applications that are covered in Sections 4 and 5.

The market for LED driver ICs is the only both near- and long-term growth market in the semiconductor industry featuring a greater than 20 percent average CAGR.

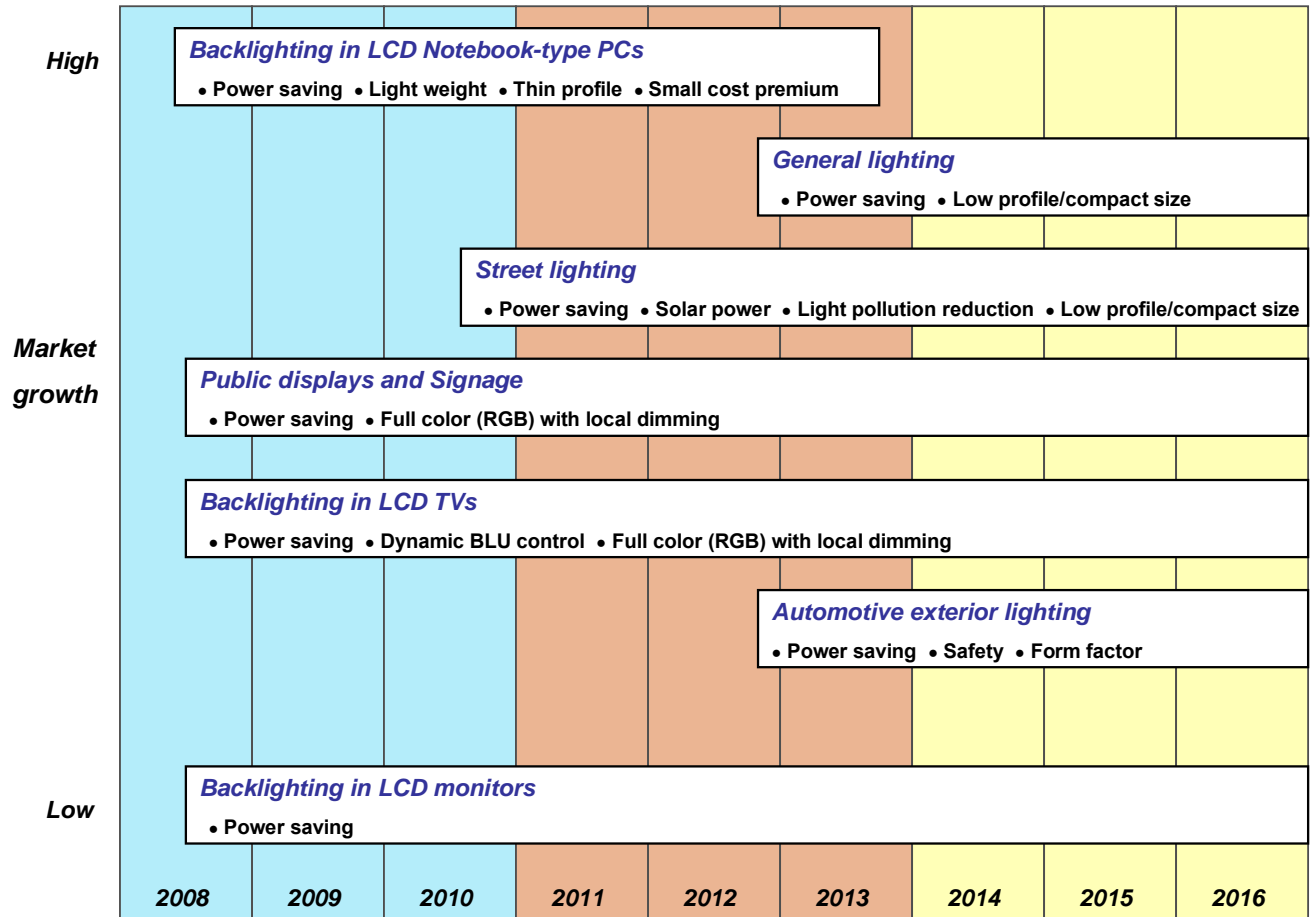
2008 -2013 CAGR of LED Driver ICs by Device Type



[Section Four](#) focuses on 13 major LED [display application](#) device types ranging from cell-phones to public displays. Data tables for each of the 13 display applications include:

- Device unit shipments
- LED penetration rate
- Number of LED driver ICs
- Number of transistors in LED driver ICs, their chip area, and pricing
- Wafer demand by technology node

The 3-year periods from 2008 to 2013 to 2016 represents a steady stream of layered market growth opportunities (shown in figure below).



Section Five focuses on 5 major [lighting application](#) device types ranging from digital camera flash lights to street lights. Data tables contain the same information as listed above for the display application device types.

Section Six covers trends in [LED driver IC product](#) types. Trends are analyzed in terms of application requirements, design implementations, and key performance attributes. Data tables provide key LED driver IC and process technology attributes for each of the 18 application device types.

Section Seven addresses [technology and manufacturing](#) trends for LED driver ICs. It focuses on the enabling BCD technology, integration trends, and the emerging role of foundries in the analog marketplace.

Section Eight provides a [comparative overview of the competitive landscape](#); it is based on our bottom up analysis of 25 IC vendors. Data tables include vendor comparisons and market share by LED driver IC application segment. In addition, each vendor is covered in terms of its LED IC product portfolio, technologies and manufacturing trends, and business performance. Figure below illustrates how these vendors address the LED driver IC market opportunities as well as the number of generic products in their product portfolios. Such a bottom-up analysis and summary is always required to identify and validate our findings.

IC Vendor	LED Driver ICs Applications Segment						Number of generic products
	TFT LCD backlighting	Public displays, signage	Street lights	General lighting	Consumer portables	Automotive	
National	●	◐	◐	●	◐	●	76
Power Analog Microelectronics	●			●			9
AnalogicTech	●				●		59
Monolithic Power Systems	●				●		25
Maxim	●	◐		●	◐	●	112
Linear Technology	●	◐		●	◐	●	95
Analog Devices	●				◐	●	9
Intersil	●	◐		◐		◐	15
Freescale	●			○		○	2
Texas Instruments	●	●	◐	◐	◐	◐	84
Fairchild			◐	●			
ON Semiconductor	●	◐		◐	◐		103
Semtech	●				●		33
Infineon				●		●	16
STMicroelectronics	◐	●		◐			20
Power Integrations			●	●			—
Macroblock	◐	●	○	○			33
Silicon Touch Technology		●			◐		29
Supertex	●		◐	●		◐	26
Diodes	●			●			25
Rohm Electronics	●			○	●		39
austriamicrosystems	●				●		32
Exar	●			●	●		15
Leadis Technology	●				●		19
NXP Semiconductors	◐	●	◐	◐	◐		52

Legend: ○ Entry ◐ Select ◑ Significant ● Focus

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