

Ultra-low power consumption • Compatible with RGB LEDs

## LCD Segment Drivers



BU97510CKV/BU97520AKV/BU97530KVT

### Built-in RGB lighting control function

#### Key Features

- 1 Reduces MCU load**  
All control is implemented internally, minimizing the load on the MCU
- 2 RGB LED drive possible via PWM output**
- 3 Remarkably low current consumption**  
10µA (Standard Type)
- 4 No external parts required, simplifying wiring layout**  
All components, including oscillation resistor, are built in



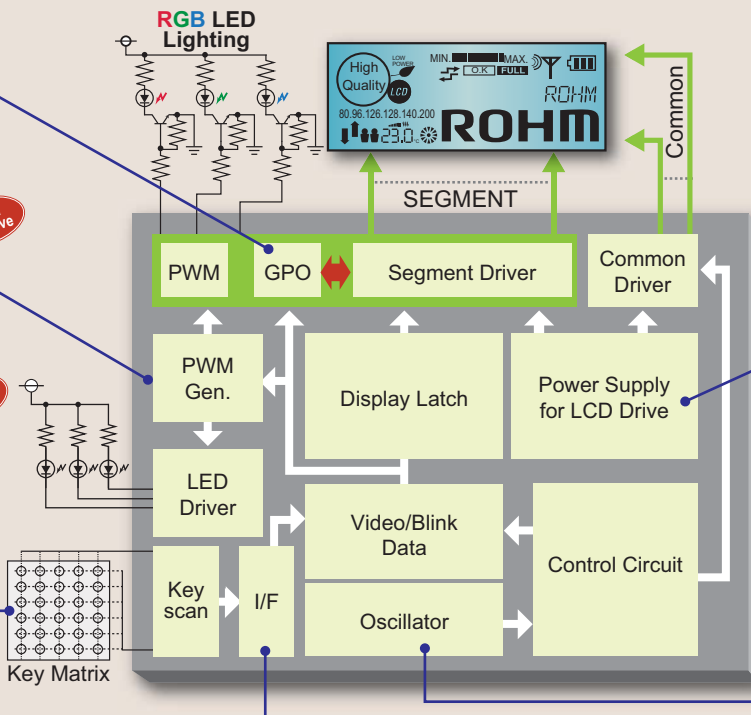
#### Built-in segment output switching function

Switch between segment, PWM, and GPO outputs.

#### Supports 9ch (Max.) PWM output

Makes it possible to drive up to 3 RGB LEDs.

Enables switching between segment output and key scan function - ideal for platform building.



#### Ultra-low current consumption 10µA 5µA Typ. (@ Ta = Room)

No.1	ROHM	Co.A	Co.B
	5µA	350µA	350µA

#### Innovative capacitor-less technology

Low power amp technology developed for LCD drivers for portable devices has been expanded to segment driver products.

#### Low power oscillator technology

**TTL level input compatibility**  
Enables direct connection with 3.3V MCUs.

## LCD Segment Drivers

### Multifunction Type

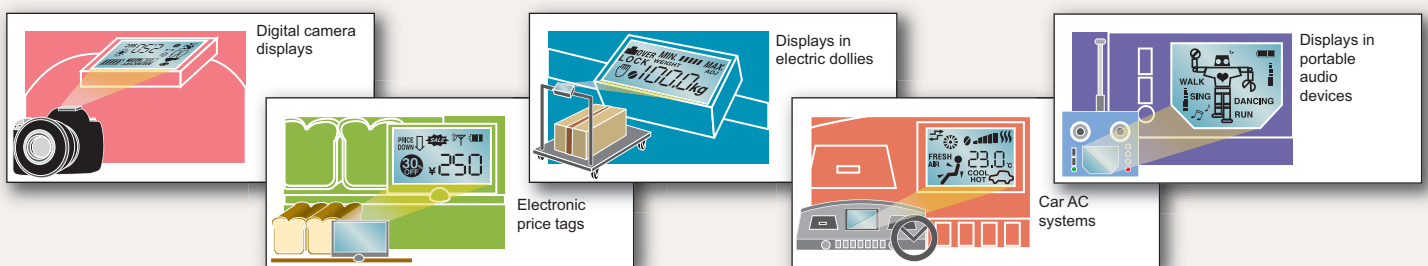
Part No.	Display (dots)	Output		Operating Voltage (V)		Duty	Bias	Interface	EVR	GPO	Independent Blink	LED Driver	PWM Gen.	Key Scan	Package
		SEG	COM	I/F Block (V <sub>DD</sub> )	LCD Block (V <sub>LCD</sub> )										
<b>BU97941FV</b>	104	26	4	1.8 to 3.6	2.7 to 5.5	1/4, 1/3 Static	1/3 Static	3wire serial	—	—	—	4port	—	—	SSOP-B40
<b>BU97930MUV</b>	108	27	4	1.8 to 3.6	2.7 to 5.5	1/4, 1/3 Static	1/3 Static	3wire serial	—	4port	○	1port	1ch 8bit	—	VQFN040V6060
<b>BU97931FV</b>	112	28	4	1.8 to 3.6	2.7 to 5.5	1/4, 1/3 Static	1/3 Static	3wire serial	—	5port	○	1port	1ch 8bit	—	SSOP-B40
<b>BU97981MUV</b>	168	42	4	1.8 to 3.6	3.3 to 5.5	1/4, 1/3 Static	1/3 Static	3wire serial	○	27port	○	3port	2ch 12bit	—	VQFN56AV8080
<b>BU97981KV</b>	196	49	4	1.8 to 3.6	3.3 to 5.5	1/4, 1/3 Static	1/3 Static	3wire serial	○	31port	○	3port	2ch 12bit	—	VQFP64
☆ <b>BU97981GUW</b>	196	49	4	1.8 to 3.6	3.3 to 5.5	1/4, 1/3 Static	1/3 Static	3wire serial	○	31port	○	3port	2ch 12bit	—	VBGA063W050
<b>BU97501KV</b>	204	51	4	2.7 to 6.0	4.5 to 6.0	1/4, 1/3	1/2, 1/3	4wire serial	—	4port	—	—	—	5×6 Max. 30Key	VQFP64
<b>BU97510CKV</b>	216	54	4	2.7 to 6.0	—	1/4, 1/3	1/2, 1/3	3wire serial	—	6port (6ch PWM)	—	—	6ch 6bit	—	VQFP64
<b>BU97520AKV</b>	276	69	4	2.7 to 6.0	—	1/4, 1/3	1/2, 1/3	4wire serial	—	6port (6ch PWM)	—	—	6ch 8bit	5×6 Max. 30Key	VQFP80
<b>BU97530KVT</b>	445	89	5	2.7 to 6.0	—	1/5, 1/4, 1/3 Static	1/2, 1/3 Static	4wire serial	○	9port (9ch PWM)	—	—	9ch 8bit	5×6 Max. 30Key	TQFP100V

☆: Under development

### Standard Type

Part No.	Display (dots)	Output		Operating Voltage (V)		Duty	Bias	Interface	EVR	GPO	Independent Blink	LED Driver	PWM Gen.	Key Scan	Package
		SEG	COM	I/F Block (V <sub>DD</sub> )	LCD Block (V <sub>LCD</sub> )										
<b>BU9796AMUV</b>	48	12	4	2.5 to 5.5	—	1/4	1/2, 1/3	2wire serial	—	—	—	—	—	—	VQFN024V4040
<b>BU9796AFS</b>	80	20	4	2.5 to 5.5	—	1/4	1/2, 1/3	2wire serial	—	—	—	—	—	—	SSOP-A32
<b>BU9795AFV</b>	108	27	4	2.5 to 5.5	—	1/4	1/2, 1/3	3wire serial	—	—	—	—	—	—	SSOP-B40
<b>BU9795AGUW</b>	124	31	4	2.5 to 5.5	—	1/4	1/2, 1/3	3wire serial	—	—	—	—	—	—	VBGA048W040
<b>BU9795AKV</b>	140	35	4	2.5 to 5.5	—	1/4	1/2, 1/3	3wire serial	—	—	—	—	—	—	VQFP48C
<b>BU9795AKS2</b>	140	35	4	2.5 to 5.5	—	1/4	1/2, 1/3	3wire serial	—	—	—	—	—	—	SQFP-T52
<b>BU9797FUV</b>	144	36	4	2.5 to 5.5	—	1/4	1/2, 1/3	2wire serial	—	—	—	—	—	—	TSSOP-C48V
<b>BU9794AKV</b>	200	50	4	2.5 to 5.5	2.5 to 5.5	1/4	1/2, 1/3	3wire serial	—	—	—	—	—	—	VQFP64
<b>BU9799KV</b>	200	50	4	2.5 to 5.5	2.5 to 5.5	1/4	1/2, 1/3	2wire serial	○	—	—	—	—	—	VQFP64
<b>BU97950FUV</b>	280	35	8	2.5 to 5.5	2.5 to 5.5	1/8	1/4	2wire serial	○	—	—	—	—	—	TSSOP-C48V

### Supports a wide range of applications, including mobile phones, home appliances, and AV equipment



- Fax machines
- Cordless phones
- Refrigerators
- Rice cookers
- Electric pots
- Electric ranges
- Water purifiers
- Water dispensers
- Digital cameras
- Portable CD players
- Electronic measurement
- Electronic price tags
- OA discs
- Flashlights
- Time clocks
- USB memory
- Dressers
- Dollies
- Lockers
- Registers
- Electronic scales
- Training equipment
- Weight scales
- Thermometres
- Navigation systems
- Binoculars
- Testers
- Electric tools
- Gaming devices
- Electric tools
- Industrial robots
- And more...

\*AEC-Q100 compliant products are also available. Please inquire with a sales representative.

The content specified herein is for the purpose of introducing ROHM's products (hereinafter "Products"). If you wish to use any such Product, please be sure to refer to the specifications, which can be obtained from ROHM upon request. Great care was taken in ensuring the accuracy of the information specified in this document. However, should you incur any damage arising from any inaccuracy or misprint of such information, ROHM shall bear no responsibility for such damage. The technical information specified herein is intended only to show the typical functions of and examples of application circuits for the Products. ROHM does not grant you, explicitly or implicitly, any license to use or exercise intellectual property or other rights held by ROHM and other parties. ROHM shall bear no responsibility whatsoever for any dispute arising from the use of such technical information. If you intend to export or ship overseas any Product or technology specified herein that may be controlled under the Foreign Exchange and the Foreign Trade Law, you will be required to obtain a license or permit under the Law.

The contents specified in this document are correct as of June 1st, 2014.



**ROHM Co., Ltd.**

21 Saiin Mizosaki-cho, Ukyo-ku,  
Kyoto 615-8585 Japan

www.rohm.com