

New Products

Real time image processing LSI for low luminance image correction in security and vehicle-mounted cameras

Amid the growing awareness concerning crime prevention is a proliferation of security systems incorporating cameras. However, most cameras used for surveillance and intercom are susceptible to severe changes in ambient light, often resulting in image deterioration and poor visibility.



ROHM's real-time image processing engine*1 BU1570KN utilizes hardware-based image processing technology to detect and correct both excessively dark and light areas individually, increasing visibility significantly, even in varying and harsh ambient conditions. ROHM is constantly expanding its lineup of camera image processors by employing sophisticated image processing technology in order to meet the needs of a wide range of applications from standard JPEG to MPEG4 animation, and from digital household electronics to security systems and gaming devices.

Class D speaker amplifier*2 LSI for flat-screen TVs featuring an industry-leading 90% efficiency

With the increasing popularity of LCD and plasma TVs comes a demand for greater functionality with lower energy consumption.



ROHM has developed the BD5421EFS Class D stereo power amplifier LSI utilizing the most advanced BiCDMOS*3 processes in response to this demand.

PWM technology reduces reactive current at high volume, resulting in an efficiency of 90%—the highest in the industry. This low reactive current, combined with a compact backside heat sink with excellent thermal dissipation characteristics, enable high output (34W: 17W + 17W) and contribute to smaller, thinner sets. Clear audio with little noise is achieved by reducing input conversion noise voltage, and high fidelity sound reproduction is possible due to the use of exclusive proprietary signal processing technology. PWM modulation sampling clock Master-Slave functionality enables completely synchronous operation of multiple speakers, even in 5.1-channel systems, resulting in clear audio.

*1 Real-Time Image Processing Engine

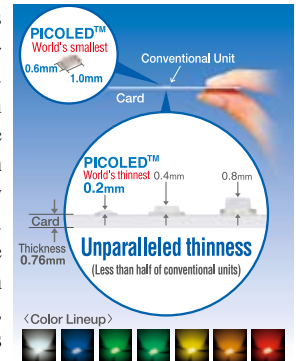
Ordinary video signals are used to generate animation by displaying a progression of still images at 30 frames per second. A real-time image processing engine conducts high speed correction of these 30-frame-per-second images while performing optimal picture phase correction.

*2 Class D Speaker Amps, PWM Signals

Class D speaker amps are audio amps that convert input audio signals to rectangular waves (PWM signals) that vary in width based on the signal level, which are then used to switch the output transistors in order to drive speakers via external low-pass filters. Since the output transistors are switched, it is possible to produce a high-efficiency amp with low heat generation and power consumption.

PICOLED™ - the world's smallest, thinnest LEDs

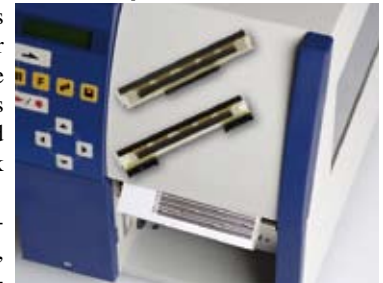
The progression of electronics devices towards increasing miniaturization demands smaller components. Previously, the smallest chip LEDs in the industry came in the 1608 size (1.6x0.8mm). An even smaller solution is now available—ROHM's newly developed SML-P12 series PICOLED™. Conventional levels of brightness are maintained in a package size smaller in area and volume by 53% and 74%, respectively, over the 1608. Thickness is a remarkable 0.2mm.



Original proprietary high-luminance device and ultra-precise processing technologies have enabled ROHM to develop ultra-compact, ultra-thin chip LEDs and packages—previously thought impossible due to the significant loss in luminosity with conventional LEDs—enabling unprecedented use in applications considered too narrow or small. The lineup includes the full range of colors: red, orange, yellow, green, blue, and white.

250mm/s high speed, high heat resistant thermal printheads*4 for label and POS printers

High-speed thermal printers are becoming the norm for printing receipts, barcode labels, food labels, and tickets due to their quiet operation and easy maintenance (no ink required).



ROHM offers the KD2003-DF/G10A thermal printheads, which feature high heat resistance and high-speed printing.

A proprietary subminiature exothermic structure ensures good thermal response and heat transference to the print medium during high speed printing (250mm/s), resulting in high print quality. A highly durable protective coating enables stable operation, even at high temperatures, and energy efficiency is increased by 20% over previous ROHM products, contributing to greater energy conservation. Cutting-edge LSI technology is used for a wide circuit supply voltage range (3.13V to 5.25V), making stable operation possible even during changes in the supply voltage.

*3 BiCMOS

An IC (integrated circuit) manufacturing process that integrates both bipolar (Bi) and CMOS transistors. This process is frequently used in the production of mixed-signal ICs, which mix analog and digital signals.

*4 Thermal printheads

These printheads generate heat via resistive elements in order to print on thermally sensitive paper. Used in a variety of printing applications from receipts at supermarkets, convenience stores, taxis, and gas stations to tickets at airports and kiosks to food labels.