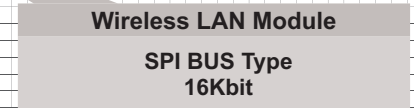
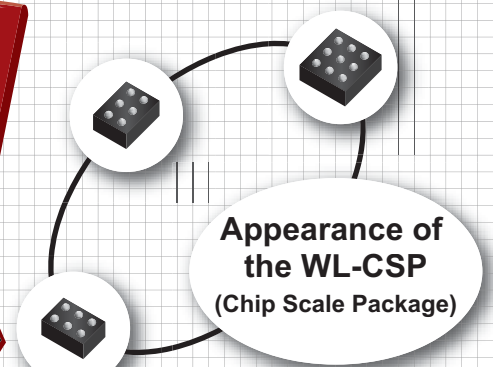
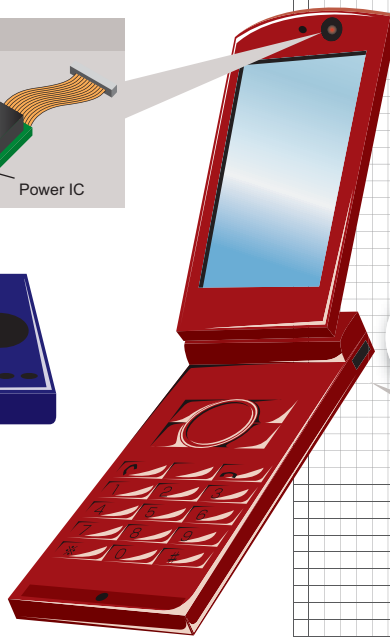
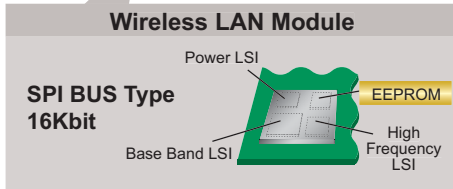
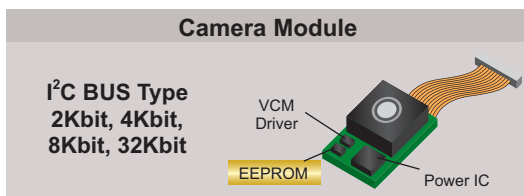


## High Reliability

# EEPROM SERIES

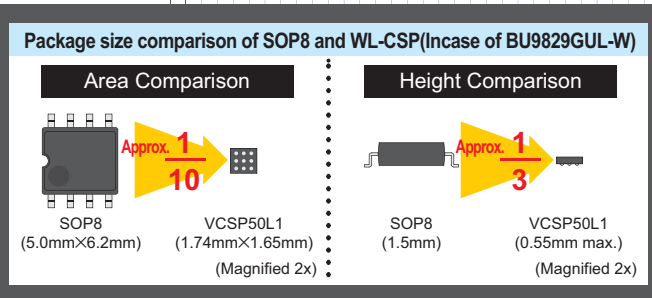
## Ultra-Compact WL-CSP



## WL-CSP Ideal for Compact Modules

**1 Ultra-small package**

ROHM now offers the industry's first EEPROMs in the WL-CSP optimized for compact modules and portable devices.



**2 Double cell technology ensures zero accidental failures**







ROHM's original double cell structure and double reset function protect important data from memory errors and malfunctions through redundant, fail-safe, proven\* technology.

\*Used continuously for 2 years by Japan's top car manufacturer with excellent results.

**3 Safe, streamlined production**

ROHM utilizes a streamlined, uniform production system, from wafer fabrication to assembly, resulting in unsurpassed quality.













# WL-CSP Serial EEPROM Lineup

BUS Type	SPI BUS		
Density	8Kbit	16Kbit+LDO *	128Kbit
Part Number	BU9832GUL-W	BU9829GUL-W	BR25S128GUZ-W
Package (Reverse)	 Magnified 2x  Actual size	 Magnified 2x  Actual size	 Magnified 2x  Actual size
Package size			
Size X:	X:2.09mm	X:1.74mm	X:2.00mm
Size Y:	Y:1.85mm	Y:1.65mm	Y:2.63mm
Height H:	H:0.55mm(Max.)	H:0.55mm(Max.)	H:0.4mm(Max.)
Ball Pitch P:	P:0.5mm	P:0.5mm	P:0.5mm

## Key Features

1. Ultra-compact package ideal for small modules
2. Ultra-thin: t=0.35mm to 0.55mm
3. All products integrate double reset functionality with a double cell structure

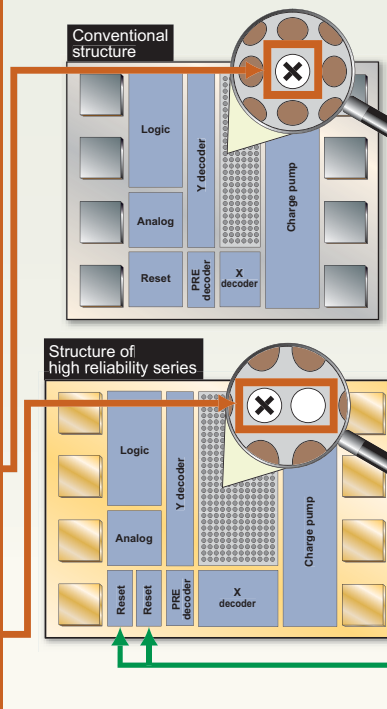
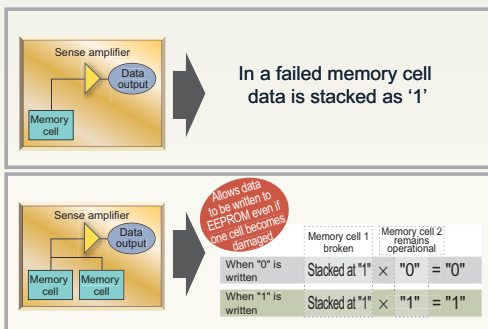
\*The BU9829GUL-W WL-CSP model with integrated LDO optimized for wireless LAN modules features variable output voltage (2.7V-3.0V, 0.1V/step) and a current consumption of only 10mA.

BUS Type	I <sup>2</sup> C BUS					
Density	2Kbit	4Kbit	8Kbit	16Kbit	32Kbit	64Kbit
Part Number	BU9833GUL-W	BU9847GUL-W	<i>Under development</i> BU9889GUL-W	BU9844GUL-W	BU9890GUL-W	<i>Under development</i> BU9880GUL-W
Package (Reverse)	 Magnified 2x  Actual size	 Magnified 2x  Actual size	 Magnified 2x  Actual size	 Magnified 2x  Actual size	 Magnified 2x  Actual size	 Magnified 2x  Actual size
Package size						
Size X:	X:1.27mm	X:1.06mm	X:1.60mm	X:1.60mm	X:1.05mm	X:1.98mm
Size Y:	Y:1.50mm	Y:1.95mm	Y:1.00mm	Y:1.84mm	Y:1.76mm	Y:1.59mm
Height H:	H:0.55mm(Max.)	H:0.55mm(Max.)	H:0.55mm(Max.)	H:0.55mm(Max.)	H:0.55mm(Max.)	H:0.55mm(Max.)
Ball Pitch P:	P:0.5mm	P:0.5mm	P:0.5mm	P:0.5mm	P:0.5mm	P:0.5mm

## The reasons behind ROHM's unparalleled reliability

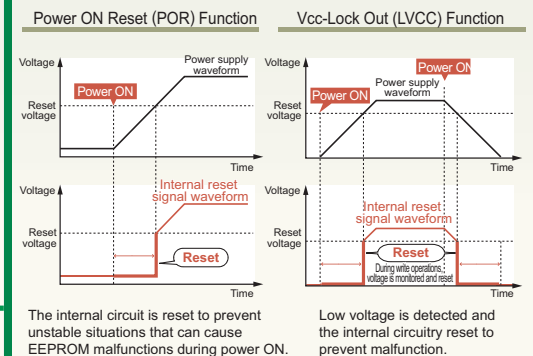
### Double cell

Data is written to the EEPROM by passing electrons through a tunnel-oxide film. This process places a significant amount of stress on the film, possibly leading to erosion and, subsequently memory bit failures that can prevent data from being written to the cells. To avoid this, ROHM utilizes a unique double cell structure that allocates two cells for each bit of data. Therefore, if one cell malfunctions the other will continue to work independently.



### Double reset

ICs are generally robust against power interruptions (i.e. ON/OFF) and will normally recover. EEPROMs, on the other hand, are more susceptible, and may malfunction due to unstable power conditions. In order to combat this ROHM integrates two protection circuits, a Power ON Reset and a Vcc Lockout circuit, that detect power interruptions and low voltage conditions during power ON/OFF and reset the internal circuitry, preventing writing errors.



09001EAL03

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 content specified in this document is correct as of 1st April, 2009.

ROHM Co., Ltd.

21 Saini Mizosaki-cho, Ukyo-ku,  
Kyoto 615-8585 Japan  
TEL: +81-75-311-2121 FAX: +81-75-315-0172  
www.rohm.com

