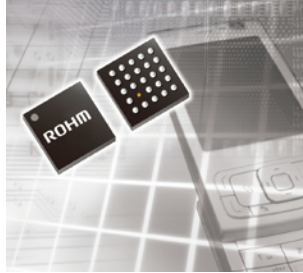


## New Products

### 8-Lamp LED Driver for LCD backlights with Dimming Function

The introduction of 1Seg broadcasting and browser functionality to mobile phones and other portable devices is driving the demand for larger, higher resolution LCD panels. This in turn increases the need for the contradictory task of increasing the number of lamps used for backlighting while decreasing power consumption. Presently the most effective way to reduce power is to utilize auto-dimming functionality, which adjusts the brightness based on ambient light. Conventional auto-dimming white LED driver ICs, however, are only capable of driving up to 7 lamps at once. This corresponds to a size of roughly 3.5 inches per LED driver, making conventional ICs unsuitable for adjusting the brightness of large-screen panels.

ROHM's new BD60910GU overcomes this problem by providing the capability to drive 8 lamps (the most in the industry) along with automatic dual-dimming functionality – achieved through the consolidation of high-voltage elements and digital auto-dimming circuitry. Unique brightness sensor control is combined with a PWM dimmer block, allowing adjustment of the backlight brightness based on ambient and image brightness, resulting in lower power consumption with increased visibility.



### Advanced PC-free Drive Recorder IC Ideal for Consumer Vehicles

Drive recorders are increasingly being used as support devices in commercial vehicles such as buses, trucks and taxis to promote environmentally friendly driving and encourage safe driving by recording and analyzing vehicle status during dangerous driving situations, car trouble, or in the event of an accident.

However, drive recorders have made little headway in consumer vehicles, due in large part to the high cost of installing a standard drive recorder in a consumer vehicle, which runs about 30,000 yen, and in part to the inconvenience of needing to use special PC software to access data.

ROHM's new BU1511KV2 overcomes these obstacles by incorporating interfaces for a camera, SD card, acceleration sensor, and GPS module on a single chip. Programs can be downloaded to the built-in memory via inexpensive serial memory and executed by the high-performance ARM9 processor, eliminating the need for external parallel flash memory. In addition, no external RAM buffer is needed, since a high-performance JPEG codec, ADPCM codec and SD card controller have been independently integrated onto the drive recorder. The result is reduced ARM9 processing load and the capability to continuously write audio and video data directly to the SD card. A video encoder is also built in that allows direct output to a TV for analysis. ROHM's BU1511KV2 IC represents the first practical, cost-effective solution for installing drive recorders in consumer vehicles.

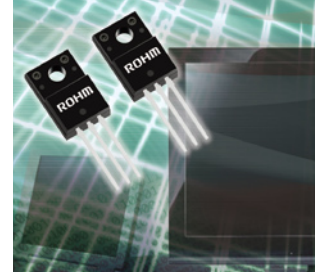


### High Voltage MOSFETs (PrestoMOS™ Series) with Built-in Ultra-fast trr Diode

The expanding market for sets such as LCD TVs in which power savings is critical is spurring demand for increased efficiency and a reduction in the number of transistors and other semiconductor devices used to power these sets. At present, the most commonly used structure in the 500-600V class of high voltage MOSFETs is the super junction type, which offers faster switching speeds and lower ON-resistance for higher efficiency operation than conventional planar types. However, one drawback is the relatively slow reverse recovery time (trr) of the internal diode. Although this issue could theoretically be overcome by forming a trap level inside the element, which speeds up trr, the super junction structure inherently makes forming such a trap level particularly challenging.

ROHM's new PrestoMOS™ Series is the world's first super-junction MOSFET that successfully forms a local trap level within the element. As a result, trr is reduced by roughly 60% compared to conventional super junction MOSFETs (down from 160ns to 70ns). This makes it suitable for use as a bridge circuit, even without a fast recovery diode, and allows smaller high-frequency transistors to be used, resulting in fewer parts, lower costs, and smaller footprint.

\*Note: 'Presto' is an Italian musical term meaning 'very fast'



### Seamless LED Base Lighting Module

The growing concern over environmental impact has popularized the use of energy-saving lighting, particularly LED illumination devices. In light of this ROHM has developed

the R-CK001, a next-generation base lighting device featuring a socket-less, ultra-low profile configuration designed to attach to the ceiling in order to illuminate the interior of stores and shops.

What sets this device apart is the unique structure. The lamp portion contains a large number of ROHM middle-power LEDs and a special optical design that diffuses the light evenly, creating the impression of seamless, natural light. In addition, a total height of 38mm was achieved by using a smaller power supply circuit, making this the thinnest ceiling-attached LED lighting device in the industry. Unobtrusive body design and minimal ceiling projection permit the creation of sleek lighting designs.

The power supply circuit itself features a conversion efficiency of 85%, and provides constant current unaffected by commercial power-supply voltage fluctuations ( $\pm 20\%$ ) or changes in ambient temperature ( $-20^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$ ).

The entire lamp, including the power supply circuit, consumes only 24W of power, representing a power savings of 52% over conventional fluorescent bulbs (40W type) while providing the same luminance. And the longer lifetime - 40,000 hours, or roughly three times longer than fluorescent lamps – make it a much better solution from an environmental standpoint.

