

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

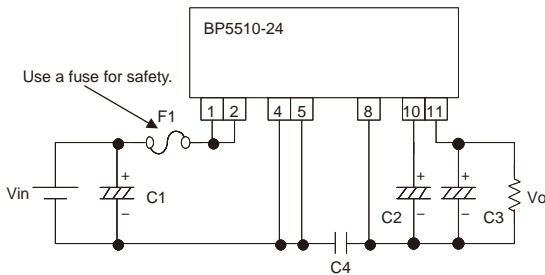
● Electrical Characteristics

(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.

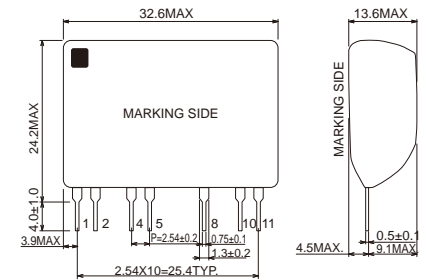
External Components Settings

- 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

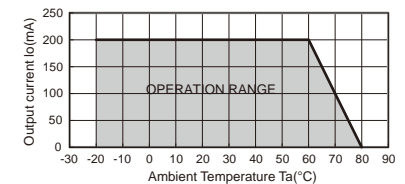
● Operation Notes

- 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.

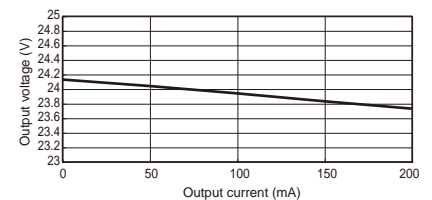
● Dimensions (Unit : mm)



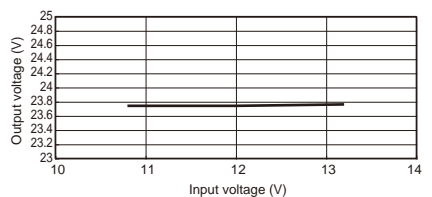
● Derating Curve



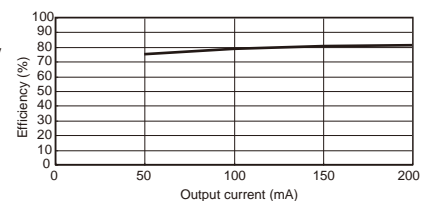
● Load Regulation



● Line Regulation



● Conversion Efficiency



Notes

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