

24V/200mA Output

# Isolated DC/DC converter

**BP5510-24**

## ● Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	Limits	Unit	Conditions
Input voltage	Vin	15	V	DC
Operating temperature range	Topr	-20 to +80	°C	
Storage temperature range	Tstg	-25 to +85	°C	
Allowable maximum surface temperature	Tsmax	100	°C	Ambient temperature + the module self-heating ≤ Tsmax
Maximum output current (PEAK)	Iopeak	200	mA	
Withstand voltage	Vz	500	Vrms	For 1 minute

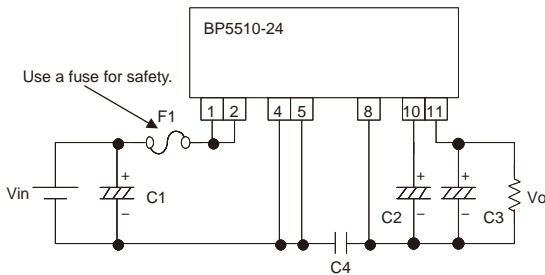
## ● Electrical Characteristics

(Vin=12V, Io=200mA, Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	Vin	10.8	12.0	13.2	V	DC
Output voltage	Vo	22.8	24.0	25.2	V	
Output current	Io	0	-	200	mA	
Load regulation	Vr	-	0.5	1.0	V	Io=0 to 200mA
Line regulation	Vl	-	0.04	0.1	V	Vin=10.8 to 13.2V, Io=200mA
Output ripple voltage	Vp	-	0.03	0.15	Vp-p	*1
Power conversion efficiency	η	78	83	-	%	

\*1 The output ripple voltage may vary depending on the capacitance, environment, and location of peripheral components. Especially right attention has to be paid to aluminum electrolytic capacitor because ESR changes greatly at the time of the low temperature and output ripple voltages increase.

## ● Application circuit



Pin No.	Function
1	Input terminal (+)
2	Input terminal (+)
3	Not used
4	Input terminal (-)
5	Input terminal (-)
6	Not used
7	Not used
8	Output terminal (-)
9	Not used
10	Capacitor connect terminal
11	Output terminal (+)

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

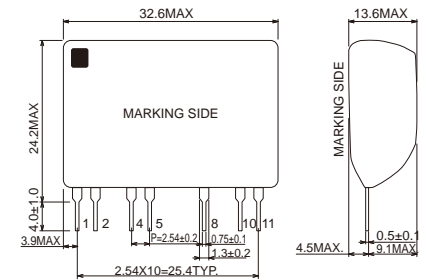
### External Components Settings

- |                               |   |
|-------------------------------|---|
| F1: Fuse                      | Please make sure to use a fuse 2.5A.                                      |
| C1: Input Capacitor           | Rated voltage: 25V or higher 100 to 220μF Low impedance for power supply  |
| C2: Output Capacitor          | Rated voltage: 50V or higher 100μF Low impedance for power supply         |
| C3: Output Capacitor          | Rated voltage: 50V or higher 100 to 470μF Low impedance for power supply  |
| C4: Noise Reduction Capacitor | Rated voltage: AC500V or higher 4700pF to 0.1μF Film or ceramic capacitor |

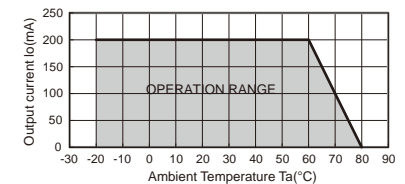
## ● Operation Notes

- Please use a low impedance capacitor for power supply.
- Please set a capacitor near the module. If a capacitor is far from it, there is some case that output ripple voltage or radiation noise become big.
- Be sure to use fuse for safety.
- Please take the start-up time of input voltage within 20ms. There is fear of destruction by overinput current if it is more than 20ms.

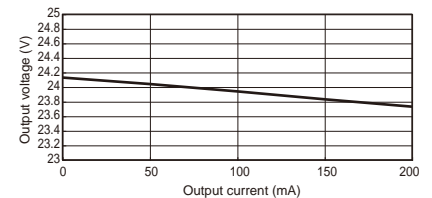
## ● Dimensions (Unit : mm)



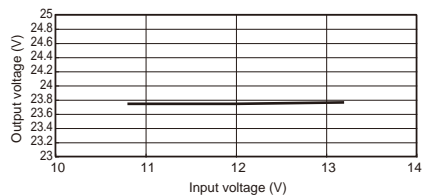
## ● Derating Curve



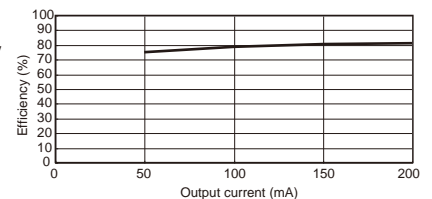
## ● Load Regulation



## ● Line Regulation



## ● Conversion Efficiency



## 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.



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/>