

5V/150mA Output

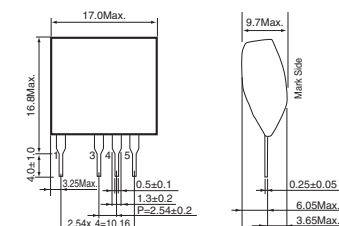
Step-down DC/DC Converter (Non-isolated)

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)



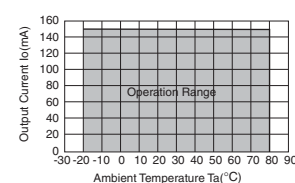
Electrical Characteristics

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 _{pp}	$V_i=12V$, $I_o=150mA$ *2
Power conversion efficiency	η	70	78	—	%	$V_i=12V$, $I_o=150mA$

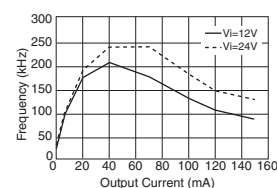
*1 Maximum output current must be reduced by ambient temperature.

*2 An output ripple voltage sometimes changes in capacitor to use, the measurement environment.

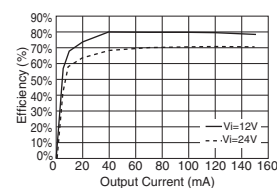
Derating Curve



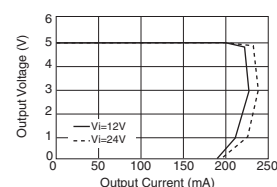
Oscillation Frequency



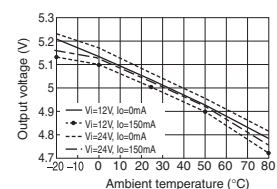
Conversion Efficiency



Load Regulation

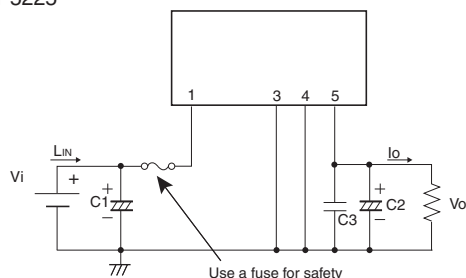


Temperature Characteristics



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 μ F, low impedance type
 Rated ripple current : More than 0.42Arms

C2: Output Capacitor

 Rated Voltage : More than 10V
 Capacity : 100 to 470 μ F, low impedance type
 ESR : Less than 0.22 Ω
 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 μ F.