AC100V input, constant current

Absolute Maximum Ratings

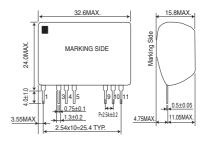
Parameter	Symbol	Limits	Unit	
Input voltage	Vi	170	V	DC
Output voltage	Vo	4	Vpk	
Withstand voltage	BV	1.8	kV	1s (between primary and secondary)
Maximum surface temperature	Tcmax	105	°C	Ambient temperature + module self-heating ≤ Tcmax
Operating temperature range	Topr	-20 to +80	°C	Refer to derating curve
Storage temperature range	Tstg	-25 to +85	°C	

Electrical Characteristics

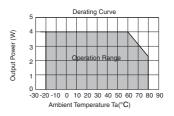
Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Input voltage range	Vi	113	141	170	V	
Output current	lo	0.91	0.96	1.0	Α	Vi=141V, R1=0.3Ω (1%)
Output voltage range	Vo	2.5	_	4	V	Vi=141V, Io=0.96A
Output ripple voltage	Vp	-	_	0.5	Vp-p	Vi=141V, Io=0.96A
Power conversion efficiency	η	79	84	-	%	Vi=141V, Vo=4V, Io=0.96A

^{*1} Maximum output current varies depending on ambient temperature; please refer to derating curve.

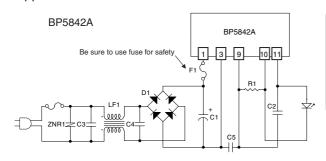
Dimensions (Unit : mm)



Derating Curve

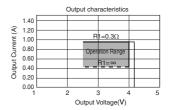


Application circuit

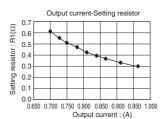


1	Input terminal (+)
2	Skip
3	Input terminal (-)
4	NC
5	NC
6	Skip
7	Skip
8	Skip
9	Output capacitor connection terminal
10	LED connection terminal (cathode)
11	LED connection terminal (anode)

Output Characteristics



Setting current



How to calculate R1 R1=0.04983/(0.33 × lo-0.151) lo : Output current

External components setting

C1 : Input Capacitor 10µF/250V

C2 : Output Capacitor 40 μ F/25V Ceramics capacitor R1 : Output current setting resistor 0.3 Ω ±1% 1/4W (lo=960mA)

C3, C4: Noise Removal Plea

Capacitor

Please use the capacitor, if necessary. Capacitance : $0.1\mu F$ to $0.22\mu F$

Rated voltage: 250V or higher

C5 : Noise Removal Capacitor 2200pF (Basic insulation)

D1: Diode bridge 800V/1A

F1: Fuse Fuse must be used for safety

LF1: Line Filter 10mH

ZNR1: Varistor Varistor must be used. It protects this

part from lighting surge and static electricity.

^{*2} Spike noise is not included in output ripple voltage

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 /

- 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.

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 - [a] Infringement of the intellectual property rights of a third party
 - [b] Problems arising from the use of the products listed herein
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 use and operation. Please pay careful attention to the peripheral conditions when designing circuits
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