

STRUCTURE Silicon Monolithic Integrated Circuit

PRODUCT NAME System Reset IC

TYPE **BD47XXG Series**

FEATURES •Detection voltage lineup : 1.9~4.6V
 •High precision detection voltage : $\pm 1.0\%$

○ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Parameter	Symbol	Limit	Unit
Supply Voltage ※1	VCC – GND	-0.3 ~ +10	V
Output Voltage ※1	VOUT	-0.3 ~ +10	V
Power Dissipation(SSOP5) ※2	Pd	540	mW
Operating Temperature Range ※1	Topr	-40 ~ +75	°C
Storage Temperature	Tstg	-55 ~ +125	°C
Junction Temperature	Tjmax	125	°C

※1 Do not exceed Pd.

※2 Mounted on 70mm × 70mm × 1.6mm Glass Epoxy PCB, Pd derated at 5.4mW/°C for tempearture above Ta=25°C

NOTE : The product described in this specification is a strategic product (and/or service) subject to COCOM regulations. It should not be exported without authorization from the appropriate government.

NOTE : This product is not designed for protection against radioactive rays.

Status of this document

The Japanese version of this document is the formal specification.

A customer may use this translation version only for a reference to help reading the formal version.

If there are any differences in translation version of this document, formal version takes priority.

OELECTRICAL CHARACTERISTICS (Unless othewise specified, Ta=25°C)

Parameter	Symbol	Conditions	Limit			Unit
			Min	Typ	Max	
Detection Voltage	Vs	Vcc=H→L RL=4.7kΩ	Vs(T) × 0.99	Vs(T)	Vs(T) × 1.01	V
Temperature Coefficient Of Detection Voltage	Vs/ΔT	RL=4.7kΩ Ta=-20~+75°C Designed Guarantee	-	±0.01	-	%/°C
Detection Hysteresis Voltage	ΔVs	RL=4.7kΩ, Vcc=L→H→L	30	50	100	mV
Transfer Delay Time "H"	tPLH	CL=100pF, RL=4.7kΩ ※3	-	20	50	μsec
Transfer Delay Time "L"	tPHL	CL=100pF, RL=4.7kΩ ※4	-	60	120	μsec
Reset Output Voltage "L"	VOL	Vcc=Vs(min.)-0.05V, RL=4.7kΩ	-	0.1	0.4	V
Circuit Current ON	Icc1	Vcc=Vs(min.)-0.05V, RL=∞	-	1.5	3.0	μA
Circuit Current OFF	Icc2	Vcc=Vs(typ.)/0.85V, RL=∞	-	1.6	3.2	μA
Threshold Operating Voltage	VOPL	RL=4.7kΩ, VOL≥0.4V	-	0.65	0.85	V
Output Leak Current	IL	Vcc=VOUT=10V	-	-	0.1	μA
Reset Output Current "L"	IOL	Vo=0.4V, Vcc=Vs(min.)-0.05V	1.0	-	-	mA

Vs(T): Standard Detection Voltage (1.9V to 4.6V, 0.1V step)

RL: Pull-up resistor to be connected between VOUT and power supply.

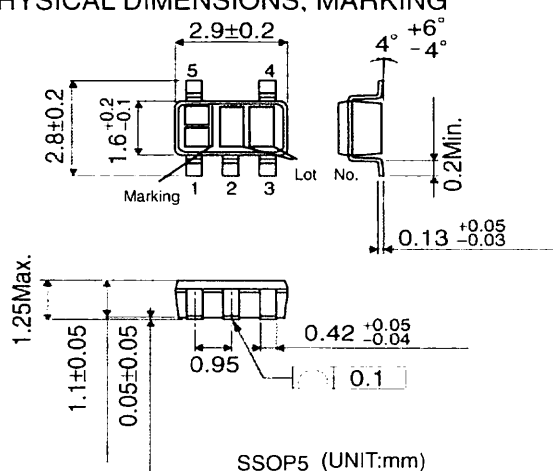
CL: Capacitor to be connected between VOUT and GND.

※3 tPLH: Vcc=(Vs(typ.)-0.4V)→(Vs(typ.)+0.4V)

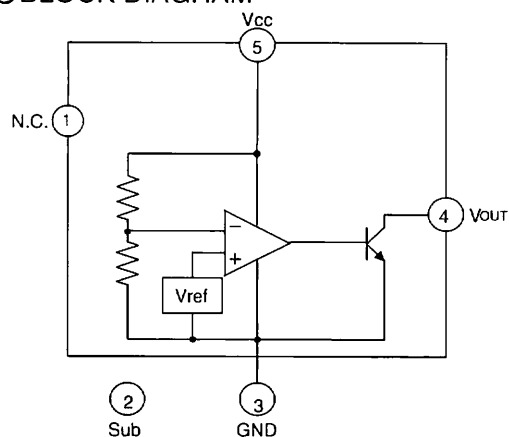
※4 tPHL: Vcc=(Vs(typ.)+0.4V)→(Vs(typ.)-0.4V)

Designed Guarantee.(Outgoing inspection is not done on all products.)

OPHYSICAL DIMENSIONS, MARKING



OBLOCK DIAGRAM



NOTE : Substrate Pin should be connected with GND

* Please refer to Technical note concerning application circuit, and etc.

OPIN NO. , PIN NAME

Pin No.	Pin Name
1	N.C.
2	SUB
3	GND
4	VOUT
5	VCC

OSTANDARD DETECTION VOLTAGE AND MARKING

Type	Standard Detection Voltage [V]	Marking	Type	Standard Detection Voltage [V]	Marking
BD4746G	4.600	B2	BD4732G	3.200	BN
BD4745G	4.500	B1	BD4731G	3.100	BM
BD4744G	4.400	BZ	BD4730G	3.000	BL
BD4743G	4.300	BY	BD4729G	2.900	BK
BD4742G	4.200	BX	BD4728G	2.800	BJ
BD4741G	4.100	BW	BD4727G	2.700	B3
BD4740G	4.000	BV	BD4726G	2.600	BH
BD4739G	3.900	BU	BD4725G	2.500	BG
BD4738G	3.800	BT	BD4724G	2.400	BF
BD4737G	3.700	BS	BD4723G	2.300	BE
BD4736G	3.600	BR	BD4722G	2.200	BD
BD4735G	3.500	BQ	BD4721G	2.100	BC
BD4734G	3.400	BP	BD4720G	2.000	BB
BD4733G	3.300	B4	BD4719G	1.900	BA

ONOTES FOR USE

1. Absolute maximum range
Absolute Maximum Ratings are those values beyond which the life of a device may be destroyed. We cannot be defined the failure mode, such as short mode or open mode. Therefore a physical security countermeasure, like fuse, is to be given when a specific mode to be beyond absolute maximum ratings is considered.
2. GND potential
GND terminal should be a lowest voltage potential every state.
Please make sure all pins which are over ground even if include transient feature.
3. Mal-function may happen when the device is used in the strong electromagnetic field.
4. Bypass capacitor for noise rejection
Please put into capacitor to reject noise between VDD pin and GND.
If extremely big capacitor is used, transient response might be late. Please confirm sufficiently for the point.
5. Short Circuit between Terminals and Soldering
Don't short-circuit between Output pin and VDD pin, Output pin and GND pin, or VDD pin and GND pin. When soldering the IC on circuit board, please be unusually cautious about the orientation and the position of the IC. When the orientation is mistaken the IC may be destroyed.
6. BD47XXG has extremely high impedance terminals. Small leak current due to the uncleanness of PCB surface might cause unexpected operations. Application values in these conditions should be selected carefully. If the leakage is assumed between the VOUT terminal and the GND terminal, the pull up resistor should be less than 1/10 of the assumed leak resistance
7. External parameters
The recommended parameter range for R_L is $2k\Omega \sim 1M\Omega$. When attempting to operate beyond these parameters, be sure to verify the actual operation before continuing use.
8. Power on reset operation
Please note that the power on reset output varies with the V_{CC} rise up time.
Please verify the actual operation.

Notes

- No technical content pages of this document may be reproduced in any form or transmitted by any means without prior permission of ROHM CO.,LTD.
- The contents described herein are subject to change without notice. The specifications for the product described in this document are for reference only. Upon actual use, therefore, please request that specifications to be separately delivered.
- Application circuit diagrams and circuit constants contained herein are shown as examples of standard use and operation. Please pay careful attention to the peripheral conditions when designing circuits and deciding upon circuit constants in the set.
- Any data, including, but not limited to application circuit diagrams information, described herein are intended only as illustrations of such devices and not as the specifications for such devices. ROHM CO.,LTD. disclaims any warranty that any use of such devices shall be free from infringement of any third party's intellectual property rights or other proprietary rights, and further, assumes no liability of whatsoever nature in the event of any such infringement, or arising from or connected with or related to the use of such devices.
- Upon the sale of any such devices, other than for buyer's right to use such devices itself, resell or otherwise dispose of the same, no express or implied right or license to practice or commercially exploit any intellectual property rights or other proprietary rights owned or controlled by
- ROHM CO., LTD. is granted to any such buyer.
- Products listed in this document are no antiradiation design.

The products listed in this document are designed to be used with ordinary electronic equipment or devices (such as audio visual equipment, office-automation equipment, communications devices, electrical appliances and electronic toys).

Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

About Export Control Order in Japan

Products described herein are the objects of controlled goods in Annex 1 (Item 16) of Export Trade Control Order in Japan.

In case of export from Japan, please confirm if it applies to "objective" criteria or an "informed" (by MITI clause) on the basis of "catch all controls for Non-Proliferation of Weapons of Mass Destruction.

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

Please contact our sales offices for details ;

U.S.A / San Diego	TEL : +1(858)625-3630	FAX : +1(858)625-3670
Atlanta	TEL : +1(770)754-5972	FAX : +1(770)754-0691
Dallas	TEL : +1(972)312-8818	FAX : +1(972)312-0330
Germany / Dusseldorf	TEL : +49(2154)9210	FAX : +49(2154)921400
United Kingdom / London	TEL : +44(1)908-282-666	FAX : +44(1)908-282-528
France / Paris	TEL : +33(0)1 56 97 30 60	FAX : +33(0) 1 56 97 30 80
China / Hong Kong	TEL : +852(2)740-6262	FAX : +852(2)375-8971
Shanghai	TEL : +86(21)6279-2727	FAX : +86(21)6247-2066
Dalian	TEL : +86(411)8230-8549	FAX : +86(411)8230-8537
Beijing	TEL : +86(10)8525-2483	FAX : +86(10)8525-2489
Taiwan / Taipei	TEL : +866(2)2500-6956	FAX : +866(2)2503-2869
Korea / Seoul	TEL : +82(2)8182-700	FAX : +82(2)8182-715
Singapore	TEL : +65-6332-2322	FAX : +65-6332-5662
Malaysia / Kuala Lumpur	TEL : +60(3)7958-8355	FAX : +60(3)7958-8377
Philippines / Manila	TEL : +63(2)807-6872	FAX : +63(2)809-1422
Thailand / Bangkok	TEL : +66(2)254-4890	FAX : +66(2)256-6334

Japan /
(Internal Sales)

Tokyo	2-1-1, Yaesu, Chuo-ku, Tokyo 104-0082	TEL : +81(3)5203-0321	FAX : +81(3)5203-0300
Yokohama	2-4-8, Shin Yokohama, Kohoku-ku, Yokohama, Kanagawa 222-8575	TEL : +81(45)476-2131	FAX : +81(45)476-2128
Nagoya	Dainagayo Building 9F 3-28-12, Meieki, Nakamura-ku, Nagoya, Aichi 450-0002	TEL : +81(52)581-8521	FAX : +81(52)561-2173
Kyoto	579-32 Higashi Shiokouji-cho, Karasuma Nishi-iru, Shiokoujidori, Shimogyo-ku, Kyoto 600-8216	TEL : +81(75)311-2121	FAX : +81(75)314-6559
(Contact address for overseas customers in Japan)			
Yokohama		TEL : +81(45)476-9270	FAX : +81(045)476-9271