

5V/150mA Output

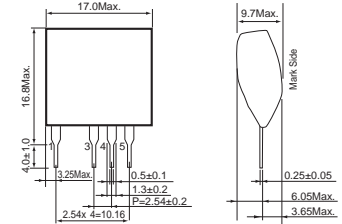
# Step-down DC/DC Converter (Non-isolated)

## BP5225

### Absolute Maximum Ratings

Parameter	Symbol	Limits	Unit
Input voltage	$V_i$	30	V
Operating temperature range	$T_{opr}$	-20 to +80	°C
Storage temperature range	$T_{stg}$	-25 to +85	°C
Maximum surface temperature	$T_{smax}$	100	°C
Maximum output current	$I_{opeak}$	150	mA

### Dimensions (Unit : mm)

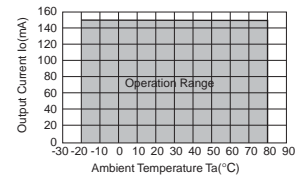


### Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage range	$V_i$	10.0	12.0	26.4	V	DC
Output voltage	$V_o$	4.8	5.0	5.2	V	$V_i=12V, I_o=150mA$
Output current	$I_o$	-	-	150	mA	$V_i=12V$ *1
Line regulation	$V_L$	-	0.04	0.10	V	$V_i=10.0$ to $26.4V, I_o=150mA$
Load regulation	$V_R$	-	0.03	0.20	V	$V_i=12V, I_o=0$ to $150mA$
Output ripple voltage	$V_p$	-	0.03	0.10	V <sub>pp</sub>	$V_i=12V, I_o=150mA$ *2
Power conversion efficiency	$\eta$	70	78	-	%	$V_i=12V, I_o=150mA$

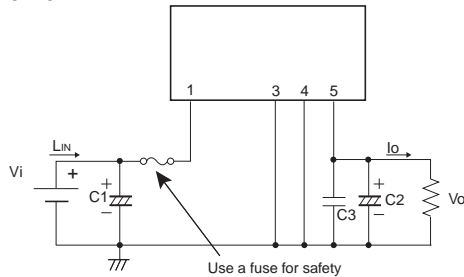
\*1 Maximum output current must be reduced by ambient temperature.  
\*2 An output ripple voltage sometimes changes in capacitor to use, the measurement environment.

### Derating Curve



### Application Circuit

BP5225



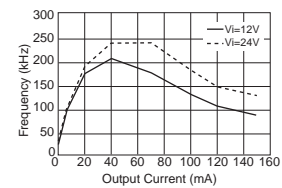
Pin No.	Function
1	Input terminal $V_i$
2	Not used
3	GND
4	GND
5	Output terminal $V_o$

Verify proper operation under actual conditions before use. In particular, confirm that the load current does not exceed the maximum rating.

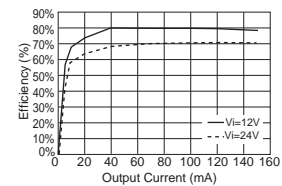
### External Component Specifications

- FUSE:** FUSE Use a fast-acting fuse from 0.5 to 1A.
- C1:** Input Capacitor Rated Voltage : More than 50V  
Capacity : 68 to 470 $\mu$ F, low impedance type  
Rated ripple current : More than 0.42Arms
- C2:** Output Capacitor Rated Voltage : More than 10V  
Capacity : 100 to 470 $\mu$ F, low impedance type  
ESR : Less than 0.22 $\Omega$   
Rated ripple current : More than 0.34Arms  
Evaluate under actual operating conditions since it affects the output ripple voltage.
- C3:** Noise Removal Capacitor Rated Voltage : More than 10V  
Film or ceramic capacitor.  
Capacity : 0.1 to 0.22 $\mu$ F.

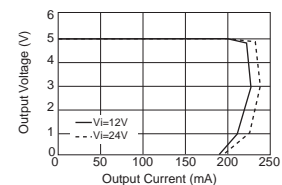
### Oscillation Frequency



### Conversion Efficiency



### Load Regulation



### Temperature Characteristics

