Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

STRUCTURE Silicon Monolithic Integrated Circuit

TYPE BU52742GUL

PRODUCT Bipolar latch type Hall effect IC

FEATURES 1) Two hall elements are on the inside
2) High speed operation

●ABSOLUTE MAXIMUM RATINGS (Ta=25℃)

PARAMETERS	SYMBOL	LIMIT	UNIT
Power Supply Voltage	V_{DD}	−0.1～+4.5 ※1	V
Output Current	I_{OUT}	±1.0	mA
Power dissipation	Pd	460 ※2	mW
Operating Temperature Range	T_{opr}	−25～+85	℃
Storage Temperature Range	T_{stg}	−40～+125	℃

※1. Not to exceed Pd
※2. Reduced by 4.60mW for each increase in Ta of 1℃ over 25℃
(mounted on 70mm×70mm×1.6mm Glass-epoxy PCB)

●OPERATING CONDITIONS (Ta=−25～+85℃)

PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT
Power Supply Voltage	V_{DD}	2.4	3.0	3.6	V

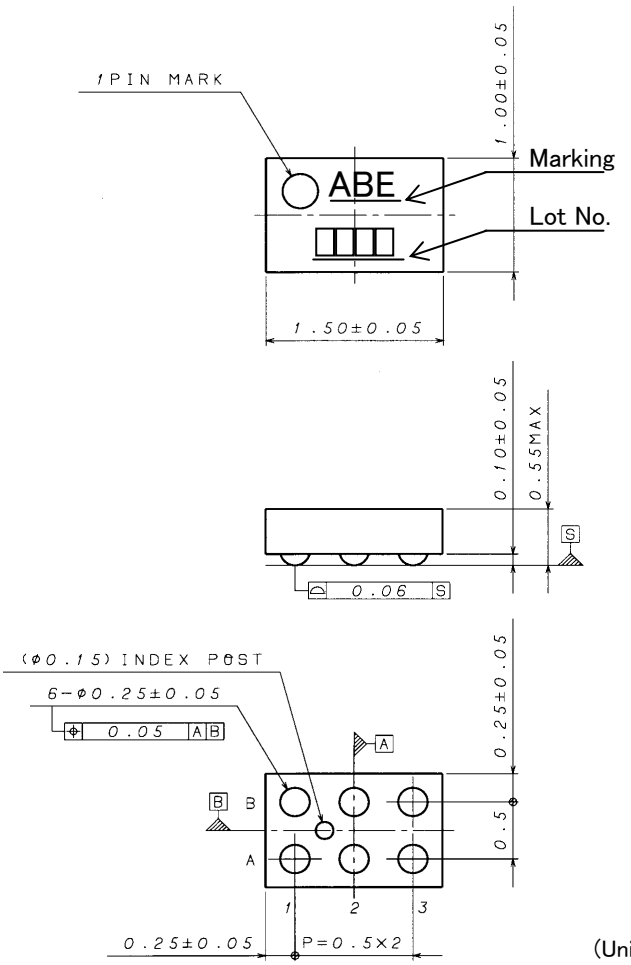
Radiation hardiness is not designed.

●MAGNETIC, ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{DD}=3.0V, Ta=25℃)

PARAMETERS	SYMBOL	LIMIT			UNIT	CONDITIONS
		MIN	TYP	MAX		
Operate Point	B_{op}	5	10	15	mT	
Release Point	B_{rp}	−15	−10	−5	mT	
Frequency	f_{OP}	200	250	−	kHz	
Output High Voltage	V_{OH}	V_{DD} −0.4	−	−	V	$B<B_{rp}$ ※3 I_{OUT}=−1.0mA
Output Low Voltage	V_{OL}	−	−	0.4	V	$B_{op}<B$ ※3 I_{OUT}=+1.0mA
Supply Current	I_{DD}	−	7.5	10.0	mA	

※3. B＝Magnetic Flux Density
1mT＝10Gauss
Positive (“+”) polarity flux is defined as the magnetic flux from south pole which is direct toward to the branded face of the sensor.
After applying power supply, it takes one cycle of frequency ($1/f_{OP}$) to become definite output.

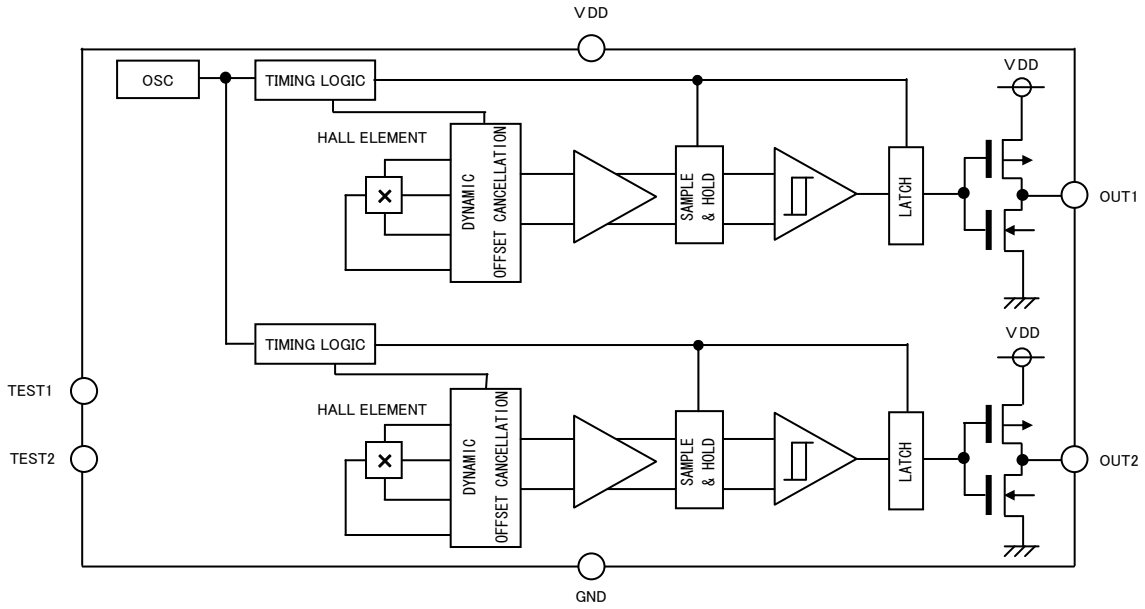
●PACKAGE OUTLINES



●PIN No.･PIN NAME

PIN No.	PIN NAME	FUNCTION	COMMENT
A1	OUT1	OUTPUT1	
A2	TEST1		OPEN.
A3	OUT2	OUTPUT2	
B1	VDD	POWER SUPPLY	
B2	TEST2		OPEN or Short to GND.
B3	GND	GROUND	

●BLOCK DIAGRAM



●CAUTIONS ON USE

1) Absolute Maximum Ratings

An excess in the absolute maximum ratings, such as supply voltage, temperature range of operating conditions, etc., can break down devices, thus making impossible to identify breaking mode such as a short circuit or an open circuit. If any special mode exceeding the absolute maximum ratings is assumed, consideration should be given to take physical safety measures including the use of fuses, etc.

2) GND voltage

Make setting of the potential of the GND terminal so that it will be maintained at the minimum in any operating state.

3) Thermal design

Perform thermal design in which there are adequate margins by taking into account the permissible dissipation (Pd) in actual states of use.

4) Pin short and mistake fitting

When mounting the IC on the PCB, pay attention to the orientation of the IC. If there is a placement mistake, the IC may be burned up.

5) Operation in strong electric field

Be noted that using ICs in the strong electric field can malfunction them.

6) Mutual impedance

Use short and wide wiring tracks for the power supply and ground to keep the mutual impedance as small as possible. Use a capacitor to keep ripple to a minimum.

7) Ground wiring pattern

If small-signal GND and large-current GND are provided, It will be recommended to separate the large-current GND pattern from the small-signal GND pattern and establish a single ground at the reference point of the set PCB so that resistance to the wiring pattern and voltage fluctuations due to a large current will cause no fluctuations in voltages of the small-signal GND. Pay attention not to cause fluctuations in the GND wiring pattern of external parts as well.

Notes

No copying or reproduction of this document, in part or in whole, is permitted without the consent of ROHM Co.,Ltd.

The content specified herein is subject to change for improvement without notice.

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.

Examples of application circuits, circuit constants and any other information contained herein illustrate the standard usage and operations of the Products. The peripheral conditions must be taken into account when designing circuits for mass production.

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.

The Products specified in this document are intended to be used with general-use electronic equipment or devices (such as audio visual equipment, office-automation equipment, communication devices, electronic appliances and amusement devices).

The Products specified in this document are not designed to be radiation tolerant.

While ROHM always makes efforts to enhance the quality and reliability of its Products, a Product may fail or malfunction for a variety of reasons.

Please be sure to implement in your equipment using the Products safety measures to guard against the possibility of physical injury, fire or any other damage caused in the event of the failure of any Product, such as derating, redundancy, fire control and fail-safe designs. ROHM shall bear no responsibility whatsoever for your use of any Product outside of the prescribed scope or not in accordance with the instruction manual.

The Products are not designed or manufactured to be used with any equipment, device or system which requires an extremely high level of reliability the failure or malfunction of which may result in a direct threat to human life or create a risk of human injury (such as a medical instrument, transportation equipment, aerospace machinery, nuclear-reactor controller, fuel-controller or other safety device). ROHM shall bear no responsibility in any way for use of any of the Products for the above special purposes. If a Product is intended to be used for any such special purpose, please contact a ROHM sales representative before purchasing.

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.

ROHM SEMICONDUCTOR

Thank you for your accessing to ROHM product informations.
More detail product informations and catalogs are available, please contact us.

ROHM Customer Support System

http://www.rohm.com/contact/