

3.3V/ 300mA Output

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

**BP5224-33**

## Absolute Maximum Ratings

Parameter	Symbol	Limits	Unit
Input voltage	$V_i$	24	V
Operating temperature	$T_{opr}$	-20 to +80	°C
Storage temperature	$T_{stg}$	-25 to +105	°C
Maximum surface temperature	$T_{cmax}$	105	°C
Maximum output current	$I_{opeak}$	300	mA

## Electrical Characteristics

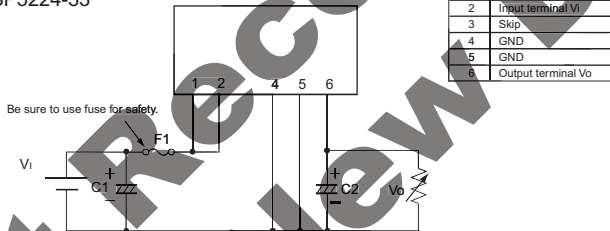
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	$V_i$	7.0	16.0	18.0	V	DC
Output voltage	$V_o$	3.14	3.3	3.46	V	
Output current	$I_o$	-	-	300	mA	*1
Line regulation	$V_r$	-	0.03	0.10	V	$V_i=7$ to 18V
Load regulation	$V_l$	-	0.07	0.15	V	$I_o=0$ to 300mA
Output ripple voltage	$V_p$	-	0.06	0.15	Vp-p	*2
Power conversion efficiency	$\eta$	68	71	-	%	

\*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

BP5224-33

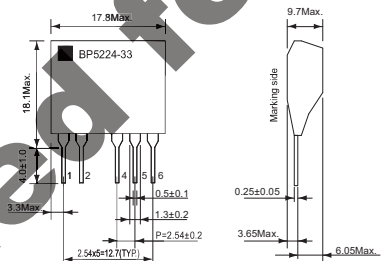


Please verify operation and characteristics in the customer's circuit before actual usage.  
Ensure that the load current does not exceed the maximum rating.

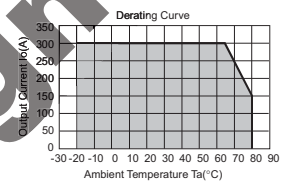
### External Component Specifications

- F1: FUSE Be sure to use a fuse for safety.
- C1: Input capacitor Rated voltage : More than 50V  
Capacitance : more than 100 $\mu$ F, low impedance type  
Rated ripple current : More than 0.2Arms
- C2: Output capacitor Rated voltage : More than 10V  
Capacitance : 220 to 680 $\mu$ F, low impedance type  
Rated ripple current : More than 0.2Arms  
Evaluate under actual operating conditions since it affects the output ripple voltage.

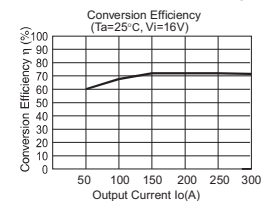
## Dimensions (Unit : mm)



## Derating Curve



## Conversion Efficiency



## Load Regulation

