



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!



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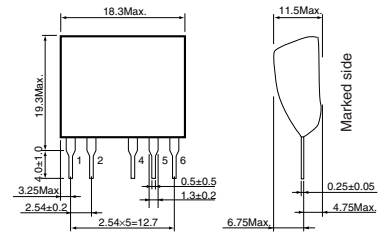
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Absolute Maximum Ratings

Parameter	Symbol	Limits	Unit
Power supply voltage	V_{IN}	20	V
Operating temperature	T_{opr}	-10 to +80	°C
Storage temperature	T_{stg}	-25 to +105	°C

Dimensions (mm)



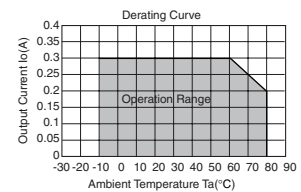
Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	V_i	8.0	—	16.0	V	DC
Output voltage	V_o	4.7	5.0	5.3	V	$V_i=12V, I_o=100mA$
Output current	I_o	0	—	300	mA	$V_i=12V$ *1
Line regulation	V_L	—	0.03	0.10	V	$V_i=8$ to 15V, $I_o=300mA$
Load regulation	V_R	—	0.07	0.15	V	$V_i=12V, I_o=0$ to 300mA
Output ripple voltage	V_p	—	0.06	0.15	V _{pp}	$V_i=12V, I_o=300mA$ *2
Power conversion efficiency	η	77	82	—	%	$V_i=12V, I_o=300mA$

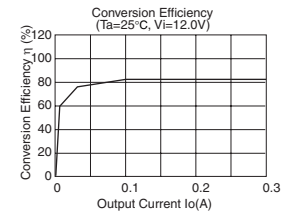
*1 Maximum output current varies depending on ambient temperature : please refer to derating curve.

*2 Spike noise is not included in output ripple voltage.

Derating curve

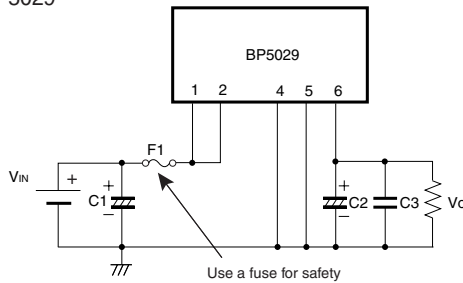


Conversion Efficiency



Application circuit

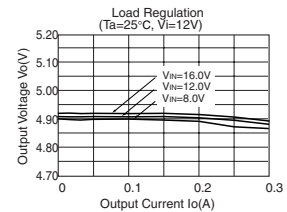
BP5029



Pin No.	Function
1	Input terminal V_i
2	Input terminal V_i
3	Skip
4	GND
5	GND
6	Output terminal V_o

Be sure to evaluate it under the condition that it is mounted by your product.
Especially, Confirm whether output current never exceeds a maximum standard with current probe.

Load Regulation



Outside part

- F1: FUSE Recommend the use of fast-acting type fuse 0.5A.
- C1: Input capacitor Rated voltage : More than 50V
Capacity : 33 to 220 μ F, low impedance type
Rated ripple current : More than 0.1A_{rms}
- C2: Output capacitor Rated voltage : More than 25V
Capacity : 100 to 470 μ F, low impedance type
ESR : Less than 0.39 Ω
Rated ripple current : More than 0.37A_{rms}
Evaluate it with the actual opportunity because it influences an output ripple voltage.
- C3: Noise reduction capacitor Rated voltage : More than 25V
Capacity : 0.1 to 0.22 μ F
Film capacitor or ceramic capacitor
The constant value should be evaluated in the product.

Power Module Usage Precautions

Safety Precautions

- 1) The products are designed and manufactured for use in ordinary electronic equipment (i.e. AV/OA/telecommunication/amusement equipment, home appliances). Please consult with the Company's (ROHM) sales staff if intended for use in devices requiring high reliability (e.g. medical/transport/aircraft/spacecraft equipment, nuclear power/fuel controllers, automotive/safety devices) and whose malfunction may result in injury or death. In this case, failsafe measures must be taken, including the following:
 - [a] Installation of protection circuits in order to improve system safety
 - [b] Incorporation of redundant circuits in the case of single-circuit failure
- 2) The products are designed for use under normal conditions. Application in special environments can cause a deterioration in product performance. Therefore, verification and confirmation of product performance, prior to use, is recommended. The following environments are considered to be 'special':
 - [a] Outdoors, exposed to direct sunlight or dust
 - [b] In contact with liquids, such as water, oils, chemicals, or organic solvents
 - [c] In areas where exposure to the sea air or corrosive gases (i.e. Cl₂, H₂S, NH₃, SO₂, NO₂) can occur
 - [d] In places where the products may be in contact with static electricity or electromagnetic waves
 - [e] In proximity to heat-producing items, plastic cords, or flammable materials
 - [f] In contact with sealing or coating products, such as resin
 - [g] In contact with unclean solder or exposed to water or water-soluble cleaning agents used after soldering
 - [h] In areas where dew condensation occurs
- 3) The products are not designed to be radiation resistant
- 4) The Company is not responsible for any problems resulting from use of the products under conditions not recommended herein.
- 5) The Company should be notified of any product safety issues. Moreover, product safety issues should be periodically monitored by the customer.

Application Notes

- 1) A sufficient margin must be allowed if changes are made to the peripheral circuit due to variations in the inherent tolerances of the external components as well as transient and static characteristics. In addition, please be aware that the Company has not conducted investigations on whether or not particular changes in the example application circuits would result in patent infringement.
- 2) The application examples, their constants, and other types of information contained herein are applicable only when the products are used in accordance with standard methods. Therefore, if mass production is intended, sufficient consideration to external conditions must be made.

Notes Regarding Industrial Property

- 1) The specifications included herein contain information related to the Company's industrial property. Their use other than pertaining to the relevant products is forbidden. Duplication and/or disclosure to a third party without express written permission is strictly prohibited.
- 2) Product information and data, including application examples, contained in the specifications are for reference purposes only; the Company does not guarantee the industrial/intellectual property rights or any other rights of a third party. Accordingly, the Company shall not bear responsibility for:
 - [a] Infringement of the intellectual property rights of a third party
 - [b] Problems arising from the use of the products listed herein
- 3) The Company prohibits the purchaser from exercising or using the intellectual/industrial property rights or any rights belonging to or are controlled by the Company, other than the right to use, sell, or dispose of the products.

Notes

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- 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.
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- 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.