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!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

5V/150mA Output

Step-down DC/DC Converter(Non-isolated)

BP5223

●Absolute Maximum Ratings

Parameter	Symbol	Limits	Unit
Input voltage	Vi	18	V
Operating temperature range	Topr	–25 to +80	°C
Storage temperature range	Tstg	–25 to +85	°C
Maximum surface temperature	Tsmax	100	°C
Maximum output current	Iopeak	150	mA

●Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage range	Vi	8.0	14.0	18.0	V	DC
Output voltage	Vo	4.7	5.0	5.3	V	Vi=14V, Io=100mA
Output current	Io	–	–	150	mA	Vi=14V *1
Line regulation	VL	–	0.03	0.10	V	Vi=8 to 18V, Io=100mA
Load regulation	VR	–	0.05	0.15	V	Vi=14V, Io=0 to 100mA
Output ripple voltage	Vp	–	0.06	0.15	Vpp	Vi=14V, Io=100mA *2
Power conversion efficiency	η	75	80	–	%	Vi=14V, Io=150mA

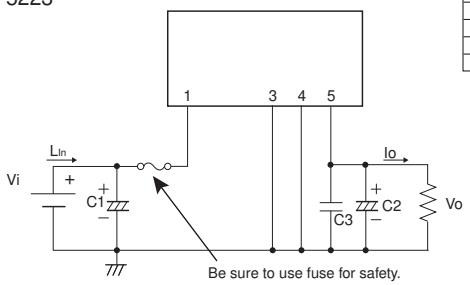
*1 Maximum output current varies depending on ambient temperature ; please refer to derating curve.

*2 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

BP5223

Pin No.	Function
1	Input terminal Vi
2	Not used
3	GND
4	GND
5	Output terminal Vo



Please verify operation and characteristics in the customer's circuit before actual usage.
Ensure that the load current does not exceed the maximum rating.

External Component Specifications

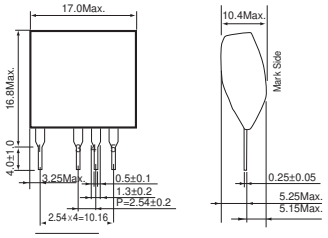
FUSE: fuse — Use a fast-acting fuse of 0.5A

C1: Input capacitor
Rated voltage : Beyond 50V
Capacitance : 33 to 220µF, low impedance type
Rated ripple current : Beyond 0.1Arms

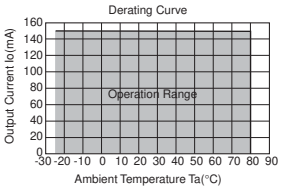
C2: Output capacitor
Rated voltage : Beyond 25V
Capacitance : 100 to 470µF, low impedance type
ESR : Less than 0.39Ω
Rated ripple current : Beyond 0.37Arms
Evaluate under actual operating conditions since it affects the output ripple voltage.

C3: Noise removal capacitor
Rated voltage : Beyond 25V
Capacitance :0.1 to 0.22µF
Film or ceramic capacitor

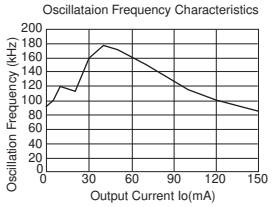
●Dimensions (Unit : mm)



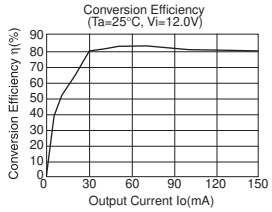
●Derating Curve



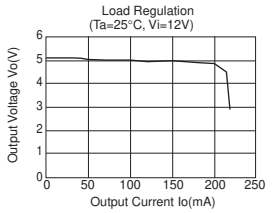
●Oscillation Frequency



●Conversion Efficiency



●Load Regulation



●Surface Temperature Increase